



MPM Silicones, L.L.C.
Sistersville Plant
10851 Energy Highway
Friendly, WV 26146
(304) 652-8000

December 22, 2017

FEDEX Delivery
8116 6414 9618

Ms. Beverly McKeone
New Source Review Program Supervisor
WV Department of Environmental Protection – Division of Air Quality
601 57th Street SE
Charleston, WV 25304-2943

SILANES R13-2338 PERMIT
PLANT ID 09500001
CLASS II ADMINISTRATIVE UPDATE REQUEST

Dear Ms. McKeone,

In accordance with 45 CSR 13, Sections 4.1 - 4.2, MPM Silicones, L.L.C. hereby submits to the Division of Air Quality (DAQ) a request for an Administrative Amendment for the purpose of updating an existing Rule 13 permit (R13-2338). MPM Silicones proposes to construct a new production process for the manufacture of a silicate based solid product (SR1000). MPM Silicones is proposing no change to the currently permitted R13-2338 limits as a result of this change. Therefore, we believe that this permitting action will be a Class II Administrative Update, and seek your confirmation of this position. Enclosed a check for the associated \$300.00 fee.

We look forward to working with DAQ during the review of this application. Please direct all correspondence or questions to me.

Sincerely,

Okey Tucker
Air Compliance Leader
Environment, Health and Safety
(304) 652-8308
okey.tuckerjr@momentive.com

Enclosed: One hard copy of CBI version of permit application plus 2 CDs with PDF file of entire application
One hard copy of redacted version of permit application plus 2 CDs with PDF file of entire application

Copies to: State Correspondence File – cover letter only



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

**APPLICATION FOR NSR PERMIT
AND
TITLE V PERMIT REVISION
(OPTIONAL)**

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

- CONSTRUCTION MODIFICATION RELOCATION
 CLASS I ADMINISTRATIVE UPDATE TEMPORARY
 CLASS II ADMINISTRATIVE UPDATE AFTER-THE-FACT

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

- ADMINISTRATIVE AMENDMENT MINOR MODIFICATION
 SIGNIFICANT MODIFICATION

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant (as registered with the WV Secretary of State's Office): MPM Silicones LLC		2. Federal Employer ID No. (FEIN): 2 2 3 7 7 5 4 8 1	
3. Name of facility (if different from above): MPM Silicones Sistersville Facility		4. The applicant is the: <input type="checkbox"/> OWNER <input type="checkbox"/> OPERATOR <input checked="" type="checkbox"/> BOTH	
5A. Applicant's mailing address: 10851 Energy Highway Friendly, WV 26146-7511		5B. Facility's present physical address: 10851 Energy Highway Friendly, WV 26146-7511	
6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO – If YES, provide a copy of the Certificate of Incorporation/Organization/Limited Partnership (one page) including any name change amendments or other Business Registration Certificate as Attachment A . – If NO, provide a copy of the Certificate of Authority/Authority of L.L.C./Registration (one page) including any name change amendments or other Business Certificate as Attachment A .			
7. If applicant is a subsidiary corporation, please provide the name of parent corporation: Momentive Performance Materials, Inc.			
8. Does the applicant own, lease, have an option to buy or otherwise have control of the <i>proposed site</i> ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO – If YES, please explain: – If NO, you are not eligible for a permit for this source.			
9. Type of plant or facility (stationary source) to be constructed, modified, relocated, administratively updated or temporarily permitted (e.g., coal preparation plant, primary crusher, etc.): Chemical manufacturing plant		10. North American Industry Classification System (NAICS) code for the facility: 325199	
11A. DAQ Plant ID No. (for existing facilities only): 0 9 5 – 0 0 0 1		11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only): R13-2338, R30-09500001-2017	

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

<p>12A.</p> <ul style="list-style-type: none"> For Modifications, Administrative Updates or Temporary permits at an existing facility, please provide directions to the <i>present location</i> of the facility from the nearest state road; For Construction or Relocation permits, please provide directions to the <i>proposed new site location</i> from the nearest state road. Include a MAP as Attachment B. <p>Facility is located along State Route 2, at Long Reach, 6 miles south of Sistersville.</p>		
12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
12.E. UTM Northing (KM): 4370.5	12F. UTM Easting (KM): 492.2	12G. UTM Zone: 17
<p>13. Briefly describe the proposed change(s) at the facility: Install a new natural gas-fired steam boiler and remove from service an existing natural gas-fired steam boiler.</p>		
<p>14A. Provide the date of anticipated installation or change:</p> <ul style="list-style-type: none"> If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen: 		<p>14B. Date of anticipated Start-Up if a permit is granted: April 1, 2018</p>
<p>14C. Provide a Schedule of the planned Installation of/Change to and Start-Up of each of the units proposed in this permit application as Attachment C (if more than one unit is involved).</p>		
<p>15. Provide maximum projected Operating Schedule of activity/activities outlined in this application: Hours Per Day 24 Days Per Week 7 Weeks Per Year 52</p>		
<p>16. Is demolition or physical renovation at an existing facility involved? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		
<p>17. Risk Management Plans. If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your Risk Management Plan (RMP) to U. S. EPA Region III.</p>		
<p>18. Regulatory Discussion. List all Federal and State air pollution control regulations that you believe are applicable to the proposed process (<i>if known</i>). A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance (<i>if known</i>). Provide this information as Attachment D.</p>		
<p>Section II. Additional attachments and supporting documents.</p>		
<p>19. Include a check payable to WVDEP – Division of Air Quality with the appropriate application fee (per 45CSR22 and 45CSR13).</p>		
<p>20. Include a Table of Contents as the first page of your application package.</p>		
<p>21. Provide a Plot Plan, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as Attachment E (Refer to Plot Plan Guidance).</p> <ul style="list-style-type: none"> Indicate the location of the nearest occupied structure (e.g. church, school, business, residence). 		
<p>22. Provide a Detailed Process Flow Diagram(s) showing each proposed or modified emissions unit, emission point and control device as Attachment F.</p>		
<p>23. Provide a Process Description as Attachment G.</p> <ul style="list-style-type: none"> Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable). 		
<p>All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.</p>		

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H**.
 – For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I**.

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J**.

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K**.

28. Check all applicable **Emissions Unit Data Sheets** listed below:

<input type="checkbox"/> Bulk Liquid Transfer Operations	<input type="checkbox"/> Haul Road Emissions	<input type="checkbox"/> Quarry
<input type="checkbox"/> Chemical Processes	<input type="checkbox"/> Hot Mix Asphalt Plant	<input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities
<input type="checkbox"/> Concrete Batch Plant	<input type="checkbox"/> Incinerator	<input type="checkbox"/> Storage Tanks
<input type="checkbox"/> Grey Iron and Steel Foundry	<input type="checkbox"/> Indirect Heat Exchanger	

General Emission Unit, specify Driers, product collector, condenser and accumulator

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L**.

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

<input type="checkbox"/> Absorption Systems	<input type="checkbox"/> Baghouse	<input type="checkbox"/> Flare
<input type="checkbox"/> Adsorption Systems	<input type="checkbox"/> Condenser	<input type="checkbox"/> Mechanical Collector
<input type="checkbox"/> Afterburner	<input type="checkbox"/> Electrostatic Precipitator	<input type="checkbox"/> Wet Collecting System

Other Collectors, specify - Water Scrubbers

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M**.

30. Provide all **Supporting Emissions Calculations** as **Attachment N**, or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O**.

➤ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and **Example Legal Advertisement** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

YES **NO**

➤ If **YES**, identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "**Precautionary Notice – Claims of Confidentiality**" guidance found in the **General Instructions** as **Attachment Q**.

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

<input checked="" type="checkbox"/> Authority of Corporation or Other Business Entity	<input type="checkbox"/> Authority of Partnership
<input type="checkbox"/> Authority of Governmental Agency	<input type="checkbox"/> Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R**.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned **Responsible Official** / **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE Chad A. J.
(Please use blue ink)

DATE: 12/22/17
(Please use blue ink)

35B. Printed name of signee: Chad McKnight

35C. Title: Sr. Director of Operations

35D. E-mail:
chad.mcknight@momentive.com

36E. Phone: (304) 652-8781

36F. FAX: (304) 652-8738

36A. Printed name of contact person (if different from above): Okey Tucker

36B. Title: Air Compliance Leader

36C. E-mail: okey.tuckerjr@momentive.com

36D. Phone: (304) 652-8306

36E. FAX: (304) 652-8738

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Attachment A: Business Certificate | <input checked="" type="checkbox"/> Attachment K: Fugitive Emissions Data Summary Sheet |
| <input checked="" type="checkbox"/> Attachment B: Map(s) | <input checked="" type="checkbox"/> Attachment L: Emissions Unit Data Sheet(s) |
| <input checked="" type="checkbox"/> Attachment C: Installation and Start Up Schedule | <input type="checkbox"/> Attachment M: Air Pollution Control Device Sheet(s) |
| <input checked="" type="checkbox"/> Attachment D: Regulatory Discussion | <input checked="" type="checkbox"/> Attachment N: Supporting Emissions Calculations |
| <input checked="" type="checkbox"/> Attachment E: Plot Plan | <input checked="" type="checkbox"/> Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans |
| <input checked="" type="checkbox"/> Attachment F: Detailed Process Flow Diagram(s) | <input checked="" type="checkbox"/> Attachment P: Public Notice |
| <input checked="" type="checkbox"/> Attachment G: Process Description | <input checked="" type="checkbox"/> Attachment Q: Business Confidential Claims |
| <input checked="" type="checkbox"/> Attachment H: Material Safety Data Sheets (MSDS) | <input checked="" type="checkbox"/> Attachment R: Authority Forms |
| <input checked="" type="checkbox"/> Attachment I: Emission Units Table | <input checked="" type="checkbox"/> Attachment S: Title V Permit Revision Information |
| <input checked="" type="checkbox"/> Attachment J: Emission Points Data Summary Sheet | <input checked="" type="checkbox"/> Application Fee |

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- Forward 1 copy of the application to the Title V Permitting Group and:
- For Title V Administrative Amendments:
 - NSR permit writer should notify Title V permit writer of draft permit,
- For Title V Minor Modifications:
 - Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,
 - NSR permit writer should notify Title V permit writer of draft permit.
- For Title V Significant Modifications processed in parallel with NSR Permit revision:
 - NSR permit writer should notify a Title V permit writer of draft permit,
 - Public notice should reference both 45CSR13 and Title V permits,
 - EPA has 45 day review period of a draft permit.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

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Attachment A
Business Certificate

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**MPM SILICONES LLC
3500 S STATE ROUTE 2
FRIENDLY, WV 26146-9750**

BUSINESS REGISTRATION ACCOUNT NUMBER: 1002-6678

This certificate is issued on: **08/11/2011**

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

**TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of
this certificate displayed at every job site within West Virginia.**

atl.006 v.4
L1205920384



STATE OF WEST VIRGINIA
State Tax Department, Tax Account Administration Div
P. O. Box 2666
Charleston, WV 25330-2666



Earl Ray Tomblin, Governor

Craig A. Griffith, Tax Commissioner

MPM SILICONES LLC
22 COPORATE WOODS BLVD STE 2
ALBANY NY 12211

Letter Id: L1205920384
Issued: 08/11/2011
Account #: 1002-6678

RE: Business Registration Certificate

The West Virginia State Tax Department would like to thank you for registering your business. Enclosed is your Business Registration Certificate. This certificate shall be permanent until cessation of business or until suspended, revoked or cancelled. Changes in name, ownership or location are considered a cessation of business; a new Business Registration Certificate and applicable fees are required. Please review the certificate for accuracy.

This certificate must be prominently displayed at the location for which issued. Engaging in business without conspicuously posting a West Virginia Business Registration Certificate in the place of business is a crime and may subject you to fines per W.Va. Code § 11-9.

When contacting the State Tax Department, refer to the appropriate account number listed on the back of this page. The taxes listed may not be all the taxes for which you are responsible. Account numbers for taxes are printed on the tax returns mailed by the State Tax Department. Failure to timely file tax returns may result in penalties for late filing.

Should the nature of your business activity or business ownership change, your liability for these and other taxes will change accordingly.

To learn more about these taxes and the services offered by the West Virginia State Tax Department, visit our web site at www.wvtax.gov.

Enclosure

atL006 v.4

Save a stamp and your time. You can now view, file and pay taxes at <https://mytaxes.wvfax.gov>
More taxes will be available for online access in the future.

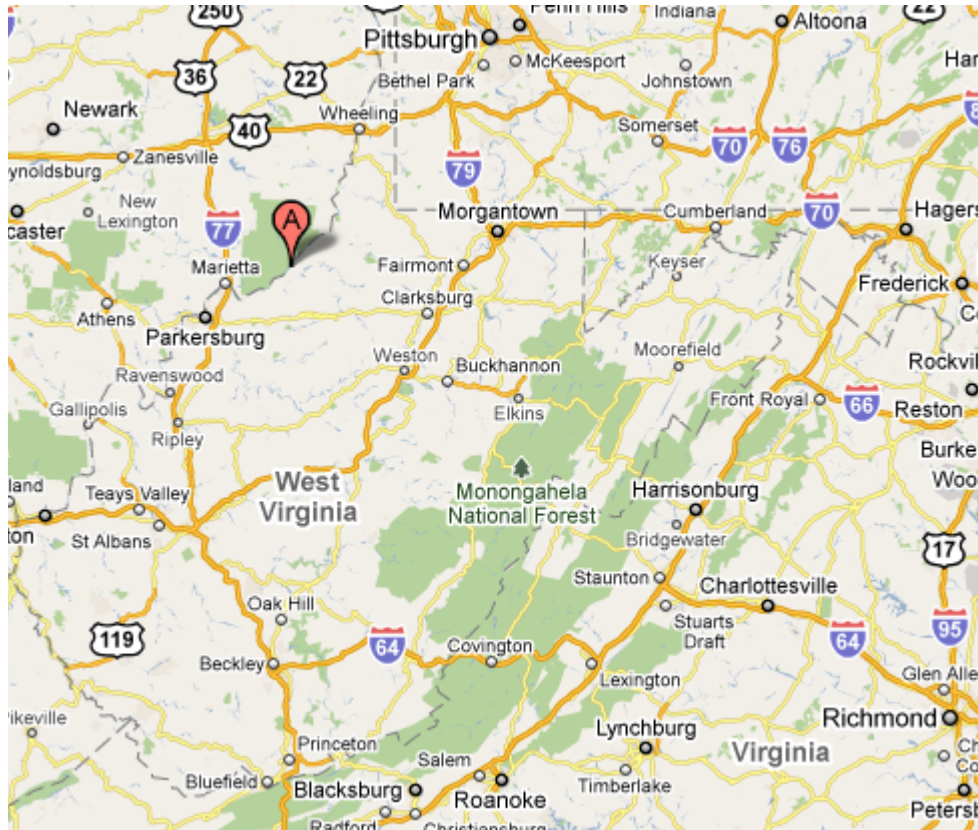
TAX	FILING FREQUENCY	ACCOUNT NUMBER
Business Registration Tax		1002-6678
Combined Sales & Use Tax	Monthly	2208-7678
Direct Pay Tax	Annual	1002-6680
Pass Through Entity Tax	Annual	2009-1232

Attachment B
Facility Location

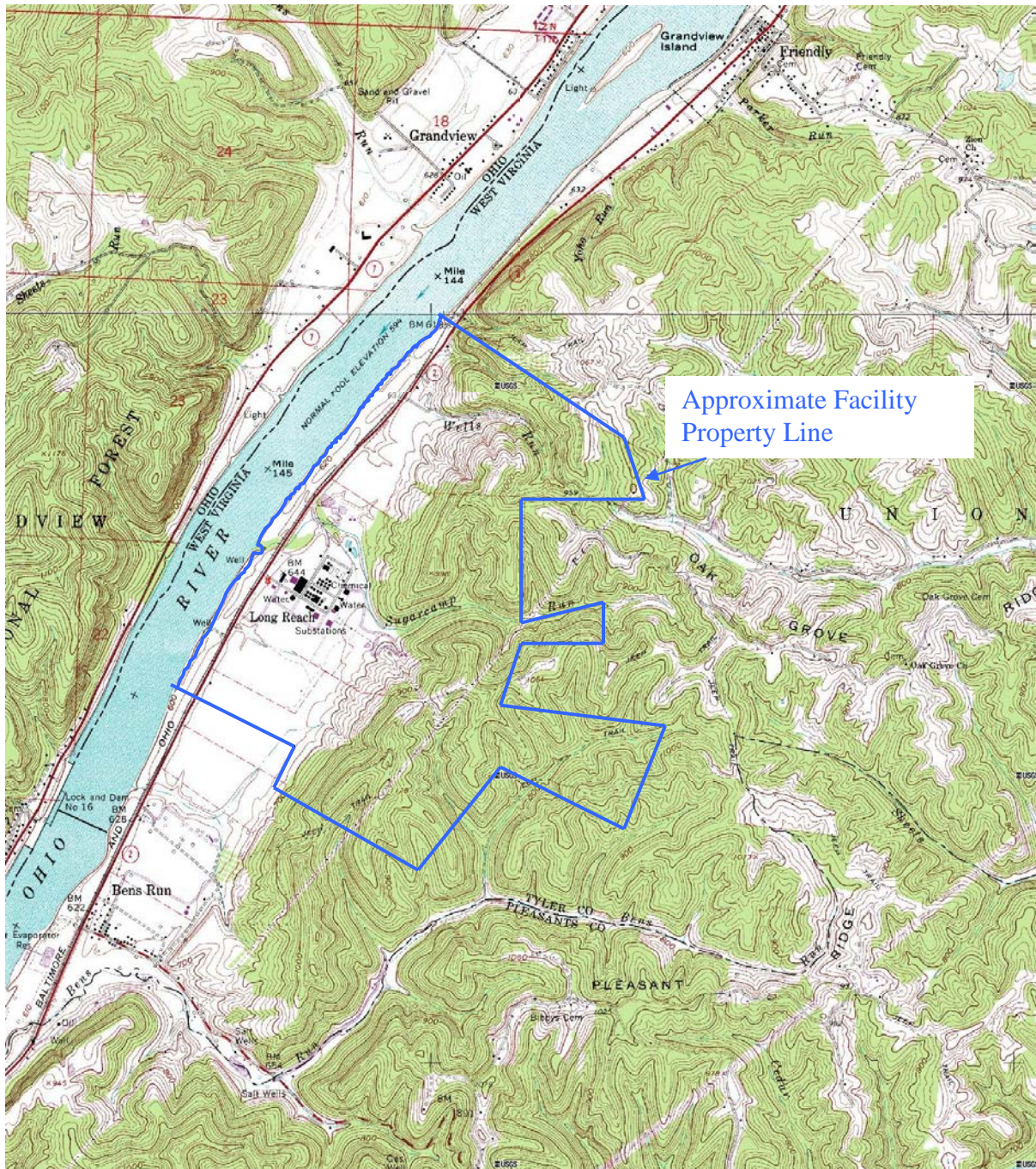


MPM Silicones, LLC
Sistersville Plant
10851 Energy Highway
Friendly, WV 26146
(304) 652-8000

ATTACHMENT B – SITE LOCATION MAP



The facility is located at UTM Northing 4370.5 km, UTM Easting 492.2, in UTM Zone 17. Elevation is approximately 620 feet above sea level.



Attachment C
Installation and Start Up Schedule

ATTACHMENT C – INSTALLATION & START UP SCHEDULE

Proposed Construction/ New Emission Source	Begin Site Preparation Activities Date	Delivery of Equipment Date	Begin Installation Date	Initial Startup Date
Construct a new building to house several new pieces of process equipment. All new equipment will be located in new building.	2/1/2018	2/12/2018	2/26/2018	4/12/2018

Attachment D
Regulatory Discussion

ATTACHMENT D – REGULATORY DISCUSSION

MPM Silicones seeks a Class II Administrative Update to permit R13-2338I and a Minor Modification to Title V Permit R30-09500001-2017. MPM Silicones has provided proposed revisions to both permits in the Appendices.

New Equipment

MON Applicability

MPM Silicones will install the new SR1000 unit in 2018. The unit produces toluene as a byproduct and is therefore subject to 40 CFR 63 Subpart FFFF (MON MACT, or below, “the MON”). R13-2338I and Title V already specify MON applicability, as noted below:

- **LDAR** - Parts of the unit will be subject to LDAR requirements under the MON. The majority of the process runs under negative pressure. Therefore, LDAR does not apply to all equipment, but will apply to the toluene receiver, pump and associated valves.
 - Compliance with this requirement is covered by 2338I’s existing term 4.1.23.
 - Compliance with this requirement is covered by to existing Title V term 4.1.24.

- **Process Vent** - The continuous process vent from SR1000 was evaluated to see if could be excluded from the definition of continuous process vent by containing less than 50 ppmw HAP. The vent contains >50 ppmw HAP and is therefore not exempt. The TRE was calculated for the SR1000 vent and determined to be a Group 2 vent, not requiring controls.
 - This evaluation is in compliance with by 2338I’s existing term 4.1.23.
 - As the continuous process vent is Group 2, no update is needed for existing Title V term 4.1.20.

- **Emissions Limits** –
 - There will be no increase in emissions beyond the current emission limits in term 4.1.1. of both R13-2338I and Title V.

 - MPM Silicones will continue to demonstrate compliance with the emission limits in term 4.1.1, via:
 - R13-2338I terms 4.1.7 (emission modeling and emission calculations) and 4.4.5 (rolling 12-month emissions records).
 - Title V terms terms 4.1.7 (emission modeling and emission calculations) and 4.4.4 (rolling 12-month emissions records).

45 CSR 7 Particulate

The SR-1000 process produces a solid powder product. Potential emission sources of particulate are from the the recycle system filter (F-996-S) and drum filling operation (1-S). Due to the solubility of the solid in toluene, no particulate is expected to be emitted from the bin filter (F-995-S) as it will be in solution with the toluene leaving the bin filter.

Because the recycle system is only used for material that does not meet specifications it is anticipated the use of this system will be infrequent. The filter in the system is for capturing and recycling product therefore it is not considered a control device and potential to emit is based on post filter emissions. As shown in the calculations in Attachment N, emissions from the recycle system are 0.0064 lb/hr and 56.3 lb/yr even if operated 8760 hours per year.

The drum filling operation is expected to produce minimal fugitive particulate emissions. The drums will be lined with a bag that is tied around the fill tube. Based on material balance performed on an existing operation at another location, there is expected to be little to product loss due to drum filling. Any loss during filling or drum changes will be collected by a local exhaust system. Momentive believes these losses will amount to a potential to emit of less than 0.01 lb/hr and 88 lb/yr.

Because no single rate is >1 lb/hr and the total aggregate is <1000 lb/yr, Momentive believes that, per 45 CSR 10.5, the unit is exempt from 45 CSR 4.1 emission rate limits.

Emission points 1361 and 1362 would be subject to the 20% opacity limits under 45 CSR 3.1.

Emission Unit List Updates

Emission unit forms for equipment associated with SR1000 are included as attachment L and the emission units have been added to Section 1.0 in the attached draft permit as new emission group 136.

Emission Unit Process Equipment

From a MON perspective, the emission units are part of the miscellaneous organic chemical manufacturing affected source which is defined in 40 CFR§63.2440(b) as the facility wide collection of MCPU and heat exchange systems, wastewater, and waste management units that are associated with manufacturing materials described in §63.2435(b)(1).

Tanks

All raw materials are fed from drums. All products are stored in drums. As a result there are no storage tanks associated with the SR-1000 unit.

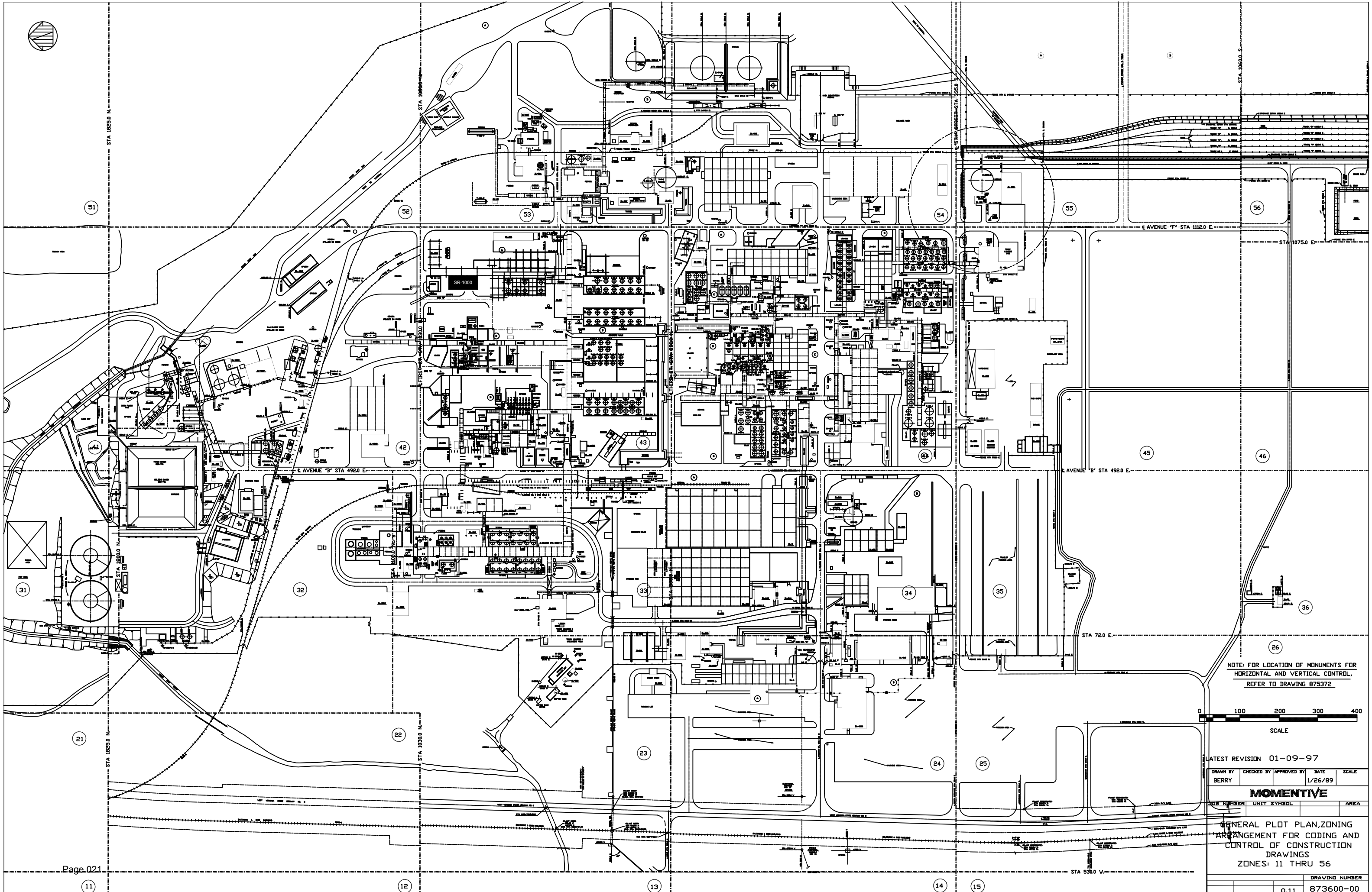
Tank T-2125-S is considered a process tank, as it is a continuous flow-through, and vapor streams flowing through it originate from, and are accounted for, in the process emissions. As such no Storage Tank Emission Unit Data Sheets is required.

Process Flow Diagrams for Emission Group 136 are provided in Attachment F

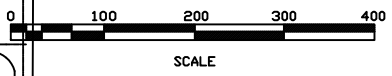
Monitoring, Recordkeeping, and Reporting

- Emissions recordkeeping is discussed above under Emission Limits, and is already specified in R13-2338I term 4.4.5 and Title V term 4.4.4.

Attachment E
Plot Plans



NOTE: FOR LOCATION OF MONUMENTS FOR HORIZONTAL AND VERTICAL CONTROL, REFER TO DRAWING 875372



LATEST REVISION 01-09-97

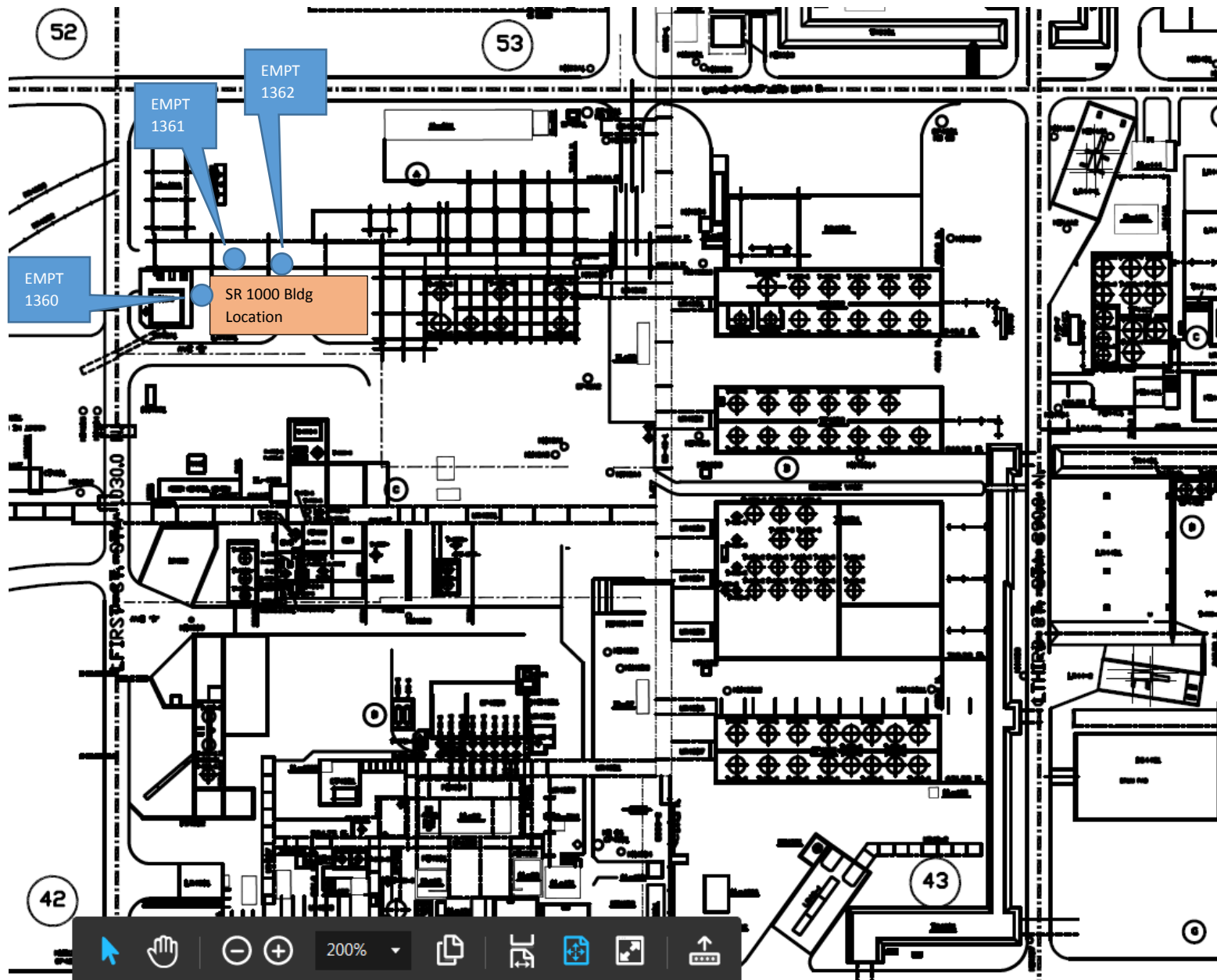
DRAWN BY	CHECKED BY	APPROVED BY	DATE	SCALE
BERRY			1/26/89	

MOMENTIVE

JOB NUMBER	UNIT SYMBOL	AREA

GENERAL PLOT PLAN, ZONING ARRANGEMENT FOR CODING AND CONTROL OF CONSTRUCTION DRAWINGS ZONES: 11 THRU 56

DRAWING NUMBER
0.11 873600-00

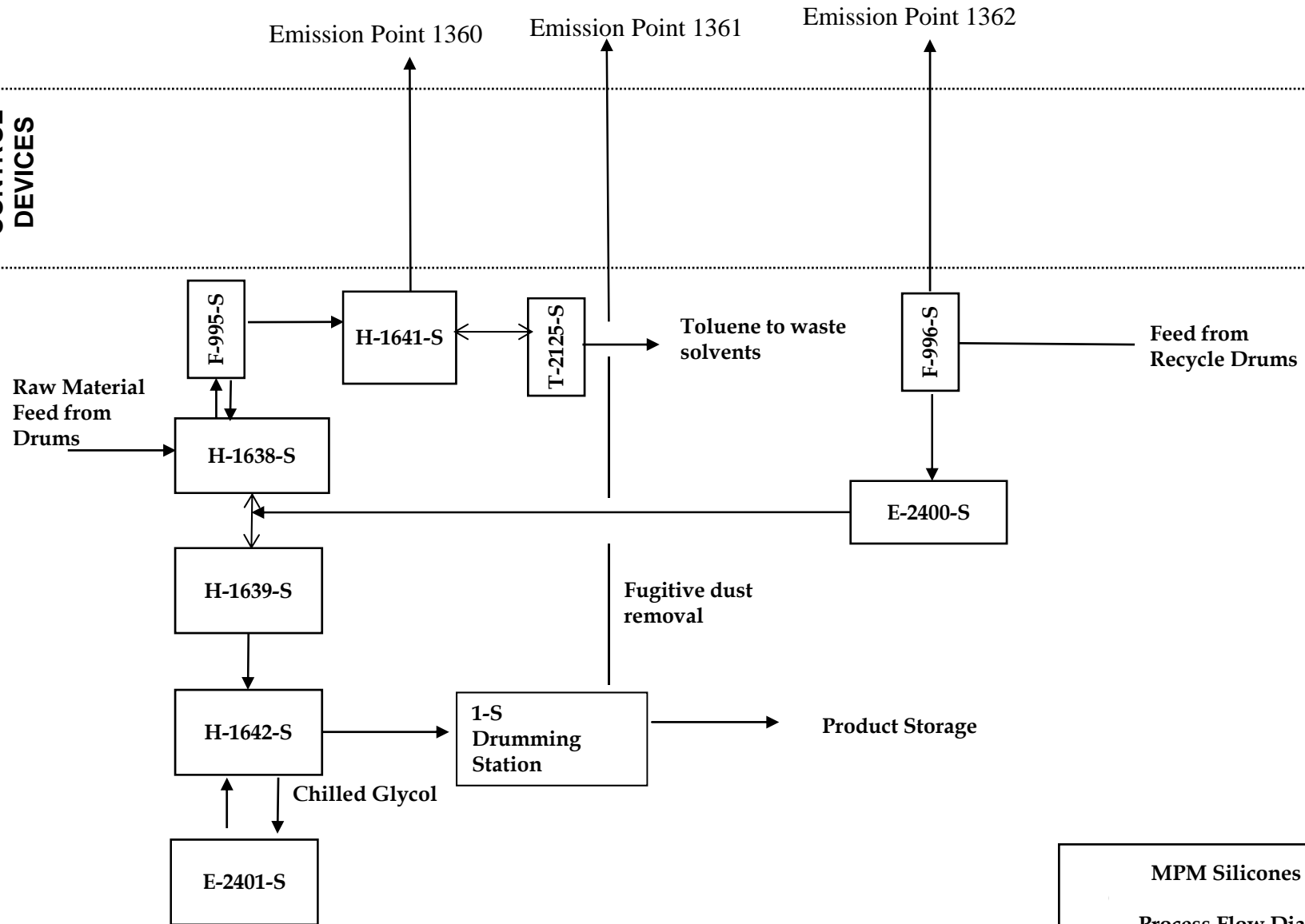


Attachment F
Process Flow Diagram and P&IDs
Portions Claimed Confidential

VENTS

CONTROL DEVICES

PROCESS EQUIPMENT



MPM Silicones LLC
 Process Flow Diagram:

Emission Group 136
 SR-1000
 Page 1 of 1

Attachment G
Process Description
Portions Claimed Confidential

Attachment G Process Description SR-1000

Redacted Copy
Claim of Confidentiality

Process Summary

A solution of toluene and solids is processed to dry the solids as the product. The feed solution is metered into the Solidaire heater (H-1638-S) by a feed pump. The solution is dried from [REDACTED]. This results in a change of phase in the material from a solution to a powder.

The dried SR1000 discharges from the Solidaire heater to the TorusDisc Dryer (H-1639-S) via gravity. The TorusDisc further dries the SR1000 to [REDACTED]. The dried SR1000 discharges over an internal overflow weir in the TorusDisc and passes through a rotary valve. The dried SR1000 product from the rotary valve drops by gravity into the Solidaire Cooler (H-1642-S) where chilled glycol is used on the jacket to bring the material temperature down to less than or equal to 140°F. The cooled product is transferred to drums for final storage.

Nitrogen gas is used as a “sweep gas” to both inert the environment and convey vapors from the Solidaire and TorusDisc Dryers. The sweep gas is electrically heated in the sweep gas heater whose outlet temperature is controlled by the temperature of the sweep gas entering at the discharge end of the TorusDisc Dryer. The drying system pressure is kept slightly negative to keep the heated nitrogen sweep and toluene vapors moving counter current to the material flow in the system towards the Bin Vent Filter (F-995-S). The Bin Vent Filter separates the fines carried in the exhaust and via reverse pulsing discharges these directly back down into the Solidaire Dryer.

The clean gas side of the Bin Vent Filter exhausts to a condenser (H-1641-S) that uses chilled glycol (E-2401-S) to condense the majority of the toluene vapors for collection. The condenser exhaust gas is carried to the system exhaust fan. The condensed toluene is continuously transferred from the accumulation tank (T-2125-S) to an existing waste solvent tank.

A recycle system (E-2400-S and F-996-S) is also planned to allow for transferring off specification material from drums to the TorusDisc Dryer. Use of the recycle system is expected to be infrequent.

Attachment H
Safety Data Sheets

SAFETY DATA SHEET

1. Identification

Product identifier: 89115

Other means of identification

Synonyms: MQ resin in toluene solvent

Recommended use and restriction on use

Recommended use: Adhesive

Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information : Momentive Performance Materials LLC
260 Hudson River Road
Waterford NY 12188

Contact person : commercial.services@momentive.com

Telephone : General information
+1-800-295-2392

Emergency telephone number
Supplier : CHEMTREC
1-800-424-9300

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 2

Health Hazards

Acute toxicity (Oral) Category 4
Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 2A
Toxic to reproduction Category 1A
Specific Target Organ Toxicity - Single Exposure Category 3¹
Specific Target Organ Toxicity - Repeated Exposure Category 1²

Target Organs

89115

1. respiratory tract irritation, narcotic effects
2. Central nervous system., Kidneys, Heart, Liver, Spleen

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Highly flammable liquid and vapor.
Harmful if swallowed.
Causes serious eye irritation.
Causes skin irritation.
May damage fertility.
Suspected of damaging the unborn child.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye protection/face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof [electrical/ventilating/lighting/] equipment. Use non-sparking tools. Take action to prevent static discharges. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapors. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response: Get medical advice/attention if you feel unwell. IF exposed or concerned: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor/ if you feel unwell. IF SWALLOWED: Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF ON SKIN: Wash with plenty of water. Take off contaminated clothing. If skin irritation occurs: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists:

Storage: Store locked up. Store in a well-ventilated place. Keep cool.

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Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*	Notes
Toluene	108-88-3	20 - <50%	# This substance has workplace exposure limit(s).

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: If swallowed, do NOT induce vomiting. Give a glass of water.

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

Skin Contact: Wash contaminated clothing before reuse. Wash with soap and water.

Eye contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Most important symptoms/effects, acute and delayed

Symptoms: Aspiration into the lungs may occur during injection or vomiting, resulting in lung injury and may be fatal. Contains toluene. Stimulants such as epinephrine may induce ventricular fibrillation. The metabolism of other solvents may be inhibited resulting in a potentiation of toxic effects of those chemicals. Uptake is directly proportional to the amount of body fat. Blood levels may be cumulative when exposure is extended.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

89115

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: No data available.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Carbon dioxide Foam. Water mist

Unsuitable extinguishing media: No data available.

Specific hazards arising from the chemical: No data available.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Keep away from sources of ignition - No smoking.

Special protective equipment for fire-fighters: Flammable Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Provide adequate ventilation. Use personal protective equipment. Keep up-wind to avoid fumes.

Methods and material for containment and cleaning up: Collect spillage with granulates, sawdust, rags or other absorbent.

7. Handling and storage

Precautions for safe handling: Wear appropriate personal protective equipment. Use only in well-ventilated areas.

Conditions for safe storage, including any incompatibilities: Store in tightly closed original container in a dry and cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Toluene	TWA	20 ppm	US. ACGIH Threshold Limit Values (03 2015)
	STEL	150 ppm 560 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm 375 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	100 ppm 375 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	150 ppm 560 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	200 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	Ceiling	300 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	500 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Toluene (o-Cresol, with hydrolysis: Sampling time: End of shift.)	0.3 mg/g (Creatinine in urine)	ACGIH BEI (03 2015)
Toluene (toluene: Sampling time: Prior to last shift of work week.)	0.02 mg/l (Blood)	ACGIH BEI (03 2015)
Toluene (toluene: Sampling time: End of shift.)	0.03 mg/l (Urine)	ACGIH BEI (03 2015)

Appropriate Engineering Controls

Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

General information: Use only in well-ventilated areas.

Eye/face protection: Safety glasses with side shields Monogoggles

Skin Protection

Hand Protection:

890 Vitoject This recommendation is valid only for our Product as delivered. If this product will be mixed with other substances you need to contact a supplier of CE approved protective gloves (e.g. KCL GmbH, D-36124 Eichenzell, Tel. 0049 (0) 6659 87300, Fax. 0049 (0) 6659 87155, email: vertrieb@kcl.de).

Other:

rubber overcoat

Respiratory Protection:

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures: Observe good industrial hygiene practices. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. When using do not eat, drink or smoke.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Aromatic
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	ca. 110 °C (No data available.)
Flash Point:	ca. 14 °C (Closed Cup)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	ca. 7.1 %(V)
Flammability limit - lower (%):	ca. 1.2 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Heat of combustion:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Density:	ca. 1.044 g/cm ³
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water) Log Pow:	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
SADT:	No data available.
Viscosity, dynamic:	No data available.
Viscosity, kinematic:	No data available.
VOC:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	No data available.
Possibility of hazardous reactions:	Hazardous polymerisation does not occur.
Conditions to avoid:	Keep away from sources of ignition - No smoking.
Incompatible Materials:	Oxidizing agents.
Hazardous Decomposition Products:	Carbon dioxide Silicon dioxide. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix: 12,500 mg/kg

Specified substance(s):

Toluene LD 50 (Rat, No data available.): 5,000 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

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Specified substance(s):

Toluene LD 50 (Rabbit, No data available.): 12,124 mg/kg

Inhalation

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Toluene LC50 (Rat,): 30.6 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Target Organs

Specific Target Organ Toxicity - Single Exposure: respiratory tract irritation, narcotic effects

Specific Target Organ Toxicity - Repeated Exposure: Central nervous system., Kidneys, Heart, Liver, Spleen

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Toluene LC0 (Daphnia magna): 93 mg/l
(Daphnia magna): 270 mg/l

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

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Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments
Toluene No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal instructions: Disposal should be made in accordance with federal, state and local regulations.

Contaminated Packaging: Dispose of as unused product.

14. Transport information

DOT

UN Number:	UN 1866
UN Proper Shipping Name:	Resin solution
Transport Hazard Class(es)	
Class:	3
Label(s):	3
Packing Group:	II
Marine Pollutant:	No

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IMDG

UN Number:	UN 1866
UN Proper Shipping Name:	RESIN SOLUTION
Transport Hazard Class(es)	
Class:	3
Label(s):	3
EmS No.:	F-E, S-E
Packing Group:	II
Marine Pollutant:	No
Limited quantity	5.00L
Excepted quantity	E2

IATA

UN Number:	UN 1866
Proper Shipping Name:	Resin solution
Transport Hazard Class(es):	
Class:	3
Label(s):	3
Packing Group:	II
Cargo aircraft only Packing	364
Instructions:	
Passenger and cargo aircraft	364
Packing Instructions:	
Limited quantity:	1.00L
Packing Instructions:	Y341
Excepted quantity	E2
Environmental Hazards:	Not regulated.
Marine Pollutant:	No

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Toluene	1,000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Fire Hazard

Immediate (Acute) Health Hazards
 Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Toluene	1,000 lbs.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Toluene	10000 lbs

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
Toluene		

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Toluene	Reportable quantity: 1,000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Toluene	Maximum Allowable Dose Level (MADL): 13000 µg/day. Developmental toxin.
Benzene	Maximum Allowable Dose Level (MADL): 49 µg/day. Developmental toxin.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
Silicic acid, trimethylsilyl ester
Toluene
Benzene

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US. Massachusetts RTK - Substance List

Chemical Identity

Toluene
Benzene

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Toluene

US. Rhode Island RTK

Chemical Identity

Toluene

Inventory Status:

Australia AICS:	y (positive listing)	Remarks: None.
EU EINECS List:	y (positive listing)	Remarks: None.
China Inventory of Existing Chemical Substances:	y (positive listing)	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	y (positive listing)	Remarks: None.
Canada DSL Inventory List:	e (special case)	Remarks: None.
Canada NDSL Inventory:	Listed	Remarks: None.
Philippines PICCS:	y (positive listing)	Remarks: None.
US TSCA Inventory:	y (positive listing)	Remarks: On TSCA Inventory
Taiwan. Taiwan inventory (CSNN):	y (positive listing)	Remarks: None.

16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	*	3
Flammability		3
Physical Hazards		0
PERSONAL PROTECTION		

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Issue Date: 03/01/2017

Revision Date: No data available.

Version #: 2.0

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Further Information: No data available.

Disclaimer:

Notice to reader

Unless otherwise specified in section 1, Momentive products are intended for use in the manufacture and/or formulation of products and are not intended for direct consumer use. These products are not intended for long-lasting (> 30 days) implantation, injection or direct ingestion into the human body, nor for use in the manufacture of multiple use contraceptives. Keep out of the reach of children.

Further Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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SAFETY DATA SHEET

1. Identification

Product identifier: SR 1000

Other means of identification

Synonyms: Polytrimethylhydrosilylsilicate

Recommended use and restriction on use

Recommended use: Personal care

Mixture

Mixture

Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information : Momentive Performance Materials LLC
260 Hudson River Road
Waterford NY 12188

Contact person : commercial.services@momentive.com

Telephone : General information
+1-800-295-2392

Emergency telephone number
Supplier : CHEMTREC
1-800-424-9300

2. Hazard(s) identification

Hazard Classification

OSHA hazard(s)

Combustible dust

Label Elements

Hazard Symbol: No symbol

Signal Word: Warning

Hazard Statement: May form combustible dust concentrations in air.

Target Organs
No data available.

Precautionary Statement

Prevention: not applicable
Response: not applicable
Storage: not applicable
Disposal: not applicable

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients**Substance**

Composition Comments: The components are not hazardous or are below required disclosure limits.

4. First-aid measures

Ingestion: No data available.
Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.
Skin Contact: Wash area with soap and water.
Eye contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Most important symptoms/effects, acute and delayed

Symptoms: Treatment is symptomatic and supportive.
No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: No data available.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: All standard extinguishing agents are suitable.

Unsuitable extinguishing media: No data available.

Specific hazards arising from the chemical: No data available.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Avoid contact with skin and eyes. Keep out of reach of children. Attention: Not for injection into humans.

Methods and material for containment and cleaning up: Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard.

Environmental Precautions: Prevent runoff from entering drains, sewers, or streams.

7. Handling and storage**Precautions for safe handling:**

If fine dust is formed from this product, avoid dispersion of dust in air to reduce fire and explosion hazard. Combustible dust is a combustible particulate solid that presents a fire or explosion hazard when suspended in air or the process-specific oxidizing medium over a range of concentrations, regardless of particle size or shape. Therefore, combustible dusts at sufficient concentrations can form explosive mixtures with air.

Momentive recommends following National Fire Protection Association (NFPA) Standard 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids." The NFPA 654 provides standards and procedures for prevention of industrial dust explosions, and includes information on hazard assessment, explosion isolation, fugitive dust control and housekeeping, control of ignition hazards, and contractors. Particular attention should be given to overhead and hidden horizontal surfaces to minimize the probability of a "secondary" explosion. According to NFPA Standard 654, dust layers 1/32 inch (0.8 mm) thick can be sufficient to warrant immediate cleaning of the area. Review these standards in detail prior to handling this product. Note that these standards may have been made part of your state safety codes, and therefore are required in your dust control system specifications and design.

In general, train workers in the recognition and prevention of hazards associated with combustible dusts in the plant; establish good housekeeping practices. One needs to minimize airborne dust, eliminate all ignition sources, and keep away this product away from heat, hot surfaces, sparks, and flame.

This product, or the packaging itself, can accumulate static charges, and static discharge can be a source of ignition. Solids handling systems must be designed to mitigate static charges. The NFPA standards – specifically 654 and 77 – provide a resource for guidance. In general, the packaging container and all equipment must be grounded with electrical bonding and grounding systems; plastic bags and drums cannot be grounded, and antistatic bags do not completely protect against development of static charges.

Conditions for safe storage, including any incompatibilities:

Keep away from heat, sparks and open flame. Keep container closed.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

None of the components have assigned exposure limits.

Appropriate Engineering Controls

Eye wash facilities and emergency shower must be available when handling this product. Ventilation and other forms of engineering controls are preferred for controlling exposures. Respiratory protection may be needed for non-routine or emergency situations.

Individual protection measures, such as personal protective equipment

- General information:** No data available.
- Eye/face protection:** Safety glasses with side shields
- Skin Protection**
 - Hand Protection:** Chemical resistant gloves
 - Other:** Wear suitable protective clothing and eye/face protection.
- Respiratory Protection:** If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).
- Hygiene measures:** No data available.

9. Physical and chemical properties

Appearance

- Physical state:** solid
- Form:** Powder
- Color:** White
- Odor:** Odorless
- Odor threshold:** No data available.
- pH:** No data available.
- Melting point/freezing point:** No data available.
- Initial boiling point and boiling range:** No data available.
- Flash Point:** solid does not flash
- Evaporation rate:** Negligible
- Flammability (solid, gas):** No data available.
- Upper/lower limit on flammability or explosive limits**
 - Flammability limit - upper (%):** No data available.
 - Flammability limit - lower (%):** No data available.
 - Explosive limit - upper (%):** No data available.
 - Explosive limit - lower (%):** No data available.

SR 1000

Vapor pressure:	No data available.
Vapor density:	No data available.
Density:	1.3 g/cm3
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water) Log Pow:	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
SADT:	No data available.
Viscosity, dynamic:	No data available.
Viscosity, kinematic:	No data available.
Other information	
Dust explosion properties:	+/- 11% 277 m.b./s
Minimum ignition energy:	estimated 1.6 mJ

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	No data available.
Possibility of hazardous reactions:	Hazardous polymerisation does not occur.
Conditions to avoid:	None known.
Incompatible Materials:	None known.
Hazardous Decomposition Products:	Carbon dioxide Silicon dioxide. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion:	No data available.
Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)**

Oral	
Product:	Not classified for acute toxicity based on available data.
Dermal	
Product:	Not classified for acute toxicity based on available data.
Inhalation	
Product:	Not classified for acute toxicity based on available data.

Repeated dose toxicity	
Product:	No data available.

Skin Corrosion/Irritation	
Product:	(Rabbit, 72 h): No skin irritation

Serious Eye Damage/Eye Irritation	
Product:	(Rabbit): Non irritating Non irritating

Respiratory or Skin Sensitization	
Product:	Sensitisation, skin, OECD Guideline 429 (LLNA) (Mouse): negative

Carcinogenicity	
Product:	No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: Ames-Test (OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)): negative (not mutagenic)

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Target Organs
No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments
Silicic acid, trimethylsilyl ester No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: No data available.

Contaminated Packaging: No data available.

14. Transport information

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

Special precautions for user: This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

<u>Chemical Identity</u>	<u>OSHA hazard(s)</u>
Toluene	Causes mild skin irritation.; Systemic effects
Benzene	Toxic by ingestion; Toxic by skin absorption; Systemic effects

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Toluene	1,000 lbs.
Benzene	10 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

No SARA Hazards
Fire Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Toluene	1,000 lbs.
Benzene	10 lbs.

SARA 311/312 Hazardous Chemical

None present or none present in regulated quantities.

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Toluene	Reportable quantity: 1,000 lbs.
Benzene	Reportable quantity: 10 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

SDS_US

10/13

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Toluene	Developmental toxin.
Benzene	Developmental toxin.
Benzene	Carcinogenic.
Benzene	Male reproductive toxin.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List**Chemical Identity**

Benzene

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:

Australia AICS:	y (positive listing)	Remarks: None.
EU EINECS List:	y (positive listing)	Remarks: None.
Japan (ENCS) List:	y (positive listing)	Remarks: None.
China Inventory of Existing Chemical Substances:	y (positive listing)	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	y (positive listing)	Remarks: None.
Canada DSL Inventory List:	y (positive listing)	Remarks: None.
Canada NDSL Inventory:	n (Negative listing)	Remarks: None.
Philippines PICCS:	y (positive listing)	Remarks: None.
US TSCA Inventory:	y (positive listing)	Remarks: None.
Taiwan. Taiwan inventory (CSNN):	y (positive listing)	Remarks: None.

16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	1
Flammability	1
Physical Hazards	1
PERSONAL PROTECTION	

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Issue Date: 05/12/2016
Revision Date: No data available.
Version #: 1.10
Further Information: No data available.

Disclaimer:**Notice to reader**

Unless otherwise specified in section 1, Momentive products are intended for use in the manufacture and/or formulation of products and are not intended for direct consumer use. These products are not intended for long-lasting (> 30 days) implantation, injection or direct ingestion into the human body, nor for use in the manufacture of multiple use contraceptives. Keep out of the reach of children.

Further Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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Version 1.6

Revision Date: 02/21/2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Toluene

Recommended use of the chemical and restrictions on use

Recommended use : Industrial chemical

Manufacturer or supplier's details

Company : Nexeo Solutions, LLC.
Address : 3 Waterway Square Place Suite 1000
The Woodlands, TX. 77380
United States of America

Emergency telephone number:

Health North America: 1-855-NEXEO4U (1-855-639-3648)

Health International: 1-855-NEXEO4U (1-855-639-3648)

Transport North America: CHEMTREC (1-800-424-9300)

Additional Information: : Responsible Party: Product Safety Group
E-Mail: msds@nexeosolutions.com
SDS Requests: 1-855-429-2661
SDS Requests Fax: 1-281-500-2370
Website: www.nexeosolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 2

Skin irritation : Category 2

Eye irritation : Category 2A

Germ cell mutagenicity : Category 1B

Carcinogenicity : Category 1A

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

Specific target organ toxicity - repeated exposure (Inhalation) : Category 2 (Auditory system, Eyes)

Aspiration hazard : Category 1

GHS Label element

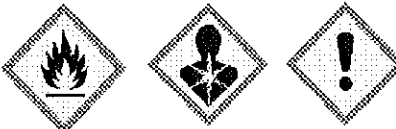
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Hazard pictograms



Signal word

: Danger

Hazard statements

: H225 Highly flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H336 May cause drowsiness or dizziness.
 H340 May cause genetic defects.
 H350 May cause cancer.
 H361 Suspected of damaging fertility or the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements

: **Prevention:**
 P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P331 Do NOT induce vomiting.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.

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P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

CAS-No.	Chemical Name	Weight %
108-88-3	Toluene	90 - 100
71-43-2	**Benzene	0.1 - 1

Any Concentration shown as a range is due to batch variation.

Special Notes: : ** Other substances in the product which may present a health or environmental hazard.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.
If unconscious place in recovery position and seek medical advice.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.

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Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon oxides
Unburned hydrocarbons
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
- Advice on safe handling : Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
108-88-3	Toluene	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m3	NIOSH REL
		ST	150 ppm 560 mg/m3	NIOSH REL
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm	OSHA Z-2
		TWA	100 ppm 375 mg/m3	OSHA P0
		STEL	150 ppm 560 mg/m3	OSHA P0
71-43-2	**Benzene	TWA	0.5 ppm	ACGIH
		STEL	2.5 ppm	ACGIH
		TWA	0.1 ppm	NIOSH REL

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	ST	1 ppm	NIOSH REL
	PEL	1 ppm	OSHA CARC
	STEL	5 ppm	OSHA CARC
	TWA	10 ppm	OSHA Z-2
	CEIL	25 ppm	OSHA Z-2
	Peak	50 ppm	OSHA Z-2

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : Clear, Colorless

Odour : characteristic, sweet, pungent

Odour Threshold : 2.9 ppm

pH : No data available

Freezing Point (Melting point/freezing point) : -95 °C (-139 °F)

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Boiling Point (Boiling point/boiling range)	: 109 - 111 °C (228 - 232 °F)
Flash point	: 4 - 5 °C (39 - 41 °F) Method: Tag closed cup
Evaporation rate	: < 2 (Butyl Acetate = 1)
Flammability (solid, gas)	: No data available
Upper explosion limit	: 7.1 %(V)
Lower explosion limit	: 1.1 %(V)
Vapour pressure	: < 24 mmHg @ 20 - 25 °C (68 - 77 °F)
Relative vapour density	: < 3.14 @ 20 - 25 °C (68 - 77 °F) (Air = 1.0)
Relative density	: 0.87 - 0.88 @ 20 - 25 °C (68 - 77 °F) Reference substance: (water = 1)
Density	: 0.87 g/cm ³ @ 20 - 25 °C (68 - 77 °F)
Solubility(ies) Water solubility	: slightly soluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: 480 - 536 °C
Thermal decomposition	: No data available
Viscosity Viscosity, kinematic	: < 3 mm ² /s @ 20 °C (68 °F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Vapours may form explosive mixture with air.
Conditions to avoid	: Keep away from heat, flame, sparks and other ignition sources.

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Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Acids
Strong oxidizing agents
Bases

SECTION 11. TOXICOLOGICAL INFORMATION

Skin corrosion/irritation

Components:

108-88-3:

Species: Rabbit

Exposure time: 4 h

Result: Irritating to skin.

Serious eye damage/eye irritation

Components:

108-88-3:

Species: Rabbit

Result: Irritating to eyes.

Germ cell mutagenicity

Components:

108-88-3:

Germ cell mutagenicity - Assessment

: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components:

108-88-3:

Carcinogenicity - Assessment

: No evidence of carcinogenicity in animal studies.

IARC

Group 1: Carcinogenic to humans

71-43-2

**Benzene

OSHA

OSHA specifically regulated carcinogen

71-43-2

**Benzene

NTP

Known to be human carcinogen

71-43-2

**Benzene

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ACGIH Confirmed human carcinogen

71-43-2

**Benzene

Reproductive toxicity

Components:

108-88-3:

Effects on foetal development

: Species: Rat
Application Route: inhalation (vapour)
Dose: 0, 250, 750, 1500, 3000 ppm
Duration of Single Treatment: 10 d
Frequency of Treatment: 6 hr/day
General Toxicity Maternal: NOAEC: 750 ppm
Developmental Toxicity: NOAEC: 750 ppm
Symptoms: Maternal toxicity, Reduced body weight, Skeletal malformations

Teratogenicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Reproductive toxicity - Assessment : No toxicity to reproduction

STOT - single exposure

Components:

108-88-3:

Exposure routes: Inhalation

Target Organs: Central nervous system

Assessment: May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT - repeated exposure

Components:

108-88-3:

Exposure routes: Inhalation

Target Organs: Auditory system, Eyes

Assessment: May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Aspiration toxicity

Components:

108-88-3:

May be fatal if swallowed and enters airways.

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Further information

Product:

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Concentrations substantially above the TLV value may cause narcotic effects.

Solvents may decrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

108-88-3:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.5 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : LC50 (Ceriodaphnia dubia): 3.78 mg/l
Exposure time: 48 h
Test Type: Renewal

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.74 mg/l
Exposure time: 7 d

Acute aquatic toxicity- Assessment : Toxic to aquatic life.

Chronic aquatic toxicity- Assessment : Harmful to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

Components:

108-88-3:

Partition coefficient: n-octanol/water : log Pow: 2.73 (20 °C)
pH: 7

71-43-2:

Partition coefficient: n-octanol/water : Pow: 2.13 (25 °C)
pH: 7

Mobility in soil

No data available

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Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN1294, TOLUENE, 3, II

IATA (International Air Transport Association):
UN1294, TOLUENE, 3, II

IMDG (International Maritime Dangerous Goods):
UN1294, TOLUENE, 3, II, Flash Point:4 - 5 °C(39 - 41 °F)

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : B2: Flammable liquid
D2A: Very Toxic Material Causing Other Toxic Effects
D2B: Toxic Material Causing Other Toxic Effects

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Toluene	108-88-3	1000	1010
**Benzene	71-43-2	10	4002

SARA 304 Extremely Hazardous Substances Reportable Quantity

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This material does not contain any components with a section 304 EHS RQ.

- SARA 311/312 Hazards** : Fire Hazard
Immediate (Acute) Health Hazard
Chronic (Delayed) Health Hazard
- SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:
- | | |
|----------|-----------|
| 108-88-3 | Toluene |
| 71-43-2 | **Benzene |

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

108-88-3 Toluene

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMII Intermediate or Final VOC's (40 CFR 60.489):

108-88-3 Toluene

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

108-88-3 Toluene
71-43-2 **Benzene
100-41-4 **Ethylbenzene
91-20-3 **Naphthalene

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

108-88-3 Toluene
71-43-2 **Benzene
100-41-4 **Ethylbenzene
91-20-3 **Naphthalene

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

108-88-3 Toluene

US State Regulations

Massachusetts Right To Know

108-88-3	Toluene	90 - 100 %
71-43-2	**Benzene	0.1 - 1 %

Pennsylvania Right To Know

108-88-3	Toluene	90 - 100 %
71-43-2	**Benzene	0.1 - 1 %
100-41-4	**Ethylbenzene	0 - 0.1 %

New Jersey Right To Know

108-88-3	Toluene	90 - 100 %
71-43-2	**Benzene	0.1 - 1 %

California Prop 65 WARNING! This product contains a chemical known to the

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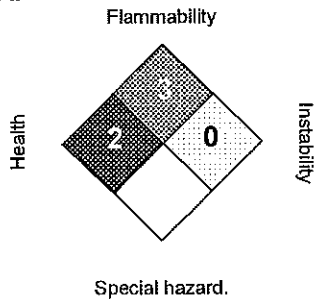
71-43-2	State of California to cause cancer.
100-41-4	**Benzene
98-82-8	**Ethylbenzene
91-20-3	**Cumene
	**Naphthalene
	WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
108-88-3	Toluene
71-43-2	**Benzene

The components of this product are reported in the following inventories:

- TSCA : On TSCA Inventory
- DSL : All components of this product are on the Canadian DSL
- AICS : On the inventory, or in compliance with the inventory
- NZIoC : On the inventory, or in compliance with the inventory
- ENCS : On the inventory, or in compliance with the inventory
- KECI : On the inventory, or in compliance with the inventory
- PHIL : On the inventory, or in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has

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been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661)
MSDS@nexeosolutions.com.

Revision Date : 02/21/2017

Legacy SDS: : R0000565, 100000027774

Material number:

16116034, 16108456, 16066714, 16066691, 16061579, 16076583, 20054, 16052078,
16044492, 16042922, 16020146, 758386, 744411, 744290, 710730, 710841, 659495, 638920,
605418, 599094, 591594, 583688, 577548, 74292, 554035, 554297, 554199, 554034, 550273,
547202, 508613, 508487, 102358, 87255, 86312, 53763, 87252, 102690, 70140, 85974, 53211,
54494, 53551, 86521, 53216, 69928, 102899, 69593, 103631, 54061, 70083, 86461, 102680,
53543, 69918, 85966, 53699, 127683, 508226, 508225, 503157, 502489, 500113, 500040,
20058, 20055, 20052, 20051, 20050, 20049, 508283

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System



Safety Data Sheet

Toluene

Version 1.6

Revision Date: 02/21/2017

LC50	Lethal Concentration 50%
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Attachment I
Emission Units Table

Attachment I

Redacted Copy
Claim of Confidentiality

Emission Units Table

**(includes all emission units and air pollution control devices
 that will be part of this permit application review, regardless of permitting status)**

Emission Unit ID ¹	Emission Point ID ²	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type ³ and Date of Change	Control Device ⁴
E-2400-S	1362	Screw Feeder	2018	██████	New	NA
E-2401-S	NA	Chiller	2018	██████	New	NA
F-995-S	1360	Filter	2018	██████	New	NA
F-996-S	1362	Filter	2018	██████████	New	NA
H-1638-S	1360	Heater	2018	██████	New	NA
H-1639-S	1360	Dryer	2018	██████	New	NA
H-1641-S	1360	Condenser	2018	██████	New	NA
H-1642-S	1360	Cooler	2018	██████	New	NA
T-2125-S	1360	Tank	2018	20 gal	New	NA
1-S	1361	Drumming Station	2018	██████	New	NA

¹ For Emission Units (or Sources) use the following numbering system: 1S, 2S, 3S,... or other appropriate designation.
² For Emission Points use the following numbering system: 1E, 2E, 3E, ... or other appropriate designation.
³ New, modification, removal
⁴ For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Attachment J
Emission Point Data Summary

**Attachment J
EMISSION POINTS DATA SUMMARY SHEET**

Table 1: Emissions Data															
Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type ¹	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Speciate VOCs & HAPS)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor)	Est. Method Used ⁶	Emission Concentration ⁷ (ppmv or mg/m ⁴)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
1360	Upward Vertical Stack	H-1639-S	Dryer	N/A	N/A	C	8760	Toluene	0.34	1.49	0.34	1.49	Vapor	EE	18,000 ppmv
		H-1638-S	Heater												
		F-995-S	Bin Filter												
		H-1641-S	Condenser												
1362	Upward Vertical Stack	F-996-S	Recycle filter	N/A	N/A		8 hr/day 20 day/year	Total Particulate	0.0064	0.005	0.0064	0.005	solid	EE	0.005 grains/scf
1361	Upward Vertical Stack	1-S	Drum filling	N/A	N/A	C	8760	Total Particulate	0.01	0.044	0.01	0.044	solid	EE	

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

- ¹ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.
- ² Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).
- ³ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. **DO NOT LIST** H₂, H₂O, N₂, O₂, and Noble Gases.
- ⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
- ⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
- ⁶ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).
- ⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

Attachment J **EMISSION POINTS DATA SUMMARY SHEET**

Table 2: Release Parameter Data								
Emission Point ID No. <i>(Must match Emission Units Table)</i>	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow ¹ (acfm) <i>at operating conditions</i>	Velocity (fps)	Ground Level <i>(Height above mean sea level)</i>	Stack Height ² <i>(Release height of emissions above ground level)</i>	Northing	Easting
1360	0.0833	100	6.5 acfm		648	35 feet	4370.689	492.320
1361	0.25	70			648	35 feet	4370.684	492.321
1362	0.25	70	200 acfm		648	35 feet	4370.682	492.321

¹ Give at operating conditions. Include inerts.
² Release height of emissions above ground level.

Attachment K
Fugitive Emissions Data Summary

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS ¹	Maximum Potential Uncontrolled Emissions ²		Maximum Potential Controlled Emissions ³		Est. Method Used ⁴
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads	NA					
Unpaved Haul Roads	NA					
Storage Pile Emissions	NA					
Loading/Unloading Operations	NA					
Wastewater Treatment Evaporation & Operations	NA					
Equipment Leaks	Toluene 108-88-3	Does not apply	0.0001	Does not apply	0.0001	EE
General Clean-up VOC Emissions	NA					
Other	NA					

¹ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. DO NOT LIST H₂, H₂O, N₂, O₂, and Noble Gases.

² Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

³ Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁴ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

Attachment L
Emissions Unit Data Sheet
Portions Claimed Confidential

**Attachment L
EMISSIONS UNIT DATA SHEET
CHEMICAL PROCESS**

For chemical processes please fill out this sheet and all supplementary forms (see below) that apply. Please check all supplementary forms that have been completed.

- Emergency Vent Summary Sheet*
- Leak Sources Data Sheet*
- Toxicology Data Sheet*
- Reactor Data Sheet*
- Distillation Column Data Sheet*

1. Chemical process area name and equipment ID number (as shown in *Equipment List Form*)
SR-1000

2. Standard Industrial Classification Codes (SICs) for process(es)
2869

3. List raw materials and attach MSDSs

4. List Products and Maximum Production and attach MSDSs

Description and CAS Number	Maximum Hourly (lb/hr)	Maximum Annual (ton/year)
Polytrimethylhydrosilylsilicate		
CAS 68988-56-7 (for above)		

5. Complete the *Emergency Vent Summary Sheet* for all emergency relief devices.

6. Complete the *Leak Source Data Sheet* and describe below or attach to application the leak detection or maintenance program to minimize fugitive emissions. Include detection instruments, calibration gases or methods, planned inspection frequency, and record-keeping, and similar pertinent information. If subject to a rule requirement (e.g. 40CFR60, Subpart VV), please list those here.

Unit is subject to LDAR requirements under 40 CFR 63 Subpart FFFF (MON).

7. Clearly describe below or attach to application Accident Procedures to be followed in the event of an accidental spill or release.
See attached spill response summary plan

8A. Complete the *Toxicology Data Sheet* or attach to application a toxicology report (an up-to-date material safety data sheets (MSDS) may be used) outlining the currently known acute and chronic health effects of each compound or chemical entity emitted to the air. If these compounds have already been listed in Item 3, then a duplicate MSDS sheet is not required. Include data such as the OSHA time weighted average (TWA) or mutagenicity, teratogenicity, irritation, and other known or suspected effects should be addressed. Indicate where these are unknown, and provide references.

8B. Describe any health effects testing or epidemiological studies on these compounds that are being or may be conducted by the company or required under TSCA, RCRA or other federal regulations. Discuss the persistence in the environment of any emission (e.g. pesticides, etc.).

9. **Waste Products** - Waste products status: (If source is subject to RCRA or 45CSR25, please contact the Hazardous Waste Section of WVDEP, OAQ at (304) 926-3647.)

9A. Types and amounts of wastes to be disposed:

9B. Method of disposal and location of waste disposal facilities: Varies
Carrier: Varies Phone: Varies

9C. Check here if approved USEPA/State Hazardous Waste Landfill will be used

10. Maximum and Projected Typical Operating Schedule for process or project as a whole (circle appropriate units).

circle units:	(hrs/day) (hr/batch)	(days), (batches/day), (batches/week)	(days/yr), (weeks/year)
10A. Maximum	24 hours/day		365 days/year
10B. Typical	24 hours/day		310 days/year

11. Complete a *Reactor Data Sheet* for each reactor in this chemical process.

12. Complete a *Distillation Column Data Sheet* for each distillation column in this chemical process.

13. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Already specified in R13-2338I terms 4.2.2., 4.4.5 and Title V terms 4.2.2, 4.4.4	
REPORTING	TESTING

MONITORING. Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment operation or air pollution control

RECORDKEEPING. Please describe the proposed recordkeeping that will accompany the monitoring.

REPORTING. Please describe the proposed frequency of reporting of the recordkeeping.

TESTING. Please describe any proposed emissions testing for this process equipment or air pollution control

14. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty
N/A

INFORMATION REQUIRED FOR CHEMICAL PROCESSES

The notes listed below for chemical processes are intended to help the applicant submit a complete application to the OAQ; these notes are not intended to be all inclusive. The requirements for a complete application for a permit issued under 45CSR13 are designed to provide enough information for a permit reviewer to begin a technical review. Additional information beyond that identified may be required to complete the technical review of any individual application.

Process Description

Please keep these points in mind when completing your process description as part of this permit application.

1. Provide a general process overview. This brief, but complete, process description should include chemical or registered trademark names of chemical products, intermediates, and/or raw materials to be produced or consumed, and the ultimate use(s) of the product(s). A list of the various chemical compounds is helpful.
2. Describe each process step. Include the process chemistry and stoichiometrically balanced reaction equation or material mass balance on all components.
3. Describe the methods and equipment used to receive, store, handle, and charge raw materials.
4. Describe the methods and equipment used to handle, store, or package final products and intermediates.
5. Provide process flow diagrams or equipment layout drawings which clearly show the process flow relationships among all pieces of process and control equipment. Identify all air emission discharge points. Discuss instrumentation and controls for the process.
6. Discuss the possibilities of process upsets, the duration and frequency of upsets, and consequences (including air emissions) of these upsets. Include a description of rupture discs, pressure relief valves, and secondary containment systems.
7. Discuss any fugitive emissions and the methods used to minimize them.
8. Include the following plans for the process if available:
 - a. preventative maintenance and malfunction abatement plan (recommended for all control equipment).
 - b. continuous emissions (in-stack) monitoring plan
 - c. ambient monitoring plan
 - d. emergency response plan

Regulatory Discussion

The following state and federal air pollution control regulations may be applicable to your chemical process. You should review these regulations carefully to determine if they apply to your process. Please summarize the results of your review in your permit application along with any other regulations you believe are applicable.

- Title 45 Legislative Rule Division of Environmental Protection, Office of Air Quality contains West Virginia's air pollution control regulations, including the following promulgated rules which may require emissions reductions or control technologies for your chemical process:
 - a. 45CSR27 - Best Available Technology (BAT) for Toxic Air Pollutants (TAPs)
 - b. 45CSR21 - VOC emissions controls for ozone maintenance in Kanawha, Cabell, Putnam, Wayne, and Wood counties.
 - c. 45CSR13 (Table 45-13A) - plantwide emission thresholds for permitting for certain pollutants.
- Federal Guidelines for case-by-case MACT determinations under section 112(g) of the 1990 CAAA for individual and total HAPs greater than 10 and 25 tons per year, respectively.
- There are also subparts of the federal Standards of Performance for New Stationary Sources (NSPS), 40CFR60, and the National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40CFR61 and 40CFR63, which apply to various chemical and nonchemical processes. These subparts are too numerous to list here, but these areas of the federal regulations should be consulted carefully to determine applicability to your process.

Emissions Summary and Calculations

Please keep these points in mind when submitting your emissions calculations as part of this permit application.

1. For each pollutant, provide the basis for the emissions estimate and for all emission reduction(s) or control efficiency(ies) claimed.
2. For all batch processes provide the following
 - a. Emissions of each pollutant in pound(s) per batch, from each process step
 - b. Annual emissions based on number of batches requested per year
 - c. The total time for each process step and the duration of the emissions during the process step
 - d. Total batch time, total emissions per batch (or per day), and annual emissions based on the number of batches requested per year.

EMERGENCY VENT SUMMARY SHEET

List below all emergency relief devices, rupture disks, safety relief valves, and similar openings that will vent only under abnormal conditions.

Emission Point ID ¹	Equipment to Relief Vent (type, ID if available) ²	Relief Vents (type) & Set Pressure (psig)	Name of Chemical(s) or Pollutants Controlled	Worst Case Emission per Release Event (lbs)
None	F-995-S PSV5001	Valve, 150 PSIG	Toluene, particulate	120
None	H-1638-S PSV1001	Valve, 150 PSIG	Toluene, particulate	120
None	H-1639-S PSV2001	Valve, 150 PSIG	Toluene, particulate	100
None	H-1639-S PSV2002	Disc, 150 PSIG	Toluene, particulate	100

All routine vents (non-emergency) should be listed on the *Emission Points Data Summary Sheet*.

¹ Indicate the emission point, if any, to which source equipment normally vents. Do not assign emission point ID numbers to each emergency relief vent or device.

² List all emergency relief devices next to the piece of equipment from which they control releases.

LEAK SOURCE DATA SHEET

Source Category	Pollutant	Number of Source Components ¹	Number of Components Monitored by Frequency ²	Average Time to Repair (days) ³	Estimated Annual Emission Rate (lb/yr) ⁴
Pumps ⁵	light liquid VOC ^{6,7}	2	2/0/0/0/0/0	3	0.06
	heavy liquid VOC ⁸				SOCMI Correlation Curve
	Non-VOC ⁹				Lower Limits, 8760 hr/yr
Valves ¹⁰	Gas VOC	1	0/0/1/0/0/0	3	0.003
	Light Liquid VOC	20	0/0/20/0/0/0	3	0.039
	Heavy Liquid VOC				
	Non-VOC				
Safety Relief Valves ¹¹	Gas VOC	2	0/0/0/0/0/0	3	0.06
	Non VOC				
Open-ended Lines ¹²	VOC	10	0/0/0/0/0/0	3	0.024
	Non-VOC				
Sampling Connections ¹³	VOC	0			0
	Non-VOC				
Compressors	VOC	0			0
	Non-VOC				
Flanges	VOC	30	0/0/0/0/0/0	3	0.073
	Non-VOC				
Other	VOC				
	Non-VOC				

^{1 - 13} See notes on the following page.

Notes for Leak Source Data Sheet

1. For VOC sources include components on streams and equipment that contain greater than 10% w/w VOC, including feed streams, reaction/separation facilities, and product/by-product delivery lines. Do not include certain leakless equipment as defined below by category.
2. By monitoring frequency, give the number of sources routinely monitored for leaks, using a portable detection device that measures concentration in ppm. Do not include monitoring by visual or soap-bubble leak detection methods. "M/Q(M)/Q/SA/A/O" means the time period between inspections as follows:

Monthly/Quarterly, with Monthly follow-up of repaired leakers/Quarterly/Semi-annual/Annually/Other (specify time period)

If source category is not monitored, a single zero in the space will suffice. For example, if 50 gas-service valves are monitored quarterly, with monthly follow-up of those repaired, 75 are monitored semi-annually, and 50 are checked bimonthly (alternate months), with non checked at any other frequency, you would put in the category "valves, gas service:" 0/50/0/75/0/50 (bimonthly).
3. Give the average number of days, after a leak is discovered, that an attempt will be made to repair the leak.
4. Note the method used: MB - material balance; EE - engineering estimate; EPA - emission factors established by EPA (cite document used); O - other method, such as in-house emission factor (specify).
5. Do not include in the equipment count sealless pumps (canned motor or diaphragm) or those with enclosed venting to a control device. (Emissions from vented equipment should be included in the estimates given in the Emission Points Data Sheet.)
6. Volatile organic compounds (VOC) means the term as defined in 40 CFR §51.100 (s).
7. A light liquid is defined as a fluid with vapor pressure equal to or greater than 0.04 psi (0.3 Kpa) at 20°C. For mixtures, if 20% w/w or more of the stream is composed of fluids with vapor pressures greater than 0.04 psi (0.3 Kpa) at 20 °C, then the fluid is defined as a light liquid.
8. A heavy liquid is defined as a fluid with a vapor pressure less than 0.04 psi (0.3 Kpa) at 20°C. For mixtures, if less than 20% w/w of the stream is composed of fluids with vapor pressures greater than 0.04 psi (0.3 Kpa) at 20 °C, then the fluid is defined as a heavy liquid.
9. LIST CO, H₂S, mineral acids, NO, NO₂, SO₃, etc. DO NOT LIST CO₂, H₂, H₂O, N₂, O₂, and Noble Gases.
10. Include all process valves whether in-line or on an open-ended line such as sample, drain and purge valves. Do not include safety-relief valves, or leakless valves such as check, diaphragm, and bellows seal valves.
11. Do not include a safety-relief valve if there is a rupture disk in place upstream of the valve, or if the valve vents to a control device.
12. Open-ended lines include purge, drain and vent lines. Do not include sampling connections, or lines sealed by plugs, caps, blinds or second valves.
13. Do not include closed-purge sampling connections.

TOXICOLOGY DATA SHEET¹

Descriptor Name/CAS Number	OSHA Limits ²		Acute ³ TC _{LO} - Animal LC _{LO} - Animal LC ₅₀ - Animal	Chronic ⁴	Irritation ⁵	References
	TWA	CL				
See MSDSs						

¹ Indicate by "ND" where no data exists, in company's knowledge.

² Time Weighted Average, Ceiling Limit, or other, with units.

³ If inhalation data is not available, provide other data as available.

⁴ Relying on animal or human studies, indicate if any data suggests: C = carcinogenicity, M = mutagenicity, T = teratogenicity, O = oncogenicity.

⁵ Indicate if there are dermal or eye irritation effects and whether they are considered to be low, moderate, or severe.

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): F-995-S

<p>1. Name or type and model of proposed affected source:</p> <p>Bin Filter</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>[REDACTED]</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>[REDACTED]</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):			
(a) Type and amount in appropriate units of fuel(s) to be burned:			
N/A			
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:			
(c) Theoretical combustion air requirement (ACF/unit of fuel):			
@	°F and	psia.	
(d) Percent excess air:			
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:			
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:			
(g) Proposed maximum design heat input:			
			$\times 10^6$ BTU/hr.
7. Projected operating schedule:			
Hours/Day	24	Days/Week	7
		Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	0 - negative pressure lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)		
Toluene	0 - negative pressure lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
 Already specified in R13-2338I term 4.4.5 and Title V term 4.4.4

RECORDKEEPING

REPORTING

TESTING

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): H-1641-S

<p>1. Name or type and model of proposed affected source:</p> <p>Condenser</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>[REDACTED]</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>[REDACTED]</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):			
(a) Type and amount in appropriate units of fuel(s) to be burned:			
N/A			
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:			
(c) Theoretical combustion air requirement (ACF/unit of fuel):			
@		°F and	psia.
(d) Percent excess air:			
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:			
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:			
(g) Proposed maximum design heat input:			× 10 ⁶ BTU/hr.
7. Projected operating schedule:			
Hours/Day	24	Days/Week	7
		Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	0.34 lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)		
Toluene	0.34 lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
 Already specified in R13-2338I term 4.4.5 and Title V term 4.4.4

RECORDKEEPING

REPORTING

TESTING

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): H-1639-S

<p>1. Name or type and model of proposed affected source:</p> <p>Dryer</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>[REDACTED]</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>[REDACTED]</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):			
(a) Type and amount in appropriate units of fuel(s) to be burned:			
N/A			
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:			
(c) Theoretical combustion air requirement (ACF/unit of fuel):			
@	°F and	psia.	
(d) Percent excess air:			
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:			
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:			
(g) Proposed maximum design heat input:			× 10 ⁶ BTU/hr.
7. Projected operating schedule:			
Hours/Day	24	Days/Week	7
		Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	0 - negative pressure lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	0 - negative pressure lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
 Already specified in R13-2338I term 4.4.5 and Title V term 4.4.4

RECORDKEEPING

REPORTING

TESTING

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): H-1638-S

<p>1. Name or type and model of proposed affected source:</p> <p>Solids Heater</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>[REDACTED]</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>[REDACTED]</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):			
(a) Type and amount in appropriate units of fuel(s) to be burned:			
N/A			
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:			
(c) Theoretical combustion air requirement (ACF/unit of fuel):			
@	°F and	psia.	
(d) Percent excess air:			
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:			
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:			
(g) Proposed maximum design heat input:			× 10 ⁶ BTU/hr.
7. Projected operating schedule:			
Hours/Day	24	Days/Week	7
		Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia	
a. NO _x		lb/hr	grains/ACF
b. SO ₂		lb/hr	grains/ACF
c. CO		lb/hr	grains/ACF
d. PM ₁₀		lb/hr	grains/ACF
e. Hydrocarbons		lb/hr	grains/ACF
f. VOCs	27.916	lb/hr	grains/ACF
g. Pb		lb/hr	grains/ACF
h. Specify other(s)			
Toluene	27.916	lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

Already specified in R13-2338I term 4.4.5 and Title V term 4.4.4

RECORDKEEPING

REPORTING

TESTING

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.



10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): F-996-S

<p>1. Name or type and model of proposed affected source:</p> <p>Recycle Solids Filter</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p></p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p></p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>None</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):			
(a) Type and amount in appropriate units of fuel(s) to be burned:			
N/A			
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:			
(c) Theoretical combustion air requirement (ACF/unit of fuel):			
@	°F and	psia.	
(d) Percent excess air:			
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:			
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:			
(g) Proposed maximum design heat input:			× 10 ⁶ BTU/hr.
7. Projected operating schedule:			
Hours/Day	24	Days/Week	7
		Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO _x	lb/hr	grains/ACF
b. SO ₂	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM ₁₀	0.0064 lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

Already specified in R13-2338I term 4.2.2 and Title V term 4.2.2

RECORDKEEPING

REPORTING

TESTING

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

SISTERSVILLE PLANT SPILL RESPONSE PROCEDURE SUMMARY

If a spill to the ground, air, process sewer or clean sewer occurs, people must respond rapidly:

- | | |
|--|---|
| 1) ORIGINATOR | Stops source and contains to degree possible. |
| 2) ORIGINATOR | Reports spill to Team Leader. |
| 3) ORIGINATING DEPT. | Follows Departmental Spill Operating Procedures and Plant Spill Response Procedure. |
| 4) EP OPERATIONS | Acts to prevent spill from getting to Sugar Camp Run, the ground, the air, or to the sewer systems. |
| 5) Team Leader | Notifies EHS Team. |
| 6) EHS Team Leader or EHS Team Member, or (department) Team Leader | Contacts various regulatory agencies and plant / business personnel as required depending on type of spill. |
| 7) ORIGINATING DEPT. | Enters information into Gensuite Event. |
| 8) INCIDENT REVIEW TEAM | Convenes and recommends action as needed. |
| 9) ORIGINATING DEPT. | Completes data input to Gensuite as required. |
| 10) ORIGINATING DEPT. | Enters and closes audit actions in Gensuite Audit Tracking System, if any. |

SISTERSVILLE PLANT SPILL RESPONSE PROCEDURE

Sect. I.	PURPOSE
Sect. II.	DEFINITIONS
Sect. III.	REPORTING
Sect. IV.	SPILL INCIDENT REVIEW
Sect. V.	PROCEDURE FOR CONTAINING LIQUID SPILLS
Sect. VI.	AIR RELEASES PROCEDURE
Sect. VII.	COMPLAINTS
Sect. VIII	HAZARDOUS MATERIALS IN TRANSPORTATION RELEASE REPORTING PROCEDURE
Table 1	Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act
Table 2	Definition of ICRE unlisted RCRA wastes
Table 3	Air Emission Estimation Procedure for Liquid Spills
Table 4	Wastewater Treatment Unit Spill Reporting List
Table 5	CERCLA Reporting Rules: 40 CFR 302 — Designation, Reportable Quantities, And Notification
Table 6	EPCRA Reporting Rules: 40 CFR 355 — Emergency Planning And Notification
Table 7	Hazardous Substances, Extremely Hazardous Substances, and WV Toxic Air Pollutants Known to be Present at Sistersville Plant
Table 8	WV Air Pollution Control Commission Toxic Air Pollutants
Table 9	Outfall 002
Table 10	Vapor Pressure Constants for “SPILEVAP”
Table 11	Sistersville Emergency Reporting Plan; West Virginia Division of Homeland Security and Emergency Management Industrial Rapid Response Rule
Appendix A	Corporate Reporting of Significant Events
Appendix B	Sistersville Plant Environmental Incident Information Form
Appendix C	Notification Call List
Appendix D	DOT Hazardous Material Incident Report Form and Instructions

SISTERSVILLE PLANT SPILL RESPONSE PROCEDURE

I. PURPOSE

To define effective procedures for preventing, reporting and containing spills to the ground, to the air, to the process and/or clean sewer systems.

II. DEFINITIONS

- A. “Spill” is an abnormal discharge to the air, ground or sewer system. Note that an air or water exceedance can be a spill.

This means that the plant's normal, treated wastewater loads are not considered spills. These normal waste loads are regulated by Federal or State permits and the permissible quantities are established.

A “spill” is considered to come within the definition of “Incident.” All reporting and follow-up actions taken will be in accordance with Plant procedures proscribed for an “Incident.”

- B. “Reportable Quantity (RQ)” is that quantity, which when released to the environment, triggers the obligation to report of a hazardous substance as defined and/or identified under various substance-specific regulations. The reportable quantity applies to releases to the environment over a 24-hour period.
1. Federal environmental spill reporting legislation:
 - a) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 40 CFR Part 302;
 - b) Emergency Planning and Community Right-to-Know Act (EPCRA) 40 CFR 355.40;
 - c) Clean Water Act (CWA) 40 CFR Parts 117 and 110; and/or
 - d) Resource Conservation and Recovery Act (RCRA) 40 CFR 264.196.
 2. The State of West Virginia requires reporting of spills that:
 - a) Are “emergency events” as defined in 170 CSR 2 (see Table 11), adopted in August 2009. This is interpreted to mean releases that do or may extend beyond the plant boundary and effect the community – failure to report within 15 minutes of becoming aware of a reportable incident could be deemed a violation;
 - b) are “unsightly or deleterious to the quality of the receiving waters” (i.e., any spill that reaches a water of the State of West Virginia);
 - c) are releases of Toxic Air Pollutants to the air, above Reportable Quantities specified in WV Division of Air Quality Regulation 27;
 - d) are a Title V permit deviation that pose an imminent and substantial danger to public health, safety, or the environment. They 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. (Title V permit condition 3.5.8) or,
- e) meet the “reportable quantity” for oil. This is a quantity that causes a film or sheen upon or discoloration of the surface of the waters of the United States or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. For our purposes, “waters of the United States” means Sugar Camp Run and the Ohio River.
3. Federal Hazardous Materials Regulations (49 CFR Parts 171-180) requires reporting when a spill of a hazardous material occurs during transportation. “Transportation” means in the presence of the transporter on plant property during loading, unloading, or storage. These regulations do not apply to in-plant trucks and drivers.

III. REPORTING

Present Federal laws require the reporting of all spills of oil or hazardous substances in “Reportable Quantities.” RQ’s are listed in the Table 1.

The following procedures for reporting, containing and preventing all spills are applicable to the Sistersville Plant. Copies of Plant and Corporate reporting and information gathering forms are in Appendices A and B.

- A. Any spill to the ground, air, clean or process sewer system must be reported immediately by the originating department to the Team Leader.
- B. **Any vapor cloud arising from sumps, sewers or scrubbers are to be treated as a spill and must be reported immediately by the originating department to the Team Leader.**
- C. In reporting the spill incident, an attempt to provide the following information shall be made, even if estimated:
 - 1. Location of spill and equipment involved;
 - 2. Material spilled;
 - 3. Time and date spill started and stopped, if stopped;
 - 4. Weather conditions and wind direction;
 - 5. Quantity of spill;
 - 6. Where spill went (process sewer, clean sewer, air or ground);
 - 7. Cause of spill; and,
 - 8. Action taken to contain spill.
- D. As soon as practical, the originator should follow established Departmental Spill OP's. The spill originator is to enter an Event into Gensuite The “Event Follow-up” section may initially be left blank, but must be completed and submitted within 72 hours of the spill.
- E. If ambient air monitoring is deemed necessary by the Team Leader, then the following personnel should be contacted:
 - 1. EHS Team Leader or
 - 2. Industrial Hygiene Group

- F. As soon as possible, the Team Leader shall contact one of the following EHS personnel (in the order listed below) until contact is made and incident information is relayed to such person:
1. EHS or Utilities Engineer/Specialist responsible for media or equipment of concern
 2. EHS or Utilities Team Leader
- If none of the above personnel can be contacted, then the Team Leader shall be responsible for the action items listed in Item F.
- G. Upon notification, EHS personnel (or the Team Leader) will judge whether to notify regulatory authorities based on the criteria below:
1. Using a copy of the Spill Reporting Flowchart, document reasoning on reportability by tracing with a colored marker.
 2. If reportable, complete the Sistersville Plant Environmental Incident Information Form (Appendix B). Use this form to assure that you have all relevant information.
 3. The person initiating the report is responsible for notifying the appropriate regulatory authorities listed in Appendix C, in the order shown therein;
 - NOTE: Reporting must be “*immediate*,” i.e. within 15 minutes of determining that a Reportable Quantity was, or reasonably would have been, met. The RQ determination must be completed as soon as reasonably possible. It is better to report if there is the possibility of exceeding the RQ, and if later the event is deemed non-reportable, then recant the report. There is an obligation to revisit a decision of non-reportability if new relevant information is obtained.
 4. The person initiating the report is responsible for notifying corporate personnel – as needed, see the Spill Reporting Flowchart, Appendices A and C – and for updating as needed the Gensuite Event.
- H. File the Sistersville Plant Environmental Incident Information Form, a copy of the Gensuite Event and annotated Spill Reporting Flowchart in the Environmental Incidents notebook in Building 321.

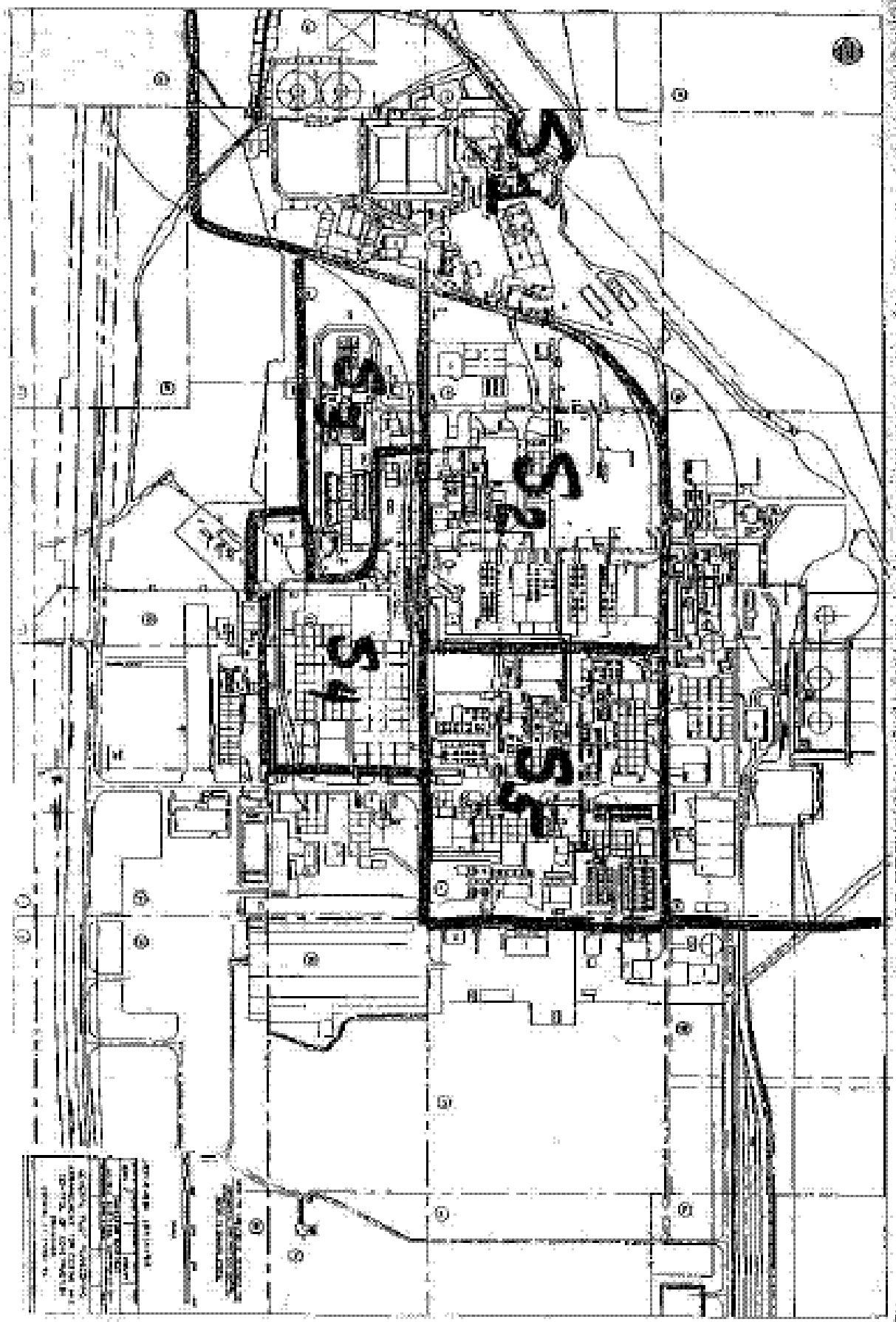
IV. SPILL INCIDENT REVIEW

- A. An incident review is mandatory for spills or releases resulting in:
1. personal injury (or near misses);
 2. violation of any Federal or State permit, or regulation;
 3. excess emissions due to air pollution control equipment malfunction;
 4. notification of Federal or State authorities; or,
 5. upon discretion of Plant Management.
- B. The incident review will follow the standards established under Plant Policy for Incident Reporting and Investigation.
- C. Often overlooked are a series of seemingly small spills that individually are thought to be insignificant but, when viewed collectively, may disclose a common cause factor. These “small” spills are cumulatively expensive in dollars and manpower and may warrant a review.
- D. Results of the incident review, including root cause must be entered into the Gensuite Event record.

V. PROCEDURE FOR CONTAINING LIQUID SPILLS

- A. Each operating area shall have access at all times to absorbent material to soak up and/or contain liquid spills. In addition, absorbent pads are available at EP.
- B. In the event of spills within tank farms or other contained areas, any cleanup or flushing operation must be done in such a manner that the spill does not get into the clean sewer through the leaping weir manholes. This will not happen if the flow of flush water is below 25 gallons per minute. The leaping weir manholes should be monitored during this operation. Leaping weir manholes have been plugged, but a close watch should still be made during cleanup operations.
- C. Every effort must be made to prevent spills from getting into clean and storm sewers.
- D. If a spill of water insoluble material reaches Sugar Camp Run, quick deployment of absorbent and containment booms should be made. All efforts should be made to prevent any oils or absorbable hydrocarbons from reaching the Ohio River.
- E. Plant Spill Cleanup Policy - The following policy is set forth to comply with Federal Regulations and to define responsibility for spill cleanup:
 1. The plant is split into five distinct spill control areas defined below and reference diagram on next page:

Spill Control Area	Department(s)
S1	EP/ES
S2	Monomers & Coupling Agents
S3	Coupling Agents
S4	Distribution
S5	Specialties W (Poly 1), E (NPD), & Poly 2



SISTERSVILLE PLANT SPILL RESPONSE PROCEDURE Revised February 2015

Any spill occurring with a boundary is the responsibility of the department(s) within the boundary.

3. Where the boundary has more than one department, the following criteria define the spill responsibility:
 - a) First criterion: Whoever is using the material (movement of material)
 - b) Second criterion: Whoever made the material (storage)
4. If a spill occurs that is not defined within an area, the cleanup is the responsibility of the department owning the equipment (i.e., tank, line, building, etc.) causing the spill.

F. Spill Sampling Policy

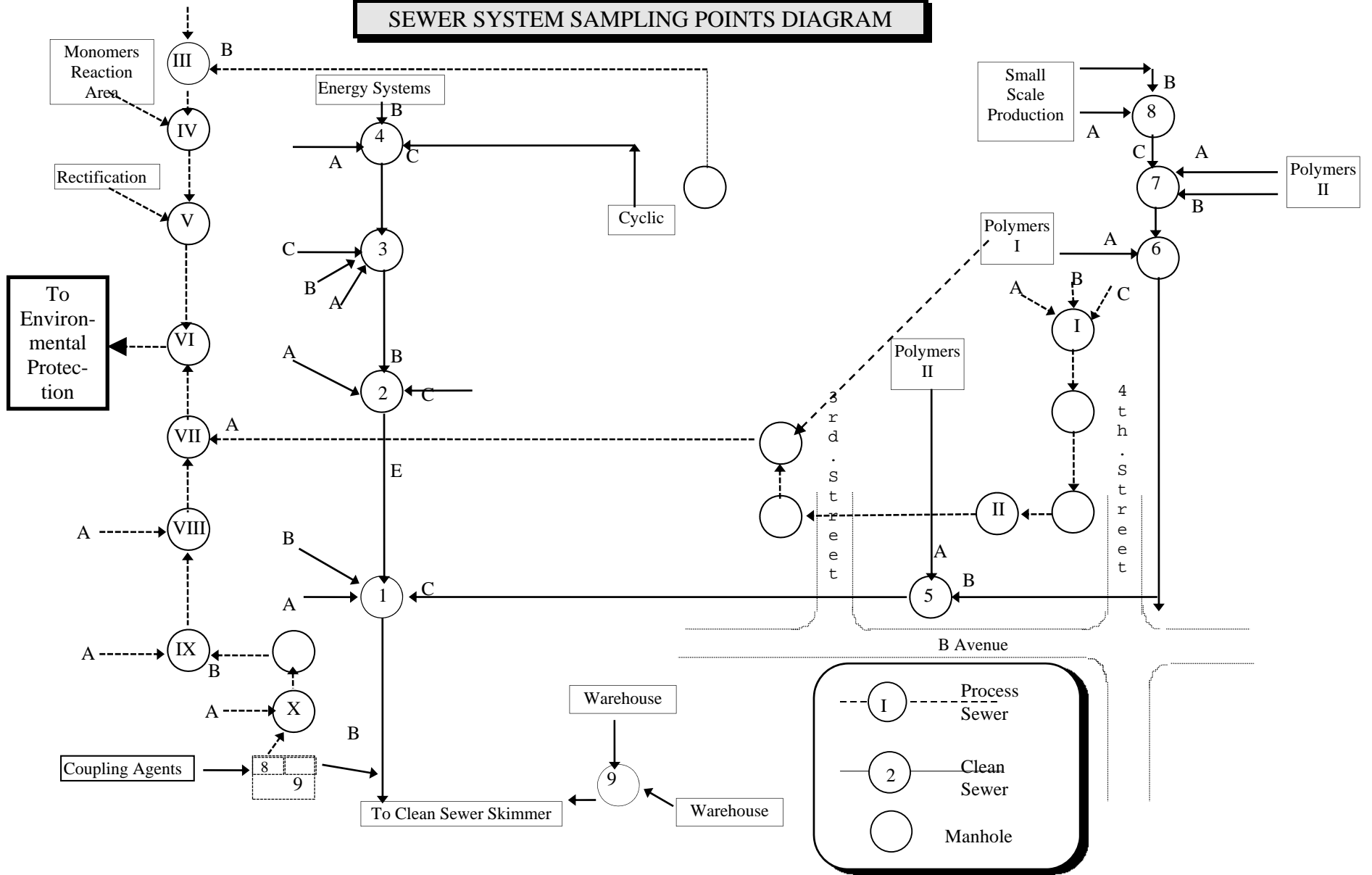
Each production department must follow the policy outlined below when a spill to the sewer system has been discovered. The purpose of implementing this policy is to expedite the sewer sampling process to reduce the impact of a spill to the river or waste treatment area.

1. Spill to the Clean or Process Sewer
 - a) Team Leader notifies operating areas that a spill has been detected by EP.
 - b) Operating departments have samples taken in designated manholes as specified below.
 - c) If a high carbon spill is indicated, operating departments bring samples to EP. If the Primary Clarifier Gas Chromatograph indicates a spill, departments should sample using zero-head-space vials, and take samples to the Chrom Lab. Use LIMMS label "Process Sewer" and write in manhole and flow in sample location.
 - d) EP or Lab analyzes samples and determines which area spill is originating from.
 - e) EP or Lab notifies department where spill is originating from.
 - f) Additional samples (if required) are taken in the affected area to determine the exact spill location.
 - g) Operating departments locate spill, stop spill and contact Team Leader.
 - h) Team Leader, SHEA team and operating departments follow "Plant Spill Procedure" and takes required actions.
 - i) Spill is cleaned up in accordance with "Plant Spill Cleanup Policy."
2. Manhole Sampling

When a spill occurs, EP personnel will notify each responsible department to take initial samples of the clean or process sewers. A map of the Manhole Sampling Points is provided on the next page.
3. Spill of Process Wastewater

If wastewater from the process is released to the ground or waters of the state, it may need to be sampled. See Table 4 and the Spill Reporting Flow Chart.

SEWER SYSTEM SAMPLING POINTS DIAGRAM



a) Clean Sewer System

Department	Manhole No.	Area(s) Sampled
Intermediates	1 = MH 43 B1	A & B = Intermediates C = Polymers E = Monomers
Monomers	2 = MH 43 B2	A = Monomers B = Cyclic, ES
Specialties West (Polymers 1)	5 = MH 44 L	A = Polymers 2
Polymers 2	7 = MH 44 E4	A & B = Polymers 2 C = Specialties E (NPD)
Warehouse	9 = MH 24 B	Warehouse and Front Lab

b) Process Sewer System

Department	Manhole No	Area(s) Sampled
Specialties W (Polymers 1)	I = MH 44 E6	A = Polymers 1 B = Specialties E (NPD) C = Polymers 2
Polymers 2	II = MH 44 G3	A = Polymers 1 B = Specialties E (NPD) C = Polymers 2
Energy Systems	III = MH 43 AB	A = Energy Systems B = Cyclic
Monomers	IV = MH 43 A6	A = Reactor
Monomers	V = MH 43 A4	A = Rectification
Monomers	VI = MH 43 D2	Everything
Monomers	VII = MH 43 D3	A = Polymers B = Coupling Agents
Coupling Agents	VIII = MH 43 D4	A = Intermediates
Coupling Agents	IX = MH 43 D5	A = Intermediates B = Coupling Agents
Coupling Agents	X = MH 33 B5	Coupling Agents

- c) The following procedures should be utilized to obtain samples:
- (1) Remove manhole lid with lid puller.
 - (2) Using sample stick or bottle on a wire, obtain a sample from center of the flow.
 - (3) Note any strong odors, foam, coloration, etc. in manhole.
 - (4) Sample size should be 4 ounces minimum.
 - (5) Label sample with department, manhole number, date and time sample was taken.
 - (6) Take samples to EP.
 - (7) Return lid to manhole. DO NOT leave open manhole unattended.

VI. AIR RELEASES PROCEDURE

- A. The Team Leader should be notified immediately after the plant vapor cloud procedure is initiated, and in cases of dust clouds or odor emissions.
- B. The Team Leader will follow the plant spills procedure and collect the necessary information.
- C. Additionally, the Team Leader should assess whether or not the air release is likely to disperse off the plant property and result in a community problem. If a community or highway problem is likely, the Team Leader (or EHS / Utilities staff member during days) will promptly proceed to investigate the affected area.
- D. Follow procedures in the Emergency Response procedures manual, which includes Community Response, evacuations, etc.
- E. All governmental reporting and internal incident investigations will be followed as specified in the Plant Spills Procedure.

VII.COMPLAINTS

- A. Occasionally, complaints regarding alleged odors or releases, from local residents or persons traveling near the plant, may be received. Any complaint received at the plant from a local resident should be immediately transferred to the Team Leader or the EHS Team Leader (or designee).
- B. The EHS person receiving the complaint should obtain the caller's name, indicate that an investigation of the source (if from the plant) will be conducted and that the findings from such investigation will be reviewed with the complainant.
- C. Immediately after receiving the complaint, the investigator should try to find the potential cause of the complaint (if not known) and try to stop the source, if possible. The investigator should then proceed to the complainant's residence along with another Sistersville Plant employee to evaluate the complaint and determine if the plant is the source.
- D. At the complainant's residence, the investigator should note:
 - 1. Time of day;
 - 2. Wind direction and weather conditions;
 - 3. The complainant's description of the problem; and,
 - 4. All comments made by the complainant.
- E. If it is determined that the source of the problem is from the plant, the investigator should state that the cause was found and describe, in general terms, what action was being taken.
- F. If the cause of the problem is unknown or cannot be determined, the investigator should state that the incident will be investigated further and that the complainant will be contacted by the EHS Team within 1 week.
- G. Upon completion of the investigation, the investigator shall write a summary report discussing the incident and submit it to the EHS Team Leader.

VIII. HAZARDOUS MATERIALS IN TRANSPORTATION RELEASE REPORTING PROCEDURE

Any person loading or unloading vehicles for transportation and the Technical Shift Team Leader (Team Leader) must follow the policy outlined below when a spill of a hazardous material occurs during transportation. "Transportation" means in the presence of the transporter on plant property during loading, unloading, or storage. This policy does not apply to in-plant trucks and drivers.

Upon discovery of an incident involving hazardous material, immediately notify the Department Supervisor or Team Leader. Hazardous materials can be recognized by Department of Transportation (DOT) placards. Hazardous wastes will be marked as such on the container either with labels or hanging tags. If the material is not hazardous, then it is not regulated by DOT.

The Department Supervisor or Team Leader will determine if the incident has occurred during transportation.

Once countermeasures have been initiated and as soon as practicable, the Department Supervisor or Team Leader shall contact one of the following EHS personnel (in the order listed below) until contact is made and incident information is relayed to such person:

- EHS Engineer/Specialist Responsible for media of concern
- EHS Team Leader

If none of the above personnel can be contacted, then the Department Supervisor or Team Leader shall be responsible for the telephone reporting, if required.

A Gensuite Event is to be completed and submitted by the spill originator.

I. INCIDENTS REQUIRING IMMEDIATE REPORTING TO REGULATORY AGENCIES

A. Incident Types

1. If as a direct result of a release of hazardous material during transportation:
 - a. A person is killed;
 - b. A person receives an injury requiring admittance to a hospital;
 - c. The general public is evacuated for one hour or more;
 - d. A major transportation artery or facility is closed or shut down for one hour or more;
or
 - e. The operational flight pattern or routine of an aircraft is altered.
2. Fire, breakage, spillage, or suspected radioactive contamination occurs involving a radioactive material;
3. Fire, breakage, spillage, or suspected contamination occurs involving an infectious substance other than a diagnostic specimen or regulated medical waste;
4. A release of a marine pollutant occurs exceeding 119 gallons of liquid or 882 pounds of solid; or
5. A situation exists of such a nature (e.g., a continuing danger to life exists at the scene of the incident) that, in the judgment of the person in possession of the hazardous material, it should be reported to the NRC even though it does not meet the above criteria.

- B. Reporting Requirements
1. Telephone call no later than 12 hours after the incident by EHS personnel or Team Leader if an EHS team member cannot be located.
 - a. National Response Center (800-424-8802)
 - b. Centers for Disease Control, if involves an infectious substance (800-232-0124)
 2. Notice must include:
 - a. Name of reporter;
 - b. Name and address of Sistersville Site;
 - c. Phone number;
 - d. Date, time, and location of incident;
 - e. The extent of injury, if any;
 - f. Information about the hazardous material released, if available;
 - i. Class or Division
 - ii. Proper shipping name
 - iii. Quantity
 - g. Type of incident and how the hazardous material was involved; and
 - h. Whether or not a continuing danger to life exists.
 3. EHS personnel to follow up with a written or electronic report as described in Section II.C no later than 30 days after the incident.

II. INCIDENTS NOT REQUIRING IMMEDIATE REPORTING TO REGULATORY AGENCIES

- A. Incident Types
2. An unintentional release (greater than 1 pint) of a hazardous material;
 3. The discharge of any quantity of hazardous waste; or
 4. An undeclared hazardous material is discovered.
 5. Structural damage to the lading retention system (i.e. the cargo tank shell and associated piping) of cargo tanks of 1,000 gallons or greater, even if no release of hazardous material.
 - a. Cargo Tank Incident Report Required Examples
 - i. Damage to an outlet valve that affects seating and requires replacement.
 - ii. Serious damage that, if worse, could have resulted in the loss of the contents of the cargo tank. Damage to outlet lines that contain hazardous materials during transportation is in this category.
 - iii. Cargo tank damage that requires professional inspection or recertification to ensure it is capable of meeting requirements.
 - iv. Cargo tank damage that requires immediate or subsequent repair because of questions about cargo tank integrity.
 - b. Cargo Tank Incident No Report Required Examples
 - i. Handle broken or knocked off valve—but otherwise undamaged.
 - ii. Serious damage that, even if worse, would not have resulted in the loss of the contents of the cargo tank. Damage to outlet lines that are normally not charged during transportation are in this category.
 - iii. Minor damage that obviously will not affect continuation of the cargo tank in service.
 - iv. Cargo tank damage that requires repair for cosmetic reasons only.

- B. Exceptions (if not immediately reportable as described in Section I.A.)
1. Release of a minimal amount of material (less than 1 pint) from
 - a. A vent, where venting is authorized by regulation or permit;
 - b. The routine operation of a seal, pump, compressor, or valve; or
 - c. Connection or disconnection of loading and unloading lines, provided the release does not result in property damage.
 2. An unintentional release of a hazardous material when
 - a. The material is properly classed as a Low Danger Packing Group (PG III) material in Class or Division 3, 4, 5, 6.1, 8, or 9 consisting of the following material types:
 - i. Flammable and Combustible Liquids with Flashpoint between 73° F and 141° F;
 - ii. Flammable Solids, Spontaneously combustible materials, Dangerous when wet materials;
 - iii. Oxidizers and Organic peroxides;
 - iv. Low toxicity (poisonous) materials;
 - v. Corrosive materials; or
 - vi. Miscellaneous dangerous goods.
 - b. Each package has a capacity less than 5.2 gallons for liquids or 66 pounds for solids.
 - c. The total release is less than 5.2 gallons for liquids or 66 pounds for solids; and
 - d. The material is not
 - i. Offered for transportation or transported by aircraft,
 - ii. A hazardous waste, or
 - iii. An undeclared hazardous material.

C. Reporting Requirements

1. Written or Electronic Report (To be completed by EHS personnel)
 - a. DOT Form F 5800.1 (01/12004), "Hazardous Materials Incident Report";
 - b. Within 30 days of discovery of the incident;
 - c. Submit report to:
 Information Systems Manger, DHM-63
 Research and Special Programs Administration
 Department of Transportation
 Washington, DC 20590-0001
 800-467-4922
<http://hazmat.dot.gov/enforce/spills/spills.htm>
2. Retain copies of reports for at least two (2) years.
3. Updates required within 1 year whenever the following occurs:
 - a. A death results from an injury caused by the hazardous material;
 - b. There was a misidentification of the hazardous material or package information on a prior incident report;
 - c. Damage, loss, or related cost that was not known when the initial report was filed becomes known; or
 - d. Damage, loss, or related cost changes by \$25,000 or more, or 10% of the prior total estimate, whichever is greater.

A copy of the report form and instructions are provided in Appendix D.

Attachment N
Emissions Calculations
Portions Claimed Confidential

ATTACHMENT N

Redacted Copy
Claim of Confidentiality

SR-1000 Supporting Emissions Calculations

Air Emissions

VOCs

The majority of the unit is operated under negative pressure therefore VOC emissions are limited to the blower exhaust from the condenser. The SR-1000 unit is modeled based on a similar unit at another location. A mass balance done on the other unit (see below) estimates that 100% of the toluene in the feed materials is passed to the condenser unit (H-1641-S) where the toluene is condensed. This results in 0.34 lb/hr of toluene exiting the blower exhaust downstream of the condenser through emission point 1360. No other VOCs are present in the process.

PROCESS STREAM NAME	UNITS	Liquid Feed	Solidaire Dryer Product	TorusDisc Exhaust	TorusDisc Product	Solidaire Cooler Product	Nitrogen Sweep: TorusDisc Inlet	Nitrogen Sweep: Gas Heater Inlet	Bin Vent Exhaust	Condenser Exhaust	Condensate	Exhaust Fan Outlet
Gas Flow Rate	SCFM											6.96
Gas Flow Rate	ACFM											5.5
Liquid Flow Rate	GPM											
Temperature	°F											10
Pressure ¹	INWG											10
Components:												
Solids (SR1000)	lb/hr											
Toluene	lb/hr											0.34
Toluene	ppm											
Nitrogen	lb/hr											32.49
Total	lb/hr											32.83
Solids Loose Bulk Density	lb/ft ³											
Liquid Density	lb/gal											

Fugitive VOC emissions are calculated using SOCM1 Correlation Curve, Lower Limits, as leaks from the similar equipment are very rare and some will be subject RCRA Subpart CC monitoring. Emissions are calculated at 8760 hrs/year.

Leak Source Data Sheet Emission Rate

Source Category	Pollutant	No. of Source Components	Emission Factor Category	Emission Factor Chemical State	Emission Factor, kg/hr	Annual Emission Rate, lb/yr	
Pumps	Light Liquid VOC	2	SOCMI Correlation Lower Limits	Light Liquid	0.0000075	0.06	
Valves	Gas VOC	1	SOCMI Correlation Lower Limits	Vapor	0.0000066	0.003	
Valves	Light Liquid VOC	20	SOCMI Correlation Lower Limits	Light Liquid	0.0000049	0.04	
Safety Relief Valves	Gas VOC	2	SOCMI Correlation Lower Limits	Vapor	0.0000075	0.06	
Open Ended Lines	VOC	10	SOCMI Correlation Lower Limits	Light Liquid	0.0000061	0.024	

Source Category	Pollutant	No. of Source Components	Emission Factor Category	Emission Factor Chemical State	Emission Factor, kg/hr	Annual Emission Rate, lb/yr	
Flanges	VOC	30	SOCMI Correlation Lower Limits	Light Liquid	0.00000061	0.073	
					Total	0.26	
						0.0001	TPY

Particulate

Because the recycle system is only used for material that does not meet specifications it is anticipated the use of this system will be infrequent. The filter in the system (F-996-S) is for capturing and recycling product therefore it is not considered a control device and potential to emit is based on post filter emissions. As shown below, emissions from the recycle system are 0.0064 lb/hr and 56.3 lb/yr even if operated 8760 hours per year. These emissions will vent through emission point 1362.

Calculations for particulate exiting recycle system filter		
Parameter	Rate	Units
Airflow during transfer	150	SCFM
Dust loading	5	grains/cu ft
Collector efficiency	0.999	fraction controlled
Operating hours	8760	hours
Flow rate per year (airflow*60*hours)	78840000	cu ft/yr
Dust loading (flow rate per year*dust load)	394200000	grains/yr
Particulate emission (dust loading*(1-efficiency))	394200	grains/yr
Particulate emitted (emissions grains/yr*1lb/7000 grains)	56.3	lb/yr
Particulate emitted (lb/yr)/(hours/yr)	0.0064286	lb/hr

The drum filling operation (1-S) is expected to produce minimal fugitive particulate emissions. The drums will be lined with a bag that is tied around the fill tube. Based on material balance performed on an existing operation at another location, there is expected to be little to product loss due to drum filling. Any loss during filling or drum changes will be collected by a local exhaust system venting through emission point 1361. Momentive believes these losses will amount to a potential to emit of less than 0.01 lb/hr and 88 lb/yr.

Attachment O
Monitoring Recordkeeping and Reporting

Attachment O - MRR

Proposed Monitoring, Recordkeeping, Reporting, and Testing Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.	
MONITORING Already specified in R13-2338I terms 4.2.2 and 4.4.5, Title V terms 4.2.2. and 4.4.4	RECORDKEEPING
REPORTING	TESTING
<p>MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION OR AIR POLLUTION CONTROL DEVICE.</p> <p>RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.</p> <p>REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.</p> <p>TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT OR AIR POLLUTION CONTROL DEVICE.</p>	

Attachment P
Public Notice

ATTACHMENT P – Public Notice Class I Legal Advertisement

MPM Silicones LLC will submit the required Class I legal advertisement to the local newspaper and will forward the original affidavit of publication to DAQ. The notice will be published no earlier than five (5) working days of receipt by DAQ of this application. The original affidavit of publication will be received by DAQ no later than the last day of the public comment period.

The anticipated text of the legal ad to be placed in the *Tyler Star-News* is as follows:

AIR QUALITY PERMIT NOTICE Notice of Application

Notice is given that MPM Silicones, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Class II Administrative Update for a Construction Permit to construct and operate a new chemical production unit at the existing chemicals manufacturing facility located on 1081 Energy Highway, Friendly WV 26146, in Tyler County, West Virginia. The latitude and longitude coordinates are: UTM Northing 4370.5 km, Easting 492.2 km.

The proposed alteration involves installation of a new chemical production unit for the manufacture of a solid silicate based product. The applicant estimates there will be no change in potential to discharge Regulated Air Pollutants from the facility.

Construction and startup of operation is anticipated to occur by May 2018. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1250, during normal business hours.

Dated this the **(Day)** day of **(Month)**, **(Year)**.

By: MPM Silicones, LLC
Chad McKnight
Sr. Director of Operations
10851 Energy Highway
Friendly, WV 26146

Attachment Q
Business Confidential Claims

**ATTACHMENT Q
BUSINESS CONFIDENTIALITY CLAIMS**

**REGULATION 31 CONFIDENTIAL INFORMATION
REDACTION COVER DOCUMENT**

Document:	R13-2338 revision for SR-1000
Reason for submitting Information:	Class II Administrative Update

Company Name		MPM Silicones, L.L.C.
Company Address		Sistersville Plant 10851 Energy Highway Friendly, WV 26146 – 9720
Person / Title Reviewing Confidential Information		Okey Tucker Air Compliance Leader
Responsible Official		Chad McKnight, Sr. Director of Operations
Confidential Information Designee in the State of West Virginia	Name	Jeff McKinney, EHS Team Leader
	Address	Sistersville Plant 10851 Energy Highway Friendly, WV 26146 – 9720
	Phone	(304)652-8848
	Fax	(304)652-8738

Pages	Sections of Document Claimed Confidential	Reason for Confidential Claim
26	Process Description	Process chemistry, reactants and operational parameters
71, 80, 87, 91, 95, 99, 103	Emission Unit Data Sheets	Equipment design information, production information and process flow rates
123	Supporting Emissions Calculations	Detailed process design information

The above-noted sections of this document, especially when considered in total and in context, are claimed to be confidential, in that the following criteria found in 45 CSR 31 Section 4.1 are all stated by me to be true. Confidentiality is requested for this information permanently.

- 4.1.a. This claim of confidentiality has not expired by its terms, nor been waived or withdrawn by our company;
- 4.1.b. Our company has taken reasonable measure to protect the confidentiality of this information, and intends to continue to take such measures;
- 4.1.c. The above referenced information is not, and has not been, reasonably obtainable without our company’s consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery on a showing of special need in a judicial or quasi-judicial proceeding);
 - *Every employee when hired, agrees to substantially the following language: “I agree to keep confidential and not disclose or use, either during or subsequent to my employment, any secret or confidential technology, information or trade secrets of the Corporation, except as*

required in my employment with the Corporation or as authorized in writing by the Corporation.”


- Every contract consultant agrees to substantially the following language: “In performing the Work, Consultant, may be exposed to the confidential and/or propriety information of MPM Silicones and others. Consultant will hold in confidence and refrain from using or disclosing to any third party, without MPM Silicones’ prior written consent, any information relating to MPM Silicones’ products or processes or to the technology that MPM Silicones may furnish to Consultant or that may be developed in the course of, or in connection with, Consultant’s performing the Work. Consultant’s obligations of confidentiality and non-use under this paragraph will remain in effect following the expiration or earlier termination of this Agreement.”
- Confidential Business Information is disclosed to other companies only under the terms of secrecy agreements.
- MPM Silicones maintains a Security Awareness policy.

4.1.d. No statute specifically requires disclosure of this information;

- 45 CSR 31 §6.1 Provides that information concerning the types and amounts of air pollutants discharged shall not be claimed as confidential. MPM Silicones has indeed kept such information publicly available.
- No statute requires the public disclosure of any on the information listed above as held confidential.

4.1.e. Disclosure of the above-referenced information is likely to cause substantial harm to our company’s competitive position.

- MPM Silicones’ business is specialty chemicals. The Sistersville Plant specifically manufactures organosilicones, most of which are shipped to customers outside of West Virginia, many to sites outside the United States. Organosilicones is a highly competitive, worldwide business, where the details of process technology and work practices make critical difference to our customers. The loss of our Confidential Business Information, or the loss of our ability to use that Information, could harm our ability to maintain the competitive edge.
- Our Confidential Business Information falls into two broad categories: Process Technology and Production Capability. Information that could disclose Process Technology includes among others, calculations, equipment data sheets, designs and layouts, material balances, process flow diagrams, and lists of specific raw materials and products. Information that could disclose Production Capability includes among others, flow rates, material balances, operating schedules, and production rates.
- Especially when considered in total and in context, the information in this document held confidential could be used by competitors skilled in the art to determine Process Technology and/or Production Capability. Such technology could be used -- without that competitor having invested in either developing or purchasing it -- to diminish the competitive advantage that MPM Silicones holds through its efforts to develop new and better products and processes. Likewise, production capabilities are Confidential Business Information, in that competitors skilled in the art would be able to determine MPM Silicones’ ability to meet customer demands.

Responsible Official Signature	
Responsible Official Title	Sr. Director of Operations
Date Signed	12/22/17

Note: Sign in blue ink

Attachment R
Authority Form

**CONSENT TO ACTION
BY THE SOLE MEMBER OF MPM SILICONES, LLC**

The undersigned, being the sole and managing member of MPM Silicones, LLC, a New York limited liability company (the "Company"), hereby consents to the adoption of the following resolution effective as of the date indicated below.

Resolved, the Americas Operations Manager and any Manager (including the formally designated acting Manager) of the overall operation of a manufacturing or research facility owned or operated by the Company may, to the fullest extent allowed by law, execute on behalf of the Company any documents that are required by law to be submitted to a governmental agency or authority (including permit and license applications, periodic reports, and responses to information requests) and that relate to either (i) environmental, health or safety matters for such facility; or (ii) the acquisition, transportation, or storage, processing, or use of raw materials by, at, or to the facility, including specially denatured spirits or industrial alcohol. In addition, to the extent allowed by law, such Manager may delegate all or part of such executory authority to the EHS manager of the facility.

Dated: March 2, 2010

By Momentive Performance Materials USA Inc.

By 

Steve DeLarge
General Manager

Attachment S
Title V Permit Revision Information

Attachment S

Title V Permit Revision Information

1. New Applicable Requirements Summary	
Mark all applicable requirements associated with the changes involved with this permit revision:	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR15)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input type="checkbox"/> Section 111 NSPS (Subpart(s) _____)	<input checked="" type="checkbox"/> Section 112(d) MACT standards (Subpart(s) <u>FFFF</u>)
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input type="checkbox"/> Compliance Assurance Monitoring (40CFR64) ⁽¹⁾
<input type="checkbox"/> NO _x Budget Trading Program Non-EGUs (45CSR1)	<input type="checkbox"/> NO _x Budget Trading Program EGUs (45CSR26)
⁽¹⁾ If this box is checked, please include Compliance Assurance Monitoring (CAM) Form(s) for each Pollutants Specific Emission Unit (PSEU) (See Attachment H to Title V Application). If this box is not checked, please explain why Compliance Assurance Monitoring is not applicable:	

2. Non Applicability Determinations
List all requirements, which the source has determined not applicable to this permit revision and for which a permit shield is requested. The listing shall also include the rule citation and a rationale for the determination.
<input type="checkbox"/> Permit Shield Requested <i>(not applicable to Minor Modifications)</i>

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

3. Suggested Title V Draft Permit Language

Are there any changes involved with this Title V Permit revision outside of the scope of the NSR Permit revision? Yes No If Yes, describe the changes below.

Also, please provide **Suggested Title V Draft Permit language** for the proposed Title V Permit revision (including all applicable requirements associated with the permit revision and any associated monitoring /recordkeeping/ reporting requirements), OR attach a marked up pages of current Title V Permit. Please include appropriate citations (Permit or Consent Order number, condition number and/or rule citation (e.g. 45CSR§7-4.1)) for those requirements being added / revised.

Addition of new equipment subject to MON MACT

See markup of current Title V, Section 1.1

4. Active NSR Permits/Permit Determinations/Consent Orders Associated With This Permit Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
R13-2338I	12/15 /2011	

5. Inactive NSR Permits/Obsolete Permit or Consent Orders Conditions Associated With This Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
	MM/DD/YYYY	
	/ /	
	/ /	

6. Change in Potential Emissions

Pollutant	Change in Potential Emissions (+ or -), TPY
Methanol	0

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

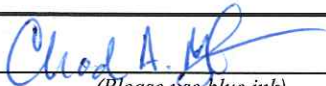
7. Certification For Use Of Minor Modification Procedures (Required Only for Minor Modification Requests)

Note: This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. The criteria for allowing the use of Minor Modification Procedures are as follows:

- i. Proposed changes do not violate any applicable requirement;
- ii. Proposed changes do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
- iii. Proposed changes do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient air quality impacts, or a visibility increment analysis;
- iv. Proposed changes do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement and which permit or condition has been used to avoid an applicable requirement to which the source would otherwise be subject (synthetic minor). Such terms and conditions include, but are not limited to a federally enforceable emissions cap used to avoid classification as a modification under any provision of Title I or any alternative emissions limit approved pursuant to regulations promulgated under § 112(j)(5) of the Clean Air Act;
- v. Proposed changes do not involve preconstruction review under Title I of the Clean Air Act or 45CSR14 and 45CSR19;
- vi. Proposed changes are not required under any rule of the Director to be processed as a significant modification;

Notwithstanding subparagraph 45CSR§30-6.5.a.1.A. (items i through vi above), minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in rules of the Director which are approved by the U.S. EPA as a part of the State Implementation Plan under the Clean Air Act, or which may be otherwise provided for in the Title V operating permit issued under 45CSR30.

Pursuant to 45CSR§30-6.5.a.2.C., the proposed modification contained herein meets the criteria for use of Minor permit modification procedures as set forth in Section 45CSR§30-6.5.a.1.A. The use of Minor permit modification procedures are hereby requested for processing of this application.

(Signed):		Date:	12 / 22 / 17
	(Please use blue ink)		(Please use blue ink)
Named (typed):	Chad McKnight	Title:	Sr. Director of Operations

Note: Please check if the following included (if applicable):

<input type="checkbox"/>	Compliance Assurance Monitoring Form(s)
<input checked="" type="checkbox"/>	Suggested Title V Draft Permit Language

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

Appendix 1

Permittee Proposed Draft Permit R-2338K

Class II Administrative Update



R13- 2338I

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

**MPM Silicones, LLC
MPM Silicones Sistersville Plant
095-00001**

{YELLOW HIGHLIGHTS SHOW PROPOSED CHANGES TO 2338I}

*John A. Benedict
Director*

Issued: December 15, 2011 • Effective: December 15, 2011

This permit will supercede and replace Permit R13-2338I.

Facility Location: Friendly, Tyler County, West Virginia
Mailing Address: 3500 South State Route 2, Friendly, WV 26146
Facility Description: Chemical Manufacturing Plant
SIC Codes: 2869
UTM Coordinates: 492.2 km Easting • 4370.2 km Northing • Zone 17
Permit Type: Administrative Update
Description of Change: Update the Emission Units Table in Section 1.0 for new minor equipment installation for new production unit SR-1000. Addition of 2 emissions points with opacity limits in section 4.1.8. No increase in emissions of regulated air pollutants will occur with the proposed changes.

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.

The source is subject to 45CSR30. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

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1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Emission Groups 101 – K65					
K-65	1001 or 1302	Coupling Agent Kettle	--	--	S-137 or S-197
T-1083*	1301 or 1302	Tank	1976	20000 gal	S-196 or S-197
T-1118*	1301 or 1302	Tank	1977	20000 gal	S-196 or S-197
T-1137*	1302	Tank	1976	2000 gal	S-197
Emission Groups 103 & 104 – HVD1					
S-101	1003	Distillation Column	--	--	S-174
T-1126	1003	Tank	1976	1200 gal	S-174
T-1127	1003	Tank (Dumpster)	1976	1200 gal	S-174
T-179	1522	Tank	1954	500 gal	NA
T-22	1017	Tank	1954	500 gal	NA
T-773	1003	Tank (Dumpster)	1967	1200 gal	S-174
T-805	1003	Tank (Dumpster)	1968	1200 gal	S-174
T-806	1003	Tank (Dumpster)	1968	1200 gal	S-174
T-809	1003	Tank	1968	500 gal	S-174
T-812	1003	Tank	1968	10 gal	S-174
T-817	1003	Tank	1989	250 gal	S-174
T-828	1003	Tank	1969	90 gal	S-174
T-830	1515	Tank	1969	100 gal	NA
T-895	1003	Dumpster	1974	1200 gal	S-174
Emission Group 105 – R23/R-70					
E-1335	1040	Dryer	--	--	NA
E-1336	1040	Dryer	--	--	NA
E-1519	NA	Emergency Gas	--	--	NA
E-1520	NA	Emergency Gas	--	--	NA
E-619	1039	Dryer	--	--	NA
E-620	1039	Dryer	--	--	NA
R-23	NA	Reactor	--	--	NA
R-70	NA	Reactor	--	--	NA
T-1240	1003	Dumpster	1974	1000 gal	S-174
T-1640	1003	Tank	1989	1000 gal	S-174
T-173	1003	Tank	1954	500 gal	S-174
T-175	1003	Tank	1954	500 gal	S-174
T-178	1003	Tank	1954	500 gal	S-174
T-180	1003	Tank	1954	500 gal	S-174
T-62	1003	Tank	1954	500 gal	S-174
T-63	1003	Tank	1954	500 gal	S-174
T-65	NA	Tank	1954	1000 gal	NA
T-76	1003	Tank	1954	1000 gal	S-174
T-902	1003	Dumpster	1969	500 gal	S-174
T-982	1003	Dumpster	1973	1000 gal	S-174
Emission Group 106 – K-17					
K-17	1003	Reactor	--	--	S-174
T-100*	1003	Tank	1956	2000 gal	S-174
T-1246	1003	Tank	1978	500 gal	S-174
T-1839	1003	Emergency Dump Tank	1994	1000 gal	S-174
T-329	1512	Tank	1954	35 gal	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T-614	1003	Tank	1954	500 gal	S-174
T-953	1003	Tank	1972	1500 gal	S-174
Emission Group 107 – K-45					
K-45	1006	Reactor	--	--	S-171
T-1179	1513	Tank (Dumpster)		<20,000 gal	NA
T-1200	1513	Tank (Dumpster)		<20,000 gal	NA
T-1287	NA	Tank (Dumpster)	1981	500 gal	NA
T-1337	1006	Tank	1983	500 gal	S-171
T-304	1006	Tank	1955	50 gal	S-171
T-575	1006	Tank	1985	10 gal	S-171
T-632	1006	Tank	1966	500 gal	S-171
T-633	1006	Tank	1967	4000 gal	S-171
T-681	1006	Tank	1967	50 gal	S-171
T-686	1006	Tank	1997	60 gal	S-171
Emission Group 116 – K-62/K-63					
E-2322	1120	Thermal Oxidizer	--	2.75 MMBtu/hr	S-270
FT-14	1001	Tank	--	--	S-137
H-1252	1001	Cooler	--	--	S-137
H-699	1001	Cooler	--	--	S-137
K-62	1001	Batch Kettle	--	--	S-137
K-63	1001	Batch Kettle	--	--	S-137
S-125, S-127, S-128, and S-145	1120	Esters HCl Absorption System	--	--	E-2322
T-1075	1120	Tank	1973	5 gal	E-2322
T-1076	1120	Tank	1977	50 gal	E-2322
T-1078	1001	Tank	1993	3000 gal	S-137
T-1079	1001	Tank	1976	3000 gal	S-137
T-1080	1001	Tank	1976	8000 gal	S-137
T-1081	1001	Tank	1976	8000 gal	S-137
T-1082	1001	Tank	1976	500 gal	S-137
T-1097	1001	Tank	1976	1200 gal	S-137
T-1098	1054	Tank	1976	1000 gal	NA
T-1128	1001	Tank	1976	1200 gal	S-137
T-1147	1001	Tank	1976	200 gal	S-137
T-1148	1001	Tank	1976	200 gal	S-137
T-1151	1001	Tank	1976	130 gal	S-137
T-1251	1053	Tank	1978	30 gal	NA
T-1998	1001	Tank	2000	500 gal	S-137
T-2000	1001	Tank	2000	55 gal	S-137
T-2001	1001	Tank	2000	1200 gal	S-137
T-2056	NA	Tank	2006	450 gal	NA
T-2057	NA	Tank	2006	430 gal	NA
Emission Group 120 – S19/S-21					
S-19	1003, 1301, or 1302	Distillation Column	--	--	S-174, S-196, or S-197
S-21	1003, 1301, or 1302	Distillation Column	--	--	S-174, S-196, or S-197
Emission Group 126 – S-219					
S-219	1003	Distillation Column	--	--	S-174

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T-146*	1015	Tank	1954	4000 gal	S-203
T-147*	1015	Tank	1954	4000 gal	S-203
T-148*	1015	Tank	1954	4000 gal	S-203
T-149*	1015	Tank	1954	4000 gal	S-203
T-80	1003	Tank	1954	<20,000 gal	S-174
T-192	1003	Tank	1959	500 gal	S-174
T-903	1003	Tank	1973	500 gal	S-174
Emission Group 130 – CNT					
C-434	1302 (or 1301) (Note E)	Vacuum Pump	--	--	S-197 (or S-196) (Note E)
C-435	1302 (or 1301) (Note E)	Vacuum Pump	--	--	S-197 (or S-196) (Note E)
E-1180	1302	Dryer	--	--	S-197
E-1181	1302	Dryer	--	--	S-197
E-1201	1301	Dryer	--	--	S-196
R-63	1302	Reactor	--	--	S-197
R-64	1302	Reactor	--	--	S-197
R-65	1302	Reactor	--	--	S-197
S-193	1302	Distillation Column	--	--	S-197
S-194	1302 (or 1301) (Note E)	Distillation Column	--	--	S-197 (or S-196) (Note E)
T-1472	1302	Tank	1989	400 gal	S-197
T-1473	1301	Tank	1989	7500 gal	S-196
T-1475	1304	Tank	1989	2000 gal	NA
T-1476	1301	Tank	1989	2850 gal	S-196
T-1477	1302	Tank	1989	5600 gal	S-197
T-1478	1302	Tank	1989	150 gal	S-197
T-1523	1302	Tank	1989	5000 gal	S-197
T-1525	1302	Tank	1989	220 gal	S-197
T-1526	1301	Tank	1980	3500 gal	S-196
T-1527	1302	Tank	1989	4000 gal	S-197
T-1533	1303	Tank	1989	220 gal	NA
T-1534	1302	Tank	1989	30000 gal	S-197
T-1644	1302	Tank	1988	10000 gal	S-197
T-1645	1302	Tank	1988	10000 gal	S-197
T-1647	1301	Tank	1988	1500 gal	S-196
T-1655	1302	Tank	1988	30000 gal	S-197
T-1658	1306	Tank	1989	400 gal	NA
T-1659	1301	Tank	1988	160 gal	S-196
T-1660	1301	Tank	1988	160 gal	S-196
T-1864	1301	Tank	1997	1000 gal	S-196
T-1882	1301	Tank	1997	360 gal	S-196
T-1883	1301	Tank	1997	500 gal	S-196
T-2024	1302	Separator	--	--	S-197
T-2080	1302	Tank	2012	4,000 gal	S-197
T-2081	1302	Tank	2012	30 gal	S-197
Emission Group 132 – HVD2					
S-215	1321	Distillation Column	--	--	S-224
S-263	1321	Distillation Column	--	--	S-224

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T-1707	1321	Tank	1992	6000 gal	S-224
T-1708	1321	Tank	1992	1000 gal	S-224
T-1709	1323	Tank	1992	500 gal	NA
T-1740	1321	Tank	1992	7 gal	S-224
T-1741	1321	Tank	1992	7 gal	S-224
T-1742	1321	Tank	1992	7 gal	S-224
T-1743	1321	Tank	1992	180 gal	S-224
T-1744	1321	Tank	1992	870 gal	S-224
T-1749	1321	Tank	1992	6000 gal	S-224
T-1754	1321	Tank	1992	14 gal	S-224
T-1756	1321	Tank	1992	180 gal	S-224
T-1768	1321	Tank	1992	500 gal	S-224
Emission Group 133 – CEU (See Note C)					
E-1452	1120 or 1321	Cyclone	--	--	S-223 or S-224
E-1453	1120 or 1321	Cyclone	--	--	S-223 or S-224
E-1454	1120 or 1321	Cyclone	--	--	S-223 or S-224
E-1481	NA	Eductor	--	--	NA
E-1482	NA	Eductor	--	--	NA
F-704	NA	Filter	--	--	NA
F-705	NA	Filter	--	--	NA
H-1214	NA	Heater	--	--	NA
H-1215	1120 or 1321	Condenser	--	--	S-223 or S-224
H-1216	1120 or 1321	Condenser	--	--	S-223 or S-224
H-1217	1120 or 1321	Condenser	--	--	S-223 or S-224
H-1218	1120 or 1321	Condenser	--	--	S-223 or S-224
H-1219	NA	Heat Exchanger	--	--	NA
H-1220	NA	Heat Exchanger	--	--	NA
H-1221	NA	Cooler	--	--	NA
H-1222	NA	Heat Exchanger	--	--	NA
H-1223	NA	Heat Exchanger	--	--	NA
H-1224	NA	Cooler	--	--	NA
H-1227	NA	Vaporizer	--	--	NA
H-1451	NA	Sample Cooler	--	--	NA
H-1445	NA	Cooler	--	--	NA
H-1600	NA	Thermal Oxidizer Heat Exchanger	--	--	NA
R-74	1120 or 1321	Reactor	--	--	S-223 or S-224
R-75	1120 or 1321	Reactor	--	--	S-223 or S-224
S-220	1120 or 1321	Distillation Column	--	--	S-223 or S-224
S-221	1120 or 1321	Distillation Column	--	--	S-223 or S-224
S-265	1120	Air Stripper	--	--	E-2322
T-1758	1321	Tank	1993	3000 gal	S-224

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T-1759	1321	Tank	1994	500 gal	S-224
T-1761	1321	Tank	1993	3000 gal	S-224
T-1762	1321	Tank	1993	3000 gal	S-224
T-1763	1321	Tank	1993	35 gal	S-224
T-1765	1321	Tank	1993	3000 gal	S-224
T-1767	1321	Tank	1993	70 gal	S-224
T-1801	1321	Tank	1994	90 gal	S-224
T-1804	1321	Dumpster	1994	500 gal	S-224
T-1805	1321	Dumpster	1994	500 gal	S-224
T-1806	1321	Dumpster	1994	500 gal	S-224
T-1807	1321	Dumpster	1994	500 gal	S-224
T-1808	1321	Dumpster	1994	500 gal	S-224
T-1809	1321	Dumpster	1994	500 gal	S-224
T-2052	1120	Tank	2006	665 gal	E-2322
Emission Group 134 – TMS					
M-319*	1348	Silicon Transfer System	--	--	M-319
M-320*	1349	Silicon Transfer System	--	--	M-320
R-100	1340	Solvent Treatment Reactor	--	--	S-257
R-101	1032 or 1340	Product Reactor	--	--	S-132 or S-257
R-102	1015 or 1340	Product Reactor	--	--	S-203 or S-257
R-103	1015 or 1340	Reactor	--	--	S-203 or S-257
R-104	1032 or 1340	Reactor	--	--	S-132 or S-257
R-106	1340	Reactor	--	--	S-257
R-98	1340 or 1341	Reactor	--	--	S-257 or S-260
R-99	1340 or 1341	Reactor	--	--	S-257 or S-260
S-253	1341	Stripper	--	--	S-260
T-1944	1340	Tank	2000	1000 gal	S-257
T-1945	1340	Tank	2000	6600 gal	S-257
T-1946	1340	Tank	2000	6600 gal	S-257
T-1947	1340	Tank	2000	6600 gal	S-257
T-1948	1340	Tank	2000	6600 gal	S-257
T-1950	1340	Tank	2000	6600 gal	S-257
T-1951	1340	Tank	2000	2100 gal	S-257
T-1952	1340	Tank	2000	6600 gal	S-257
T-1953	1340	Tank	2000	528 gal	S-257
T-1954	1340	Tank	2000	10 gal	S-257
T-1955	1344	Tank	2000	13200 gal	NA
T-1959	1340	Tank	2000	13200 gal	S-257
T-1960	1340	Tank	2000	2700 gal	S-257
T-1961	1345	Tank	2000	2700 gal	NA
T-1962	1340	Tank	2000	500 gal	S-257
T-1966	1347	Tank	2000	132 gal	NA
T-2005	1340	Tank	2000	20 gal	S-257
T-2021	1340	Tank	2000	150 gal	S-257
T-2022	1340	Tank	2000	360 gal	S-257
T-2023	1340	Tank	2000	15 gal	S-257

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Emission Group 136 – SR-1000					
E-2400-S	1362	Screw Feeder	2018	---	NA
E-2401-S	NA	Chiller	2018	---	NA
F-995-S	1360	Filter	2018	---	NA
F-996-S	1362	Filter	2018	---	NA
H-1638-S	1360	Heater	2018	---	NA
H-1639-S	1360	Dryer	2018	---	NA
H-1641-S	1360	Condenser	2018	---	NA
H-1642-S	1360	Cooler	2018	---	NA
T-2125-S	1360	Tank	2018	20 gal	NA
I-S	1361	Drumming Station	2018	---	NA
Emission Group 151 – Tank Farm					
T-1083*	1301 or 1302	Tank	1976	20000 gal	S-196 or S-197
T-1084	1032	Tank	1976	20000 gal	S-132
T-1085	1032	Tank	1976	20000 gal	S-132
T-1086	1301	Tank	1976	20000 gal	S-196
T-1087	1301	Tank	1976	20000 gal	S-196
T-1088	1032	Tank	1976	20000 gal	S-132
T-1089	1032	Tank	1976	20000 gal	S-132
T-1090	1032	Tank	1976	20000 gal	S-132
T-1091	1032	Tank	1976	12000 gal	S-132
T-1092	1032	Tank	1976	12000 gal	S-132
T-1093	1032	Tank	1976	20000 gal	S-132
T-1094	1032	Tank	1976	20000 gal	S-132
T-1095	1032	Tank	1976	12000 gal	S-132
T-1096	1032	Tank	1976	12000 gal	S-132
T-1115	1032	Tank	1976	12000 gal	S-132
T-1116	1032	Tank	1976	12000 gal	S-132
T-1117	1032	Tank	1976	12000 gal	S-132
T-1118*	1301 or 1302	Tank	1977	20000 gal	S-196 or S-197
T-1119	1032	Tank	1976	12000 gal	S-132
T-1120	1032	Tank	1976	20000 gal	S-132
T-1123	1032	Tank	1976	20000 gal	S-132
T-1131	1032	Tank	1976	20000 gal	S-132
T-1132	1032	Tank	1976	20000 gal	S-132
T-1134	1032	Tank	1976	20000 gal	S-132
T-1140	1032 Note D	Tank	1976	20000 gal	S-132
T-1141	1032 Note D	Tank	1976	20000 gal	S-132
T-1146	1032	Tank	1976	20000 gal	S-132
T-1760	1032	Tank	1993	20000 gal	S-132
T-1769	1032	Tank	1993	20000 gal	S-132
T-1770	1032	Tank	1993	20000 gal	S-132
Emission Group 152 – Tank Farm					
T-100*	1003	Tank	1956	2000 gal	S-174
T-169	1003	Tank	1954	500 gal	S-174

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T-79	1003, 1301, or 1302	Tank	1954	1000 gal	S-174, S-196, or S-197
T-833*	1302	Tank	1970	12000 gal	S-197
T-914	1516	Tank	1975	12000 gal	NA
T-916	1517	Tank	1975	12000 gal	NA
T-94	1003	Tank	1954	500 gal	S-174
T-95	1003	Tank	1954	500 gal	S-174
T-96	1003	Tank	1954	500 gal	S-174
T-99	1003	Tank	1954	500 gal	S-174
Emission Group 153 – Tank Farm					
T-1102	1015	Tank	1977	6000 gal	S-203
T-1764	1015	Tank	1993	6000 gal	S-203
T-589	1015	Tank	1966	8000 gal	S-203
T-590	1015	Tank	1966	8000 gal	S-203
T-923	1015	Tank	1975	20000 gal	S-203
T-924	1015	Tank	1975	20000 gal	S-203
Emission Group 153P1 – Tank Farm					
T-493	1015	Tank	1966	20000 gal	S-203
T-494	1015	Tank	1966	20000 gal	S-203
T-591	1015	Tank	1966	8000 gal	S-203
T-925	1015	Tank	1975	20000 gal	S-203
Emission Group 155 – Tank Farm					
T-101	1015	Tank	1954	12000 gal	S-203
T-102	1015	Tank	1954	12000 gal	S-203
T-103	1015	Tank	1954	12000 gal	S-203
T-104	1015	Tank	1954	12000 gal	S-203
T-558	1015	Tank	1963	12000 gal	S-203
T-926	1015	Tank	1975	20000 gal	S-203
Emission Group 155P1 – Tank Farm					
T-105	1015	Tank	1954	12000 gal	S-203
T-106	1015	Tank	1954	12000 gal	S-203
T-107	1015	Tank	1954	12000 gal	S-203
T-108	1015	Tank	1954	12000 gal	S-203
T-109	1015	Tank	1954	12000 gal	S-203
T-927	1015	Tank	1975	20000 gal	S-203
Emission Group 156 – Tank Farm					
T-136	1301 or 1302	Tank	1993	4000 gal	S-196 or S-197
T-142	1015	Tank	1954	4000 gal	S-203
T-143	1015	Tank	1954	4000 gal	S-203
T-144	1015	Tank	1954	4000 gal	S-203
T-146*	1015	Tank	1954	4000 gal	S-203
T-147*	1015	Tank	1954	4000 gal	S-203
T-148*	1015	Tank	1954	4000 gal	S-203
T-149*	1015	Tank	1954	4000 gal	S-203
T-159	1015	Tank	1992	450 gal	S-203
T-161	1015	Tank	1992	450 gal	S-203
T-162	1015	Tank	1992	450 gal	S-203
T-163	1015	Tank	1992	500 gal	S-203
T-165	1301 or 1302	Tank	1993	4000 gal	S-196 or S-197

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
T-1789	1301 or 1302	Tank	1993	8000 gal	S-196 or S-197
T-1790	1301 or 1302	Tank	1993	8000 gal	S-196 or S-197
T-1791	1301 or 1302	Tank	1993	8000 gal	S-196 or S-197
T-1797	1301 or 1302	Tank	1993	8000 gal	S-196 or S-197
T-1798	1301 or 1302	Tank	1993	8000 gal	S-196 or S-197
Emission Group 156P1 – Tank Farm					
T-158	1015	Tank	1992	500 gal	S-203
Emission Group 157 – Tank Farm					
T-150	1015	Tank	1954	8000 gal	S-203
T-151	1015	Tank	1954	8000 gal	S-203
T-152	1015	Tank	1954	8000 gal	S-203
T-153	1015	Tank	1954	8000 gal	S-203
T-154	1015	Tank	1954	8000 gal	S-203
T-155	1015	Tank	1954	8000 gal	S-203
T-156	1015	Tank	1954	8000 gal	S-203
T-679	1524	Tank	1966	8000 gal	NA
T-682	1003	Tank	1966	8000 gal	S-174
T-685	NA	Tank	1966	8000 gal	NA
T-801	1508	Tank	1968	8000 gal	NA
T-803	1519	Tank	1968	8000 gal	NA
T-804	1520	Tank	1968	8000 gal	NA
Emission Group 157P1 – Tank Farm					
T-157	1015	Tank	1954	8000 gal	S-203
T-680	1015	Tank	1966	8000 gal	S-203
Emission Group 159 – Tank Farm					
T-1110	1001	Tank	1976	2000 gal	S-137
T-1111	1001	Tank	1976	2000 gal	S-137
T-1112	1001	Tank	1977	2000 gal	S-137
T-1137*	1302	Tank	1976	2000 gal	S-197
T-1138	1001	Tank	1977	2000 gal	S-137
T-1139	1001	Tank	1976	2000 gal	S-137
Emission Group 253 – Tank Farm					
T-825	2517	Tank	1969	20000 gal	NA
Emission Group 252SIL					
T-1023	2511	Tank	1975	20000 gal	NA
Emission Group 431 SPCEU					
E-1511	4310	Cyclone	--	--	S-237
R-81	4310	Reactor	--	--	S-237
S-235	4310	Reactor Column	--	--	S-237
S-236	4310	Stripping Column	--	--	S-237
T-1835/ T-1836	4310	Tanks	1996	125 gal/ 125 gal	S-237
H-1465	NA	Reboiler	--	--	NA
H-1466	NA	Reboiler	--	--	NA
H-1467	NA	Product Cooler	--	--	NA
H-1468	NA	Water Cooler	--	--	NA
H-1469	NA	Vent Condenser (Refrigerated)	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
H-1470	NA	Water Condenser	--	--	NA
H-1471	NA	Vent Condenser	--	--	NA
H-1472	NA	Mixing Tee	--	--	NA
H-1478	NA	Product Cooler	--	--	NA
T-1837	NA	Tank	1995	3 gal	NA
Emission Group 577					
--	5082	Product Drum Filling Venting	--	--	NA
Control Devices (In Emission Point Order)					
Control Device ID	Emission Point ID	Control Device Description	Year Installed	Design Capacity	Next Control Device in Series
S-137	1001	Scrubber	--	--	NA
S-174	1003	Scrubber	--	--	NA
S-171	1006	Scrubber	--	--	NA
S-203	1015	Scrubber	--	--	NA
S-42 (Note A)	1015	Scrubber	--	--	NA
S-132	1032	Scrubber	--	--	NA
S-205	1038	Scrubber	--	--	E-1353
E-1353	1038	Flare	--	--	NA
S-223	1120 (Note B)	Scrubber	--	--	E-2322
E-2322	1120 (Note B)	Thermal Oxidizer	--	--	S-270
S-270	1120 (Note B)	Caustic Scrubber	--	--	NA
S-196	1301	Scrubber	--	--	NA
S-197	1302	Scrubber	--	--	NA
S-224	1321	Scrubber	--	--	NA
S-257	1340	Scrubber	--	--	NA
S-260	1341	Scrubber	--	--	NA
M-319*	1348	Cartridge Filter	--	--	NA
M-320*	1349	Baghouse	--	--	NA
S-237	4310	HCl Water Scrubber	--	--	NA

*Equipment is listed in two or more emission groups.

Note A – Scrubber S-42 is not normally used; it is available as a backup to Scrubber S-203. Scrubber S-42 vents through emission point 1015.

Note B – In the event that the thermal oxidizer is out of service, by-pass vent 1121 will be used.

Note C – Emission Group 133, CEU unit will vent to the E-2322 Thermal Oxidizer or oxidizer bypass during production of products subject to the MON MACT (40 CFR 63 Subpart FFFF) Group 1 Process Vent Emission Standards, but may vent to Scrubber S-224 (Emission Point 1321) instead during production of products which are not subject to those MON Standards.

Note D - Tanks 1140 and 1141 routinely vent to control device S-132 Emission Point 1032. However they may also vent to S-137, Emission Point 1001.

Note E – Emissions routed to Control Device S-196 and Emission Point ID 1301 until existing vacuum pump vents are re-routed to Control Device S-197 and Emission Point ID 1302. Vent re-routing to occur in 2012.

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.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NO _x	Nitrogen Oxides
CBI	Confidential Business Information	NSPS	New Source Performance Standards
CEM	Continuous Emission Monitor	PM	Particulate Matter
CES	Certified Emission Statement	PM _{2.5}	Particulate Matter less than 2.5 μm in diameter
C.F.R. or CFR	Code of Federal Regulations	PM ₁₀	Particulate Matter less than 10μm in diameter
CO	Carbon Monoxide	Ppb	Pounds per Batch
C.S.R. or CSR	Codes of State Rules	Pph	Pounds per Hour
DAQ	Division of Air Quality	Ppm	Parts per Million
DEP	Department of Environmental Protection	Ppmv or ppmv	Parts per Million by Volume
dscm	Dry Standard Cubic Meter	PSD	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	Psi	Pounds per Square Inch
HAP	Hazardous Air Pollutant	SIC	Standard Industrial Classification
HON	Hazardous Organic NESHAP	SIP	State Implementation Plan
HP	Horsepower	SO ₂	Sulfur Dioxide
lbs/hr	Pounds per Hour	TAP	Toxic Air Pollutant
LDAR	Leak Detection and Repair	TPY	Tons per Year
M	Thousand	TRS	Total Reduced Sulfur
MACT	Maximum Achievable Control Technology	TSP	Total Suspended Particulate
MDHI	Maximum Design Heat Input	USEPA	United States Environmental Protection Agency
MM	Million	UTM	Universal Transverse Mercator
MMBtu/hr or mmbtu/hr	Million British Thermal Units per Hour	VEE	Visual Emissions Evaluation
MMCF/hr or mmcf/hr	Million Cubic Feet per Hour	VOC	Volatile Organic Compounds
MON	Miscellaneous Organic NESHAP	VOL	Volatile Organic Liquids
NA	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia air pollution control law W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation;*

2.4. Term and Renewal

- 2.4.1. This permit supersedes and replaces previously issued Permit R13-2338H. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-1092, R13-1092A, R13-1174, R13-1456, R13-1547, R13-1547A, R13-1547B, R13-1547C, R13-1683, R13-1683A, R13-2338, R13-2338A, R13-2338B, R13-2338C, R13-2338D, R13-2338E, R13-2338F, R13-2338G, R13-2338H, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and -10.3.]
- 2.5.2. 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;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

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 administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records 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.

2.7. Duty to Supplement and Correct Information

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.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.

[45CSR§13-5.1]

2.11. Inspection and Entry

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.

2.12. Emergency

- 2.12.1. An "emergency" means any situation arising from sudden and reasonable 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.

- 2.12.2. 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 Section 2.12.3 are met.
- 2.12.3. 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. 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 must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should 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.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

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

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. [45CSR§13-10.1.]

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

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 defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency 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, suffer, allow or permit 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 CFR §61.145(b) and 45CSR§15]
- 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. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]
- 3.1.6. **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.]

3.2. Monitoring Requirements

[Reserved]

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 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as 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. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- 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 sixty (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; and,
 3. A statement of compliance or noncompliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in

a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

- 3.4.2. **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§4. *State Enforceable Only.*]

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.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** 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 with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

If to the US EPA:

Associate Director
Office of Enforcement and Permits Review
(3AP12)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Operating Fee**

- 3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, 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. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

- 4.1.1. Vent emissions to the atmosphere from the Silanes Manufacturing Unit, which consists of the equipment listed in Section 1.0, shall not exceed the emission limitations set forth in Table 4.1.1.

Table 4.1.1. Emission Limits for Silanes Manufacturing Unit

Pollutant	Emission Limit (TPY)
NO _x	4.2
PM ₁₀	9.5
VOC	95.8
THAP	77.10
Ethyl Chloride*	57.83
Toluene*	57.83

* Hazardous Air Pollutant (HAP)

- 4.1.2. Emissions to the atmosphere from the Flare, Equipment ID No. E-1353, shall not exceed the emission limitations set forth in Table 4.1.2.

Table 4.1.2. Emission Limits for E-1353 (Flare)

Pollutant	Emission Limit (TPY)
PM ₁₀	0.04
Opacity	20%

[45CSR§§6-3.4 and -4.1]

- 4.1.3. Emissions to the atmosphere from the Thermal Oxidizer, Equipment ID No. E-2322, shall not exceed the emission limitations set forth in Table 4.1.3.

Table 4.1.3. Emission Limits for E-2322 (Thermal Oxidizer)

Pollutant	Emission Limit (TPY)
PM ₁₀	0.34

[45CSR§§6-3.4 and -4.1]

- 4.1.4. During all periods of normal operations, process vent air emissions from the emission sources and equipment listed in Section 1.0 shall be routed to and controlled by the associated control devices listed in Section 1.0 prior to venting emissions to the atmosphere.

[45CSR§13-5.11]

- 4.1.5. *Reserved.*

- 4.1.6. *Reserved.*

- 4.1.7. Compliance with the emission limits set forth in Sections 4.1.1, shall be demonstrated by calculating emissions for every product in the Silanes Manufacturing Unit using ChemCAD®, Essential EHS (formally known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA’s TANKS 4.0, WATER9, etc.). When these emissions are calculated, each emission point listed in Section 1.0 with emissions of regulated air pollutants listed in Section 4.1.1 shall be included in the calculations and accounted for in the emission estimates. The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The

Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.
[45CSR§13-5.11]

- 4.1.8. Emissions to the atmosphere from the following emission sources subject to 45CSR§7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations” shall not exceed the emission limitations set forth in Table 4.1.7.

Table 4.1.8. 45CSR§7 Sources Emission Limits

Source Description	Pollutant	Emission Limit
F-995-S	Opacity	20%
F-996-S	Opacity	20%
M-319	PM ₁₀ Opacity	6.7 pph 20%
M-320	PM ₁₀ Opacity	6.7 pph 20%
S-137	HCl Opacity	210 mg/dscm 20%
S-174	HCl Opacity	210 mg/dscm 20%
S-203	HCl Opacity	210 mg/dscm 20%
S-132	HCl Opacity	210 mg/dscm 20%
E-1353	HCl Opacity	210 mg/dscm 20%
S-196	HCl Opacity	210 mg/dscm 20%
S-197	HCl Opacity	210 mg/dscm 20%
S-270	HCl Opacity	210 mg/dscm 20%
S-237	HCl Opacity	210 mg/dscm 20%
Thermal Oxidizer By-pass Vent ¹	HCl Opacity	210 mg/dscm 20%

¹ Will only apply to Emission Point 1121 when venting through the by-pass, around the Thermal Oxidizer System.

[Compliance with this streamlined condition shall insure compliance with 45CSR§§7-3.1, -4.1, and -4.2]

- 4.1.9. The control devices listed in Section 1.0 shall be inspected and maintained in accordance with the Inspection & Preventive Maintenance schedules listed in Appendix A.
- 4.1.10. *Reserved.*
- 4.1.11. The opacity provisions of Section 4.1.2 shall not apply to smoke which is less than forty (40) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up, or six (6) minutes in any sixty (60) minute period for stoking operations.

[45CSR§6-4.4]

4.1.12. The opacity provisions of Section 4.1.8 shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.

[45CSR§7-3.2]

4.1.13. The permittee shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.

[45CSR§7-5.2]

4.1.14. Due to unavoidable malfunction of equipment, emissions exceeding those set forth in Section 4.1.8 may be permitted by the Director for periods no to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the permittee and approved by the Director.

[45CSR§7-9.1]

4.1.15. The following equipment, listed in Table 4.1.15, in the Silanes Manufacturing Unit is used on an as-needed basis and may not be operated for extended periods of time. This equipment is exempt from Section 2.14, but remains subject to Section 3.1.5. Written notification shall be provided to the Director in the event of permanent shutdown of this equipment.

Table 4.1.15. Intermittent Use Equipment

Equipment ID	Source Description
<i>Reserved</i>	<i>Reserved</i>

[45CSR§13-5.11]

4.1.16. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR§13-5.11.]

4.1.17. **NSPS NNN SPCEU (Emission Group 431).** The SPCEU Process unit design capacity for production of all chemicals listed in 40 CFR §60.667 is less than 1 gigagram/yr and therefore is exempt from all provisions of NSPS Subpart NNN except for the recordkeeping and reporting requirements in sections 4.4.11, 4.5.6, and 4.5.7. **[40 CFR §60.660(c)(5)]**

4.1.18. **NSPS NNN CEU (Emission Group 133).** The CEU process unit is subject to NSPS Subpart NNN while producing any chemicals listed in 40 CFR §60.667.

[40 CFR §60.660(a)]

4.1.19. **NSPS NNN CEU (Emission Group 133).** The owner or operator shall maintain a TRE index value greater than 1.0 without use of VOC emission control devices for each vent stream in the CEU process unit.

[40 CFR §60.662(c)]

- 4.1.20. **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the standards and maintenance requirements of NSPS General Requirements §60.11 unless specifically exempt by NSPS Subpart NNN.
[40 CFR §60.11]
- 4.1.21. **NSPS NNN CEU (Emission Group 133).** Each affected facility that has a total resource effectiveness (TRE) index value greater than 8.0 is exempt from terms 4.2.4, 4.2.5, 4.3.5, 4.4.12, and 4.4.13.
[40 CFR §60.660(c)(4)]
- 4.1.22. **MON MACT.** In order to demonstrate compliance with the MON, the permittee shall monitor, record, and abide by the control device operating parameter limitations summarized within Appendix A of this permit.
[40 CFR §63.2450(e), 45CSR34, Control Equipment IDs S-132, S-137, S-171, S-197, S-233, S-260, S-270, E-2322]
- 4.1.23. **MON MACT.** The permittee shall comply with all applicable requirements of 40 C.F.R. 63, Subpart FFF – National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing.
[40 C.F.R. 63, Subpart FFFF]

4.2. Monitoring Requirements

- 4.2.1. The permittee shall perform monitoring of all equipment parameters listed in Appendix A per the minimum data collection frequency and per the data averaging period as indicated.
- 4.2.2. For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1 and -3.2, and 45CSR§6-4.3, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40 CFR Part 60, Appendix A, Method 9 certification course.

Visible emission checks shall be conducted at least once per calendar month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed at each source (stack, transfer point, fugitive emission source, etc.) for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 or 45CSR§7A as soon as practicable, but within seventy-two (72) hours of the final visual emission check. A Method 9 or 45CSR§7A observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

- 4.2.3. *Reserved.*

- 4.2.4. **NSPS NNN CEU (Emission Group 133).** The permittee shall monitor the CEU process unit in accordance with 40 CFR §60.663(e) while producing any chemicals listed in 40 CFR §60.667. [40 CFR §60.663(e)]
- 4.2.5. **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the monitoring requirements of NSPS General Requirements §60.13 unless specifically exempt by NSPS Subpart NNN. [40 CFR §60.13]

4.3. Testing Requirements

- 4.3.1. Upon the Director's request, the permittee shall submit to the Director a detailed plan and test protocol for approval of methods to demonstrate compliance with the emission limits set forth in Section 4.1.4. The Director reserves the right to require the application of any specific valid test or emissions monitoring methods for the determination of compliance of TAP emissions from any source. [45CSR§27-10.1.] [State Enforceable Only]
- 4.3.2. **NSPS NNN (Emission Groups 133).** The permittee shall run at full operating conditions and flow rates during any performance test required under Section 4.3.3. [40 CFR §60.664(a)]
- 4.3.3. **NSPS NNN CEU (Emission Group 133).** The permittee shall determine the net heating value for calculations of the TRE index value as specified by 40 CFR §60.664(e). [40 CFR §60.664(e)]
- 4.3.4. **NSPS NNN CEU (Emission Group 133).** The permittee shall calculate the TRE index value of the vent stream as specified by 40 CFR §60.664(f). [40 CFR §60.664(f)]
- 4.3.5. **NSPS NNN CEU (Emission Group 133).** The permittee shall recalculate the TRE index value of the vent stream as specified by 40 CFR §60.664(g). [40 CFR §60.664(g)]
- 4.3.6. **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the performance tests requirements of the NSPS General Requirements §60.8 unless specifically exempted by NSPS Subpart NNN. [40 CFR §60.8]

4.4. Recordkeeping Requirements

- 4.4.1. **Record of Monitoring.** 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.
- 4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
- 4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, 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.
- 4.4.4. The emission estimation models and calculation methodologies developed in Section 4.1.7, as well as production records for each calendar month shall be maintained onsite for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR§13-5.11]
- 4.4.5. The permittee shall maintain onsite for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 4.1.7, over a continuous rolling twelve (12) month period, showing emission totals for the regulated air pollutants listed in Section 4.1.1. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR§13-5.11]
- 4.4.6. Records of all monitoring data required by Section 4.2.1 shall be maintained onsite as follows:
- a. All monitoring data required by Section 4.2.1, as specified in Appendix A, shall be maintained onsite for a period of no less than five (5) years. Such records may include strip charts, electronic data system records, and hand-written data forms. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

- b. For each out-of-range occurrence of a monitoring parameter value for the averaging period specified in Appendix A, records stating the starting date/time and duration of the control device's out-of-range alarm or reading, the cause of the out-of-range parameter, and any corrective actions taken, shall be maintained onsite for a period of no less than five (5) years from the date of monitoring, sampling, or measurement. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
- c. Missed readings for a monitoring parameter data element specified in Appendix A shall not exceed 5% of the total readings in a rolling consecutive twelve (12) month period, for each monitoring parameter data element. A twelve (12) month tabulation of missing readings for each monitoring parameter element shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
- d. In the event that an applicable rule or regulation (such as the MON MACT) requires monitoring more stringent than that required by Section 4.2.1, the more stringent provisions shall apply. Any such required monitoring data shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR§27-3.5 and 45CSR§13-5.11]

- 4.4.7. The permittee shall maintain records of all monitoring data required by Section 4.2.2 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6 - 10 mph NE wind) during the visual emission check(s). An example form is supplied as Appendix C. Should a visible emission observation be required to be performed per the requirements specified in Method 9 OR 45CSR§7A, the data records of each observation shall be maintained per the requirements of Method 9 OR 45CSR§7A. For an emission unit out of service during the normal monthly evaluation, the record of observation may note "out of service" (O/S) or equivalent.
- 4.4.8. Compliance with Sections 4.4.2 and 4.4.3 may be shown by keeping similar records required by the requirements of the Startup, Shutdown, and Malfunction Plan as contained in 40 CFR 63 Subpart A and as may be amended by specific MACT subpart requirements.
- 4.4.9. *Reserved.*
- 4.4.10. *Reserved.*
- 4.4.11. **NSPS NNN SPCEU (Emission Group 431).** The facility shall keep up-to-date, readily accessible records of any change in equipment or process operation in SPCEU (Emission Group 431) that increases the design production capacity of the process unit to produce any chemical listed in 40 CRF §60.667.
[40 CFR §60.665(j)]
- 4.4.12. **NSPS NNN (Emission Units 133).** The permittee shall maintain the data from any performance test as specified by 40 CRF§60.665(b).
[40 CFR §60.665(b)]
- 4.4.13. **NSPS NNN (Emission Groups 133).** The permittee shall maintain monitoring records under Section 4.2.4 as specified by 40 CFR §60.665(g).

[40 CFR §60.665(g)]

- 4.4.14. **NSPS NNN (Emission Groups 133).** In order to demonstrate compliance with 40 CFR §60.662(c), the permittee shall keep up-to-date, readily accessible records of any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal or addition of recovery equipment or a distillation unit as specified by 40 CFR §60.665(h)(1).

[40 CFR §60.665(h)(1)]

- 4.4.15. **NSPS NNN (Emission Groups 133).** In order to demonstrate compliance with 40 CFR §60.662(c), the permittee shall keep up-to-date, readily accessible TRE calculation records as specified by 40 CFR §60.665(h)(2).

[40 CFR §60.665(h)(2)]

- 4.4.16. **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the record keeping requirements of the NSPS General Provisions 40 CFR §60.7 unless exempted by NSPS subpart NNN. **[40 CFR §60.7]**

4.5. Reporting Requirements

- 4.5.1. If the permittee emits any HAPs or TAPs other than those listed in Appendix B from the Silanes Manufacturing Unit, at an estimated annual emission rate of 50 ppy or greater, the permittee shall provide written notification to the Director of the Division of Air Quality within thirty (30) days of knowledge of such emission. This written notification shall include the potential to emit (in pph and tpy) for each new HAP or TAP species from each of the newly identified emission points or existing emission points listed in Section 1.0 that emit that HAP or TAP species. This condition in no way limits or restricts the reporting requirements of Section 4.5.3.

If the potential to emit for the TAP is greater than the threshold levels of Table 45CSR27-A a compliance program to bring the TAP emissions below threshold levels shall be submitted to the Director within 60 days of notification.

Upon approval by the Director of the proposed compliance program, the permittee shall apply for a modification of this permit to include the proposed compliance program. This condition shall not be construed to limit the Director's ability to initiate any enforcement action prescribed by the Code as a result of deficiencies, errors, or emissions in the prior compliance plan submitted by the permittee.

[45CSR§27-3.1.] [State Enforceable Only]

- 4.5.2. *Reserved.*

- 4.5.3. The emission to the air of any TAP resulting from an abnormal release or spill in excess of the following amounts shall be reported to the Director or his authorized representative not later than 24-hours after the permittee has knowledge of such emission:

- For ethylene oxide and vinyl chloride, one (1) pound;
- For acrylonitrile and butadiene, ten (10) pounds;
- For all other toxic air pollutants, fifty (50) pounds.

The permittee shall file a written report with the Director stating the details of all such incidents resulting in the emission of more than fifty (50) pounds of any toxic air pollutant within seven (7) days of the occurrence. The owner/operator shall submit to the Director, at his request, records of all abnormal toxic air pollutant discharges to the air. **[45CSR§27-10.4.] [State Enforceable Only]**

- 4.5.4. Any violation(s) of the allowable visible emission requirement for any emission source discovered during observations using [40 CFR Part 60, Appendix A, Method 9 OR 45CSR§7A] must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
- 4.5.5. A change in the equipment listed in Section 1.0 shall not, by itself, constitute a change to a permit condition for the purposes of determining whether an administrative update is required. Provided a change to this equipment list does not otherwise result in a change to a permit condition necessitating an administrative update or permit modification, written notification of any revisions to this permit's Section 1.0 list of equipment/emission units or emissions points, shall be submitted to the Director of the Division of Air Quality within thirty (30) days of the end of the calendar quarter in which the revision occurred. This section does not limit the permittee's ability to request a permit administrative update or modification pursuant to Sections 2.8, 2.9, or 2.10, and in no way limits the permittee's responsibility to obtain a modification of this permit pursuant to 45CSR§13-5 prior to activities that would constitute a medication or major modification as defined under 45CSR§13, 45CSR§14, or 45CSR§19 (whichever is appropriate).
[45CSR§13-5.11]
- 4.5.6. **NSPS NNN (Emission Groups 431).** The owner or operator that seeks to demonstrate compliance with the low capacity exemption level in Section 4.1.17 must submit to the Administrator an initial report detailing the design production capacity of the process unit.
[40 CFR §60.665(n)]
- 4.5.7. **NSPS NNN SPCEU (Emission Group 431).** In accordance with 40 CFR §60.665(l)(6), any change in equipment or process operation that increases the design production capacity above the low capacity exemption level in Section 4.1.17 for the SPCEU process unit, must be reported no later than 180 days after the change.
[40 CFR §60.665(l)(6)]
- 4.5.8. **NSPS NNN (Emission Groups 133).** The permittee subject to 40 CFR §60.662 shall notify the Administrator of the specific provisions of §60.662 with which the owner or operator has elected to comply. Notification shall be submitted with the notification of initial start-up required by 40 CFR §60.7(a)(3). 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 40 CFR §60.664 within 180 days.
[40 CFR §60.665(a)]
- 4.5.9. **NSPS NNN (Emission Groups 133).** The permittee subject to NSPS Subpart NNN is exempt from the quarterly reporting requirements contained in 40 CFR §60.7(c) of the General Provisions.
[40 CFR §60.665(k)]
- 4.5.10. **NSPS NNN (Emission Group 133).** The permittee shall submit semiannual reports as specified by 40 CFR §60.665(l).
[40 CFR §60.665(l)]
- 4.5.11. **NSPS NNN CEU (Emission Group 133 and 431).** The permittee shall comply with the notification requirements of the NSPS General Provisions 40 CFR §60.7 unless exempted by NSPS subpart NNN.
[40 CFR §60.7]

APPENDIX A (Parametric Monitoring)

Control Device ID	Emission Point	Description	Applicable Regulations	Emission Group(s) ¹	Monitoring Parameter	Normal Operating Range	Data Collection Frequency	Data Averaging Period	Inspection/Preventative Maintenance Frequency
M-319	1348	Cartridge Filter	45CSR§7	134 TMS	Opacity	≤ 20%	Monthly	Each reading	Every two months
M-320	1349	Baghouse	45CSR§7	134 TMS	Opacity	≤ 20%	Monthly	Each reading	Every two months
					Pressure drop	> 1 inch H ₂ O	Min. 1 reading per 15 minutes	Each calendar day	
S-132	1032	Water Scrubber	45CSR§7 45CSR§13	116 Esters 133 CEU 134 TMS 151 Esters TF	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Water flow	Recycle ⁷ ≥ 150 gpm Make-up ^{6,7} ≥ 4 gpm or ≥ 1.6 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-137	1001	Water Scrubber	45CSR§7 45CSR§13	101/102 K-65 116 Esters 151 Esters TF 159 Esters Six Pack TF	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Water flow	Recycle ⁷ ≥ 150 gpm Make-up ^{6,7} ≥ 4 gpm or ≥ 1.6 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-171	1006	Water Scrubber	45CSR§13	107 K-45	Make-up water flow ⁷	≥ 25 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-174	1003	Water Scrubber	45CSR§7 45CSR§13	103/104 HVD1 105 R-23/R-70 106 K-17 120 S-19/S-21 126 S-219 152 Intermed. TF 157 TF5	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 65 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-196	1301	Water Scrubber	45CSR§7 45CSR§13	120 S-19/S-21 130 CNT 151 Esters TF	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 25 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-197	1302	Caustic Scrubber	45CSR§7 45CSR§13	102 K-65 120 S-19/S-21 130 CNT 151 Esters TF 156 TF4	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow ⁷	≥ 7 gpm	Min. 1 reading per 15 minutes	Each calendar day	
					Inlet scrubbing liquor temp	≤ 20°C	Min. 1 reading per 15 minutes	Each calendar day	
S-203	1015	Water Scrubber	45CSR§13	133 CEU 134 TMS 153 TF2 155 TF3 156 TF4 157 TF5	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 220 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-205	1038	Caustic Scrubber	45CSR§13	105 R-23/R-70	Drain and recharge scrubber to parameter value, with 25% caustic solution	50% Level Indicator	At least once per calendar week	Each charge	Once every two years
S-223	1120, 1121, or 1321 ²	Water Scrubber	45CSR§13	132 HVD2 133 CEU	Make-up water flow	≥ 65 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-224	1321	Water Scrubber	45CSR§13	132 HVD2 133 CEU	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Water flow	Recycle: ≥ 250 gpm Make-up: ≥ 40 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-237	4310	Water Scrubber	45CSR§13	431 SPCEU	Opacity	< 20%	Monthly	Each Reading	Once Every Two Years

Control Device ID	Emission Point	Description	Applicable Regulations	Emission Group(s) ¹	Monitoring Parameter	Normal Operating Range	Data Collection Frequency	Data Averaging Period	Inspection/Preventative Maintenance Frequency
					Water Flow	≥ 15 gpm	Min. 1 reading per 15 minutes	Each Calendar Day	
S-257	1340	Water Scrubber	45CSR§13	134 TMS	Recycle water flow	≥ 200 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-260	1341	Water Scrubber	45CSR§13	134 TMS	Water flow	Recycle ⁵ ≥ 60 gpm Make-up ⁵ ≥ 32.4 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-270	1120	Caustic Scrubber	45CSR§6 45CSR§13	101/102 K65 116 Esters 132 HVD2 133 CEU	Opacity	<20%	Monthly	Each reading	Once every two years
					Make-up Water Flow ⁵	≥7.1 gpm	Min. 1 reading per 15 minutes	Each calendar day	
					Recycle Water flow ^{4, 5}	≥62.4 gpm	Min. 1 reading per 15 minutes	Each calendar day	
					PH ⁵	>8.9	Min. 1 reading per 15 minutes	Each calendar day	
E-1353	1038	Flare	45CSR§6 45CSR§13	105 R-23/R70	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Flare operating temperature (TI-E1353-4)	≥ 260°C	Min. 1 reading per 15 minutes	Each calendar day	
E-2322	1120	Thermal Oxidizer	45CSR§13	101/102 K65 116 Esters 132 HVD2 133 CEU	Firebox Temperature ⁵	≥1700°F	Min. 1 reading per 15 minutes	Each calendar day	Once every two years

¹ The control device requirements apply when the listed emission group(s) are operating and venting to the control device.

² During normal operations the Esters HCl absorption system and S-223 will vent to the thermal oxidizer system. When the thermal oxidizer is down Esters HCl adsorption system and S-223 will vent to 1121. For products in Emission Group 133, the CEU unit, where the Thermal Oxidizer is not required (e.g. by the MON MACT), the CEU equipment may vent via Scrubber S-224 (Emission Point 1321) instead of the Thermal Oxidizer (Emission Point 1120).

³ Reserved.

⁴ Recycle water flow from S-270 pot has branches going to the E-2322 quench and to S-270.

⁵ Monitoring parameters are based on the MON performance tests and included in the NOCS. The parameters may change as authorized by 40 CFR § 63.2520.

⁶ S-132 and S-137 makeup flow minimum is 4 gpm only when 116 Esters, and 151 Esters TF methanol storage tanks (Group 1 storage tanks under the MON MACT) are both operating and venting to the control device. Otherwise the minimum is 1.6 gpm.

⁷ Monitoring parameters are based on design evaluations conducted for the MON and included in the MON NOCS. The parameters may change as authorized by 40 CFR § 63.2520.

APPENDIX B (Hazardous Air Pollutants)

CAS No.	Name	Table 45-13A/Rule 27 Toxic Air Pollutant?	Exceeds 45-13A/Rule 27 Threshold?
107-13-1	Acrylonitrile	Yes	Yes
107-05-1	Allyl Chloride	Yes	No
62-53-3	Aniline	No	--
75-00-3	Ethyl Chloride	No	--
*	Glycol Ethers	No	--
7647-01-0	Hydrochloric Acid	No	--
67-56-1	Methanol	No	--
74-87-3	Methyl Chloride	No	--
80-62-6	Methyl Methacrylate	No	--
109-86-4	2-Methoxyethanol	No	--
108-88-3	Toluene	No	--

* Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH₂CH)_n-OR' where:
 n = 1, 2, or 3
 R = alkyl or aryl groups
 R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH₂CH)_n-OH. Polymers are excluded from the glycol category.

APPENDIX C (Monthly Opacity Record)

GE Silicones, LLC, Sistersville Plant
Plant ID No. 095-00001; Permit No. R13-233H

Date of Observation: _____

Data Entered by: _____

Reviewed by: _____

Date Reviewed: _____

Describe the General Weather Conditions: _____

Stack ID/Vent ID/ Emission Point ID	Stack/Vent/Emission Point Description	Time of Observation	Visible Emissions? Yes/No	Consecutive Months of Visual Emissions	Comments

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature¹ _____
(please use blue ink) Responsible Official or Authorized Representative Date

Name & Title _____
(please print or type) Name Title

Telephone No. _____ Fax No. _____

¹ This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.

Appendix 2
Permittee Proposed Draft R30 Permit

*West Virginia Department of Environmental Protection
Division of Air Quality*

*Jim Justice
Governor*

*Austin Caperton
Cabinet Secretary*

Permit to

Operate



*Pursuant to
Title V
of the Clean Air Act*

Issued to:
MPM Silicones, LLC
Sistersville Facility
R30-09500001-2017

*William F. Durham
Director*

*Issued: [Date of issuance] • Effective: [Equals issue date plus two weeks]
Expiration: [5 years after issuance date] • Renewal Application Due: [6 months prior to expiration]*

Proposed changes highlighted in yellow

Permit Number: **R30-09500001-2017**
Permittee: **MPM Silicones, LLC**
Facility Name: **Sistersville**
Mailing Address: **3500 South State Route 2, Friendly, WV 26146-9720**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 C 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: Friendly, Tyler County, West Virginia
Mailing Address: 10851 Energy Highway, Friendly, WV 26146-9720
Telephone Number: (304) 652-8000
Type of Business Entity: L.L.C.
Facility Description: Production of approximately 1000 silicone and silane chemical products and intermediates for industrial and food grade use.
SIC Codes: 2869
UTM Coordinates: 492 km Easting • 4370.5 km Northing • Zone 17

Permit Writer: Beena Modi

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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ATTACHMENT C “R13-2338 Appendix B” (Toxic Air Pollutants Permitted)

ATTACHMENT D “R13-0952C Appendix A” (Parametric Monitoring)

ATTACHMENT E “R13-0952C Appendix B” (Toxic Air Pollutants Permitted)

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	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
Production Area Silanes						
Emission Group 101: K-65						
T-1083*	1301 or 1302	Tank	1976	20,000 gal	S-196 or S-197	R13-2338
T-1118*	1301 or 1302	Tank	1977	20,000 gal	S-196 or S-197	R13-2338
T-1137*	1302	Tank	1976	<20,000 gal	S-197	R13-2338
H-714	NA	Heat Exchanger	--	--	NONE	
Emission Group 103 & 104: HVD1						
S-101	1003	Distillation Column	--	--	S-174	R13-2338
T-1126	1003	Tank	1976	< 20,000 gal	S-174	R13-2338
T-1127	1003	Tank (Dumpster)	1976	< 20,000 gal	S-174	R13-2338
T-179	1522	Tank	1954	< 20,000 gal	NONE	R13-2338
T-22	1017	Tank	1954	< 20,000 gal	NONE	R13-2338
T-773	1003	Tank (Dumpster)		< 20,000 gal	S-174	R13-2338
T-805	1003	Tank (Dumpster)	1968	< 20,000 gal	S-174	R13-2338
T-806	1003	Tank (Dumpster)	1968	< 20,000 gal	S-174	R13-2338
T-809	1003	Lights Tank	1968	< 20,000 gal	S-174	R13-2338
T-812	1003	Knock-out Tank	1968	< 20,000 gal	S-174	R13-2338
T-817	1003	Tank	1989	< 20,000 gal	S-174	R13-2338
T-828	1003	Waste Oil Tank	1969	< 20,000 gal	S-174	R13-2338
T-830	1515	Tank	1969	< 20,000 gal	NONE	R13-2338
T-895	1003	Dumpster	1974	< 20,000 gal	S-174	R13-2338
Emission Group 105: R-23/R-70						
E-1335	1040	Dryer	--	--	NONE	R13-2338
E-1336	1040	Dryer	--	--	NONE	R13-2338
E-1353*	1038	Flare	--	--	NONE	
E-1519	NA	Emergency Gas	--	--	NONE	R13-2338
E-1520	NA	Emergency Gas	--	--	NONE	R13-2338
E-619	1039	Dryer	--	--	NONE	R13-2338
E-620	1039	Dryer	--	--	NONE	R13-2338
R-23	NA	Reactor	--	--	NONE	R13-2338
R-70	NA	Reactor	--	--	NONE	R13-2338
T-1240*	1003	Dumpster	1977	< 20,000 gal	S-174	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-1640	1003	Tank	1989	< 20,000 gal	S-174	R13-2338
T-173	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-175	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-178	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-180	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-62	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-63	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-65	NA	Tank	1954	< 20,000 gal	NONE	R13-2338
T-76	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-902*	1003	Dumpster	1969	< 20,000 gal	S-174	R13-2338
T-982	1003	Dumpster	1973	< 20,000 gal	S-174	R13-2338
Emission Group 106: K-17						
K-17	1003	Reactor	--	--	S-174	R13-2338
T-100*	1003	Tank	1956	< 20,000 gal	S-174	R13-2338
T-1246	1003	Tank	1978	< 20,000 gal	S-174	R13-2338
T-1839	1003	Tank	1994	< 20,000 gal	S-174	R13-2338
T-329	1512	Tank	1954	< 20,000 gal	NONE	R13-2338
T-614	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-953	1003	Tank	1972	< 20,000 gal	S-174	R13-2338
Emission Group 107: K-45						
K-45	1006	Reactor	--	--	S-171	R13-2338
T-1179	1513	Tank (Dumpster)	--	< 20,000 gal	NONE	R13-2338
T-1200	1513	Tank (Dumpster)	--	< 20,000 gal	NONE	R13-2338
T-1287	1513	Tank (Dumpster)	1981	< 20,000 gal	NONE	R13-2338
T-1337	1006	Tank	1983	< 20,000 gal	S-171	R13-2338
T-304	1006	Knock-out Tank	1955	< 20,000 gal	S-171	R13-2338
T-575	1006	Knock-out Tank	1985	< 20,000 gal	S-171	R13-2338
T-632	1006	Tank	1966	< 20,000 gal	S-171	R13-2338
T-633	1006	Tank	1967	< 20,000 gal	S-171	R13-2338
T-681	1006	Tank	1967	< 20,000 gal	S-171	R13-2338
T-686	1006	Tank	1997	< 20,000 gal	S-171	R13-2338
Emission Group 116: K-62/K-63						
E-2322*	1120	Thermal Oxidizer	2006	2.75 MM Btu/hr	S-270	R13-2338
FT-14	1001	Tank	--	--	S-137	R13-2338
H-1252	NA	Heat Exchanger	--	--	NONE	R13-2338
H-699	1001	Heat Exchanger	--	--	S-137	R13-2338
K-62	1001	Kettle	--	--	S-137	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
K-63	1001	Kettle	--	--	S-137	R13-2338
S-125, S-127, S-128, and S-145	1120	Esters HCl Absorption System	--	--	E-2322	R13-2338
T-1075	1120	Tank	1973	< 20,000 gal	Esters HCl Absorption System	R13-2338
T-1076	1120	Tank	1977	< 20,000 gal	Esters HCl Absorption System	R13-2338
T-1078	1001	Tank	1993	< 20,000 gal	S-137	R13-2338
T-1079	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1080	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1081	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1082	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1097	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1098	1054	Tank	1976	< 20,000 gal	NONE	R13-2338
T-1128	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1147	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1148	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1151	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1251	1053	Tank	1978	< 20,000 gal	NONE	R13-2338
T-1998	1001	Tank	2000	< 20,000 gal	S-137	R13-2338
T-2000	1001	Tank	2000	< 20,000 gal	S-137	R13-2338
T-2001	1001	Tank	2000	< 20,000 gal	S-137	R13-2338
T-2056	NA	Tank	2006	< 20,000 gal	NA	R13-2338
T-2057	NA	Tank	2006	< 20,000 gal	NA	R13-2338
Emission Group 120: S19/S-21						
S-19	1003,1301, or 1302	Distillation Column	--	--	S-174, S-196, or S-197	R13-2338
S-21	1003,1301, or 1302	Distillation Column	--	--	S-174, S-196, or S-197	R13-2338
Emission Group 126: S-219						
S-219	1003	Distillation Column	--	--	S-174	R13-2338
T-80	1003	Tank	1954	< 20,000 gal	S-174, S-196, or S-197	R13-2338
T-146*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-147*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-148*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-149*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-192	1003	Tank	1959	< 20,000 gal	S-174	R13-2338
T-903	1003	Tank	1973	< 20,000 gal	S-174	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
Emission Group 130: CNT						
C-434	1302	Vacuum Pump	--	--	S-197	R13-2338
C-435	1302	Vacuum Pump	--	--	S-197	R13-2338
E-1180	1302	Dryer	--	--	S-197	R13-2338
E-1181	1302	Dryer	--	--	S-197	R13-2338
E-1201	1301	Dryer	--	--	S-196	R13-2338
R-63	1302	Reactor	--	--	S-197	R13-2338
R-64	1302	Reactor	--	--	S-197	R13-2338
R-65	1302	Reactor	--	--	S-197	R13-2338
S-193	1302	Distillation Column	--	--	S-197	R13-2338
S-194	1302)	Distillation Column	--	--	S-197	R13-2338
T-1472	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1473	1301	Tank	1989	< 20,000 gal	S-196	R13-2338
T-1475	1304	Tank	1989	< 20,000 gal	NONE	R13-2338
T-1476	1301	Tank	1989	< 20,000 gal	S-196	R13-2338
T-1477	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1478	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1523	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1525	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1526	1301	Tank	1980	< 20,000 gal	S-196	R13-2338
T-1527	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1533	1303	Tank	1989	< 20,000 gal	NONE	R13-2338
T-1534	1302	Tank	1989	< 20,000 gal	S-197	R13-2338
T-1644	1302	Tank	1988	< 20,000 gal	S-197	R13-2338
T-1645	1302	Tank	1988	< 20,000 gal	S-197	R13-2338
T-1647	1301	Tank	1988	< 20,000 gal	S-196	R13-2338
T-1655	1302	Tank	1988	< 20,000 gal	S-197	R13-2338
T-1658	1306	Tank	1989	< 20,000 gal	NONE	R13-2338
T-1659	1301	Tank	1988	< 20,000 gal	S-196	R13-2338
T-1660	1301	Tank	1988	< 20,000 gal	S-196	R13-2338
T-1864	1301	Tank	1997	< 20,000 gal	S-196	R13-2338
T-1882	1301	Tank	1997	< 20,000 gal	S-196	R13-2338
T-1883	1301	Tank	1997	< 20,000 gal	S-196	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-2024	1302	Separator	--	--	S-197	R13-2338
T-2080	1302	Tank	2012	< 20,000 gal	S-197	R13-2338
T-2081	1302	Tank	2012	< 20,000 gal	S-197	R13-2338
Emission Group 132: HVD-2						
S-215	1321	Distillation Column	--	--	S-224	R13-2338
S-263	1321	Distillation Column	--	--	S-224	R13-2338
T-1707	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1708	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1709	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1740	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1741	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1742	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1743	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1744	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1749	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1754	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1756	1321	Tank	1992	< 20,000 gal	S-224	R13-2338
T-1768	1321	Emergency Relief Tank	1992	< 20,000 gal	S-224	R13-2338
Emission Group 133: CEU (See Note C)						
E-1452	1120 or 1321	Cyclone	--	--	S-223 or S-224	R13-2338
E-1453	1120 or 1321	Cyclone	--	--	S-223 or S-224	R13-2338
E-1454	1120 or 1321	Cyclone	--	--	S-223 or S-224	R13-2338
E-1481	NA	Eductor	--	--	NONE	R13-2338
E-1482	NA	Eductor	--	--	NONE	R13-2338
F-704	NA	Filter	--	--	NONE	R13-2338
F-705	NA	Filter	--	--	NONE	R13-2338
H-1214	NA	Heater	--	--	NONE	R13-2338
H-1215	1120 or 1321	Condenser	--	--	S-223 or S-224	R13-2338
H-1216	1120 or 1321	Condenser	--	--	S-223 or S-224	R13-2338
H-1217	1120 or 1321	Condenser	--	--	S-223 or S-224	R13-2338
H-1218	1120 or 1321	Condenser	--	--	S-223 or S-224	R13-2338
H-1219	NA	Heat Exchanger	--	--	NONE	R13-2338
H-1220	NA	Heat Exchanger	--	--	NONE	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
H-1221	NA	Cooler	--	--	NONE	R13-2338
H-1222	NA	Heat Exchanger	--	--	NONE	R13-2338
H-1223	NA	Heat Exchanger	--	--	NONE	R13-2338
H-1224	NA	Cooler	--	--	NONE	R13-2338
H-1227	NA	Vaporizer	--	--	NONE	R13-2338
H-1445	NA	Cooler	--	--	NONE	R13-2338
H-1451	NA	Sample Cooler	--	--	NONE	R13-2338
H-1600	NA	Thermal Oxidizer Heat Exchanger	--	--	NONE	R13-2338
R-74	1120 or 1321	Reactor	--	--	S-223 or S-224	R13-2338
R-75	1120 or 1321	Reactor	--	--	S-223 or S-224	R13-2338
S-220	1120 or 1321	Distillation Column	--	--	S-223 or S-224	R13-2338
S-221	1120 or 1321	Distillation Column	--	--	S-223 or S-224	R13-2338
S-265	1120	Air Stripper	--	--	E-2322	R13-2338
T-1758	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1759	1321	Tank	1994	< 20,000 gal	S-224	R13-2338
T-1761	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1762	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1763	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1765	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1767	1321	Tank	1993	< 20,000 gal	S-224	R13-2338
T-1801	1321	Tank	1994	< 20,000 gal	S-224	R13-2338
T-1804	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1805	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1806	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1807	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1808	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-1809	1321	Dumpster	1994	< 20,000 gal	S-224	R13-2338
T-2052	1120	Tank	2006	<20000	E-2322	R13-2338
T-2056	NA	Knock Out Pot	2006	<20000		
Emission Group 134: TMS						
M-319*	1348	Cartridge Filter	--	--	M-319	R13-2338
M-320*	1349	Baghouse	--	--	M-320	R13-2338
R-100	1340	Reactor	--	--	S-257	R13-2338
R-101	1032 or 1340	Reactor	--	--	S-132 or S-257	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
R-102	1015 or 1340	Reactor	--	--	S-203 or S-257	R13-2338
R-103	1015 or 1340	Reactor	--	--	S-203 or S-257	R13-2338
R-104	1032 or 1340	Reactor	--	--	S-132 or S-257	R13-2338
R-106	1340	Reactor	--	--	S-257	R13-2338
R-98	1340 or 1341	Reactor	--	--	S-257 or S-260	R13-2338
R-99	1340 or 1341	Reactor	--	--	S-257 or S-260	R13-2338
S-253	1341	Stripper	--	--	S-260	R13-2338
T-1944	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1945	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1946	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1947	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1948	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1950	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1951	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1952	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1953	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1954	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1955	1344	Tank	2000	< 20,000 gal	NONE	R13-2338
T-1959	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1960	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1961	1345	Tank	2000	< 20,000 gal	NONE	R13-2338
T-1962	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-1966	1347	Tank	2000	< 20,000 gal	NONE	R13-2338
T-2005	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-2021	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-2022	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
T-2023	1340	Tank	2000	< 20,000 gal	S-257	R13-2338
Emission Group 126: SR-1000						
E-2400-S	1362	Screw Feeder	2018	---	NA	R13-2338
E-2401-S	NA	Chiller	2018	---	NA	R13-2338
F-995-S	1360	Filter	2018	---	NA	R13-2338
F-996-S	1362	Filter	2018	---	NA	R13-2338
H-1638-S	1360	Heater	2018	---	NA	R13-2338
H-1639-S	1360	Dryer	2018	---	NA	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
H-1641-S	1360	Condenser	2018	---	NA	R13-2338
H-1642-S	1360	Cooler	2018	---	NA	R13-2338
T-2125-S	1360	Tank	2018	20 gal	NA	R13-2338
I-S	1361	Drumming Station	2018	---	NA	R13-2338
Emission Group 151: Tank Farm						
T-1083*	1301 or 1302	Tank	1976	< 20,000 gal	S-196 or S-197	R13-2338
T-1084	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1085	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1086	1301	Tank	1976	< 20,000 gal	S-196	R13-2338
T-1087	1301	Tank	1976	< 20,000 gal	S-196	R13-2338
T-1088	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1089	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1090	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1091	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1092	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1093	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1094	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1095	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1096	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1115	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1116	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1117	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1118*	1301 or 1302	Tank	1977	20000 gal	S-196 or S-197	R13-2338
T-1119	1032	Tank	1976	< 20,000 gal	S-132	R13-2338
T-1120	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1123	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1131	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1132	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1134	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1140	1032	Tank	1976	20000 gal	S-132	R13-2338
	Note D				Alt. S-137	
T-1141	1032	Tank	1976	20000 gal	S-132	R13-2338
	Note D				Alt. S-137	
T-1146	1032	Tank	1976	20000 gal	S-132	R13-2338
T-1760	1032	Tank	1993	20000 gal	S-132	R13-2338
T-1769	1032	Tank	1993	20000 gal	S-132	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-1770	1032	Tank	1993	20000 gal	S-132	R13-2338
Emission Group 152: Tank Farm						
T-100*	1003	Tank	1956	< 20,000 gal	S-174	R13-2338
T-169	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-79	1003, 1301, or 1302	Tank	1954	< 20,000 gal	S-174, S-196, or S-197	R13-2338
T-833*	1302	Tank	1970	< 20,000 gal	S-197	R13-2338
T-914	1516	Tank	1975	< 20,000 gal	NONE	R13-2338
T-916	1517	Tank	1975	< 20,000 gal	NONE	R13-2338
T-94	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-95	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-96	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
T-99	1003	Tank	1954	< 20,000 gal	S-174	R13-2338
Emission Group 153: Tank Farm						
T-1102	1015	Tank	1977	< 20,000 gal	S-203	R13-2338
T-1764	1015	Tank	1993	< 20,000 gal	S-203	R13-2338
T-589	1015	Tank	1966	< 20,000 gal	S-203	R13-2338
T-590	1015	Tank	1966	< 20,000 gal	S-203	R13-2338
T-923	1015	Tank	1975	20000 gal	S-203	R13-2338
T-924	1015	Tank	1975	20000 gal	S-203	R13-2338
Emission Group 153P1: Tank Farm						
T-493	1015	Tank	1966	20000 gal	S-203	R13-2338
T-494	1015	Tank	1966	20000 gal	S-203	R13-2338
T-591	1015	Tank	1966	< 20,000 gal	S-203	R13-2338
T-925	1015	Tank	1975	20000 gal	S-203	R13-2338
Emission Group 155: Tank Farm						
T-101	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-102	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-103	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-104	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-109	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-558	1015	Tank	1963	< 20,000 gal	S-203	R13-2338
T-926	1015	Tank	1975	20000 gal	S-203	R13-2338
Emission Group 155P1: Tank Farm						
T-105	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-106	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-107	1015	Tank	1954	< 20,000 gal	S-203	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-108	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-927	1015	Tank	1975	20000 gal	S-203	R13-2338
Emission Group 156: Tank Farm						
T-136	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-142	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-143	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-144	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-146*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-147*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-148*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-149*	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-159	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
T-161	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
T-162	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
T-163	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
T-165	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1789	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1790	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1791	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1797	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
T-1798	1301 or 1302	Tank	1993	< 20,000 gal	S-196 or S-197	R13-2338
Emission Group 156P1: Tank Farm						
T-158	1015	Tank	1992	< 20,000 gal	S-203	R13-2338
Emission Group 157: Tank Farm						
T-150	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-151	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-152	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-153	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-154	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-155	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-156	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-679	1524	Tank	1966	< 20,000 gal	NONE	R13-2338
T-682	1003	Tank	1966	< 20,000 gal	S-174	R13-2338

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-685	NA	Tank	1966	< 20,000 gal	NONE	R13-2338
T-801	1508	Tank	1968	< 20,000 gal	NONE	R13-2338
T-803	1519	Tank	1968	< 20,000 gal	NONE	R13-2338
T-804	1520	Tank	1968	< 20,000 gal	NONE	R13-2338
Emission Group 157 P1: Tank Farm						
T-157	1015	Tank	1954	< 20,000 gal	S-203	R13-2338
T-680	1015	Tank	1966	< 20,000 gal	S-203	R13-2338
Emission Group 159: Tank Farm						
T-1110	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1111	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
T-1112	1001	Tank	1977	< 20,000 gal	S-137	R13-2338
T-1137*	1302	Tank	1976	< 20,000 gal	S-197	R13-2338
T-1138	1001	Tank	1977	< 20,000 gal	S-137	R13-2338
T-1139	1001	Tank	1976	< 20,000 gal	S-137	R13-2338
S-267	1120	Esters Sump	--	--	E-2322	
Emission Group 252SIL						
T-1023	2511	Tank	1975	20000 gal	NONE	
Emission Group 431: SPCEU						
E-1511	4310	Cyclone	--	--	S-237	R13-2338
H-1465	NA	Reboiler	--	--	NONE	R13-2338
H-1466	NA	Reboiler	--	--	NONE	R13-2338
H-1467	NA	Product Cooler	--	--	NONE	R13-2338
H-1468	NA	Water Condenser	--	--	NONE	R13-2338
H-1469	NA	Vent Condenser	--	--	NONE	R13-2338
H-1470	NA	Water Condenser	--	--	NONE	R13-2338
H-1471	NA	Vent Condenser	--	--	NONE	R13-2338
H-1472	NA	Mixing Tee	--	--	NONE	R13-2338
H-1478	NA	Product Cooler	--	--	NONE	R13-2338
R-81	4310	Reactor	--	--	S-237	R13-2338
S-235	4310	Reactor Column	--	--	S-237	R13-2338
S-236	4310	Stripping Column	--	--	S-237	R13-2338
T-1835/T-1836	4310	Tanks	1996	< 20,000 gal	S-237	R13-2338
T-1837	NA	Tank	1995	< 20,000 gal	NONE	R13-2338
Emission Group 577						
	5082	Esters Drum Filler	--	--	NONE	R13-2338
Silanes Area Control Devices						

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
S-137	1001	Scrubber	--	--	NONE	R13-2338
S-174	1003	Area Scrubber	--	--	NONE	R13-2338
S-171	1006	Scrubber	--	--	NONE	R13-2338
S-203	1015	Scrubber	--	--	NONE	R13-2338
S-42	1015	Scrubber	--	--	NONE	R13-2338
(Note A)						
S-132	1032	Scrubber	--	--	NONE	R13-2338
S-205	1038	Scrubber	--	--	E-1353	R13-2338
E-1353*	1038	Flare	--	--	NONE	R13-2338
S-223	1120 (Note B)	Water Scrubber	--	--	E-2322	R13-2338
E-2322*	1120 (Note B)	Thermal Oxidizer	2006	2.75 MM Btu/hr	S-270	R13-2338
S-270	1120 (Note B)	Caustic Scrubber	--	--	NONE	R13-2338
S-196	1301	Scrubber	--	--	NONE	R13-2338
S-197	1302	Scrubber	--	--	NONE	R13-2338
S-224	1321	Vent Scrubber	--	--	NONE	R13-2338
S-257	1340	Scrubber	--	--	NONE	R13-2338
S-260	1341	Scrubber	--	--	NONE	R13-2338
M-319*	1348	Cartridge Filter	--	--	M-319	R13-2338
M-320*	1349	Baghouse	--	--	M-320	R13-2338
S-237	4310	HCl Water Scrubber	--	--	NONE	R13-2338
Production Area Polymers I						
Emission Group 201						
C-177	2001	Vacuum Jet	--	--	C-196	
C-514	2001	Fan	--	--	NONE	
F-295	2051	Vertical Filter	--	--	S-240	
H-415	2001	Condenser	--	--	C-196	
K-1	2001	Kettle	--	--	C-196	
S-166	2001	Distillation Column	--	--	C-196	
T-202	2052	Tank	1954	< 20,000 gal	NONE	
T-205	2005	Tank	1954	< 20,000 gal	C-405	
T-573	2051	Dumpster	1963	< 20,000 gal	S-240	
T-793	2001	Tank	1984	< 20,000 gal	C-196	
Emission Group 204						
C-47	2001	Vacuum Jet	--	--	NONE	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
F-16	2024	Plate & Frame Filter	--	--	NONE	
K-2	2001	Kettle	--	--	C-49	
T-1601	2001	Tank	1988	< 20,000 gal	C-49	
T-208	2024	Tank	1954	< 20,000 gal	NONE	
T-209	2024	Tank	1954	< 20,000 gal	NONE	
T-213	2005	Tank	1954	< 20,000 gal	C-405	
Emission Group 206						
C-115	2005	Vacuum Jet	--	--	NONE	
F-17	2054	Filter	--	--	NONE	
H-1025	2005	Condenser	--	--	C-405	
H-1026	2005	Condenser	--	--	C-405	
K-3	2005	Kettle	--	--	C-405	
T-1399	2005	Tank	1986	< 20,000 gal	C-405	
T-1400	2005	Tank	1986	< 20,000 gal	C-405	
T-1841	2005	Tank	1995	< 20,000 gal	C-405	
T-215	2054	Tank	1954	< 20,000 gal	NONE	
T-216	2054	Tank	1954	< 20,000 gal	NONE	
T-217	2038	Tank	1954	< 20,000 gal	NONE	
T-218	2005	Tank	1954	< 20,000 gal	C-405	
T-394	2005	Tank	1960	< 20,000 gal	C-405	
Emission Group 207						
C-494	2005	Vacuum Jets	--	--	NONE	
E-1199	2020	Centrifuge	--	--	C-363	
K-4	2005	Kettle	--	--	C-370	
S-233	2005	Distillation Column	--	--	C-370	
T-1323	2005	Knockout Tank	1984	< 20,000 gal	C-370	
T-1531	2020	Tank	1988	< 20,000 gal	C-363	
T-1663	2521	Tank	1989	< 20,000 gal	S-240	
T-224	2020/2005	Tank	1954	< 20,000 gal	C-363 or C-405	
T-230	2020	Tank	1954	< 20,000 gal	C-363	
Emission Group 225						
C-390	2005	Vacuum Jets	--	--	NONE	
K-5	2005	Kettle	--	--	NONE	
T-223	2005	Tank	1954	< 20,000 gal	NONE	
Emission Group 235						
K-600	2020	Kettle	--	--	C-363	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-482	2005	Tank	1965	< 20,000 gal	NONE	
Emission Group 240						
C-538	2401	Vacuum Pump	--	--	C-589	R13-1649B
H-1603	NA	Condenser	--	--	NONE	R13-1649B
H-1241	NA	Reboiler	--	--	NONE	R13-1649B
H-1602	NA	Condenser	--	--	NONE	R13-1649B
H-1604	NA	Reboiler	--	--	NONE	R13-1649B
H-1605	NA	Heat Exchanger	--	--	NONE	R13-1649B
F-751	2401	Carbon Packed Bed	--	--	C-589	R13-1649B
F-755	2401	Carbon Packed Bed	--	--	C-589	R13-1649B
R-77	2401	Reactor	--	--	C-589	R13-1649B
R-78	2401	Reactor	--	--	C-589	R13-1649B
S-225	2401	Distillation Column	--	--	C-589	R13-1649B
S-271	2401	Distillation Column	--	--	C-589	R13-1649B
S-226	2401	Distillation Column	--	--	C-589	R13-1649B
Emission Group 245						
C-557	2402	Vacuum Pump	--	--	NONE	
R-88	2402	Reactor	--	--	NONE	
R-89	2402	Reactor	--	--	NONE	
S-259	2402	Distillation Column	--	--	NONE	
Emission Group 249						
C-573	NA	Compressor	--	--	NONE	
C-574	2020	Compressor	--	--	C-363	
E-2288	2020	Autopurger	--	--	C-363	
T-56	2006	Tank	1999	< 20,000 gal	NONE	
Emission Group 252						
T-1022	2520	Tank	1975	< 20,000 gal	EDA scrubber	
T-272	2514	Tank	1954	< 20,000 gal	NONE	
T-273	2526	Tank	1954	< 20,000 gal	NONE	
T-397	2041	Tank	1960	< 20,000 gal	NONE	
T-463	2531	Tank	1954	< 20,000 gal	NONE	
T-495	2019	Tank	1965	< 20,000 gal	NONE	
T-496	2524	Tank	1965	< 20,000 gal	NONE	
T-512	2525	Tank	1965	< 20,000 gal	NONE	
T-596	2527	Tank	1966	20000 gal	S-272	
T-788	6501	Tank	1967	< 20,000 gal	NONE	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-991*	2037	Tank	1973	< 20,000 gal	NONE	
Emission Group 253						
T-1191	2009	Tank	1978	20000 gal	NONE	
T-1211	2518	Tank	1978	20000 gal	NONE	
T-1212	2519	Tank	1978	20000 gal	NONE	
T-1213	2010	Tank	1978	20000 gal	NONE	R13-1649B
T-821	2011 or 2541	Tank	1969	< 20,000 gal	NONE	R13-1649B
T-822	2515	Tank	1969	< 20,000 gal	NONE	R13-1649B
T-823-B	2012/2013	Tank	1969	< 20,000 gal	NONE	R13-1649B
T-823-T	2012/2014	Tank	1969	< 20,000 gal	NONE	R13-1649B
T-824	2516	Tank	1969	20000 gal	NONE	R13-1649B
T-825	2517	Tank	1969	20000 gal	NONE	R13-2338
T-997	3528	Tank	1974	20000 gal	NONE	
T-998 B	2014	Tank	1974	< 20,000 gal	NONE	
T-998 T	2015	Tank	1974	< 20,000 gal	NONE	
Emission Group 254						
T-1171	2016	Tank	1977	< 20,000 gal	NONE	
T-449 [T-1]	2018	Tank	1954	< 20,000 gal	NONE	
T-450 [T-3]	2509	Tank	1954	< 20,000 gal	S-157	
T-53	2508	Tank	1955	< 20,000 gal	NONE	
Emission Group 256						
T-210	2512	Tank	1954	< 20,000 gal	NONE	
T-297	2513	Tank	1954	< 20,000 gal	S-240	
T-298	2513	Tank	1954	< 20,000 gal	S-240	
T-577	2513	Tank	1964	< 20,000 gal	S-240	
Emission Group 312						
C-462	3029	Vacuum Jets	--	--	NONE	
H-1116	3029	Condenser	--	--	Vacuum jet C-462	
K-56	None	Kettle	--	--	NONE	
T-1461	3029	Tank	1987	< 20,000 gal	NONE	
T-1715	2540	Dumpster	1991	< 20,000 gal	NONE	
T-546	3057	Tank	1962	< 20,000 gal	NONE	
TK-7	3028	Tank	1966	< 20,000 gal	NONE	
Polymers I Control Devices						

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
C-196	2001	Scrubber	--	--	NONE	
EDA Scrubber	2520	Scrubber	--	--	NONE	
C-49	2001	Scrubber	--	--	NONE	
C-370	2005	Scrubber	--	--	NONE	
C-405	2005	Scrubber	--	--	NONE	
C-363	2020	Scrubber	--	--	NONE	
S-240	2051	Scrubber	--	--	NONE	
C-589	2401	Scrubber	--	--	NONE	R13-1649B
S-157	2509	Scrubber	--	--	NONE	
S-272	2527	Scrubber	--	--	NONE	
Production Area Polymers II						
Emission Group 301						
C-179	3001	Draft Jet	--	--	NONE	
K-51	3001	Kettle	--	--	NONE	
Emission Group 306						
C-181	3012	Vacuum Pump	--	--	NONE	
E-477	3012	HVO LUWA	--	--	NONE	
K-12	3012	Kettle	--	--	NONE	
Emission Group 307						
A-277	3020	Agitated Reactor	--	--	E-2229; S-248	
A-515	3020	Agitated Reactor	--	--	E-2229; S-248	
C-116	3020	Vacuum Pump	--	--	E-2229; S-248	
C-558	3020	Vacuum Pump	--	--	E-2229; S-248	
E-1455	3020	Coalescer	--	--	E-2229; S-248	
E-2229*	3020	Thermal Oxidizer	--	--	S-248	
E-531	3020	Wiped Film Evaporator	--	--	E-2229; S-248	
E-572	3020	Wiped Film Evaporator	--	--	E-2229; S-248	
H-494	3020	Heat Exchanger	--	--	E-2229; S-248	
T-2082	3020	Pressurized Tank	2013	8,200 gal	E-2229; S-248	
T-1300	3020	Tank	1982	< 20,000 gal	E-2229; S-248	
T-1322	3058	Tank	1983	< 20,000 gal	NONE	
T-1726	3020	Tank	1997	< 20,000 gal	E-2229; S-248	
T-483	3051	Tank	1965	< 20,000 gal	NONE	
T-485	3052	Tank	1965	< 20,000 gal	NONE	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-500	3054	Tank	1966	< 20,000 gal	NONE	
T-677	3059	Tank	1967	< 20,000 gal	NONE	
T-965	3060	Tank	1973	< 20,000 gal	NONE	
T-966	3061	Tank	1973	< 20,000 gal	NONE	
Emission Group 308						
C-131	3027	Vacuum Jet	--	--	NONE	
K-83	3043 or 3026	Kettle	--	--	C-426 or NONE	
Emission Group 313						
C-252	3033	Vacuum Jet	--	--	E-1442	
E-1104	3033 or 3030	Accumulator	--	--	E-1442 or NONE	
E-691	3033 or 3030	Entrainment Separator	--	--	E-1442 or NONE	
K-57	3033 or 3030	Kettle	--	--	E-1442 or NONE	
T-962	3070	Tank	1973	< 20,000 gal	NONE	
T-963	3071	Tank	1973	< 20,000 gal	NONE	
Emission Group 315						
C-130	3037	Vacuum Jet	--	--	NONE	
K-81	3037 or 3034	Kettle	--	--	NONE	
T-640	3080	Tank	1966	< 20,000 gal	NONE	
T-641	3081	Tank	1966	< 20,000 gal	NONE	
Emission Group 337						
R-32	3042	Reactor	--	--	NONE	
R-33	3042	Reactor	--	--	NONE	
T-654	3042	Tank	1966	< 20,000 gal	NONE	
Emission Group 341						
C-422	3402	Vacuum Jet	--	--	S-192	R13-952
E-1146	NA	Decanter	--	--	NONE	R13-952
F-482	3406	Filter Press	--	--	NONE	R13-952
F-507	NA	Filter	--	--	NONE	R13-952
H-1061	NA	Heat Exchanger	--	--	NONE	R13-952
H-1062	3402	Condenser	--	--	S-192	R13-952
K-84	3402	Kettle	--	--	S-192	R13-952
LR44	3425	Loading Rack	--	--	NONE	R13-952
T-1436	3404	Tank	1981	< 20,000 gal	NONE	R13-952
T-1437	3405	Tank	1987	< 20,000 gal	NONE	R13-952

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-1438	3407	Tank	1987	< 20,000 gal	NONE	R13-952
Emission Group 344						
A-632	NAp	Static Mixer	--	--	NONE	R13-1748
F-759	NAp	Bag Filter	--	--	NONE	R13-1748
F-760	NAp	Bag Filter	--	--	NONE	R13-1748
R-79	3412	Reactor	1995	--	NONE	R13-1748
R-80	3412	Carbon Bed	--	--	NONE	R13-1748
T-1447	3412	Tank	1981	< 20,000 gal	NONE	R13-1748
T-1823	NAp	Tank	1994	< 20,000 gal	NONE	R13-1748
Emission Group 345						
C-552	3431	Vacuum Pump	--	--	NONE	
E-1554	3431	Plate Stripper	--	--	E-1281	
R-85	3431	Polyether Capper	--	--	E-1281	
R-86	3431	Anhydride Converter	--	--	E-1281	
Emission Group 348						
E-1070	NA	LUWA	--	--	NONE	
E-1198	NA	Esters Drum Filler	--	--	NONE	
Emission Group 352						
T-1257-B	3530	Tank	1979	21000 gal	NONE	
T-1257-T	3529	Tank	1979	23000 gal	NONE	
T-1653	3426	Tank	1981	< 20,000 gal	NONE	
T-1662	3513	Tank	1989	< 20,000 gal	NONE	
T-622	3501	Tank	1966	< 20,000 gal	NONE	
T-623	3511	Tank	1966	< 20,000 gal	NONE	
T-626	3523	Tank	1966	< 20,000 gal	NONE	
T-627	3524	Tank	1966	< 20,000 gal	NONE	
T-875	3527	Tank	1973	20000 gal	NONE	
T-967	3502	Tank	1973	20000 gal	NONE	
Emission Group 353						
T-1236	3082	Tank	1978	20000 gal	NONE	
T-1237	3083	Tank	1978	20000 gal	NONE	
T-642	3514	Tank	1966	< 20,000 gal	NONE	
T-643	3515	Tank	1966	< 20,000 gal	NONE	
T-644	3528	Tank	1966	< 20,000 gal	NONE	
T-645	3516	Tank	1966	< 20,000 gal	NONE	
T-652	3525	Tank	1966	< 20,000 gal	NONE	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-661	3503	Tank	1966	< 20,000 gal	NONE	
T-662	3518	Tank	1966	< 20,000 gal	NONE	
T-723	3532	Tank	1968	20000 gal	NONE	
T-725	3504	Tank	1968	20000 gal	NONE	
T-728	3526	Tank	1968	< 20,000 gal	NONE	
T-729	3519	Tank	1968	< 20,000 gal	NONE	
T-734	3520	Tank	1968	20000 gal	NONE	
T-735	3505	Tank	1968	< 20,000 gal	NONE	
T-755	3521	Tank	1969	20000 gal	NONE	
Emission Group 354						
T-969	3506	Tank	1973	20000 gal	NONE	
T-970	3507	Tank	1973	20000 gal	NONE	
T-971	3508	Tank	1973	20000 gal	NONE	
T-972	3509	Tank	1973	20000 gal	NONE	
T-975	3510	Tank	1973	20000 gal	NONE	
Emission Group 355						
T-1439	3408	Tank	1981	< 20,000 gal	NONE	R13-952
T-1449	3415	Tank	1981	< 20,000 gal	NONE	R13-952
T-1450	3416	Tank	1981	< 20,000 gal	NONE	R13-952
T-1451	3417	Tank	1981	< 20,000 gal	NONE	R13-952
T-1452	3418	Tank	1981	< 20,000 gal	NONE	R13-952
T-1453	3419	Tank	1987	50000 gal	NONE	R13-952
T-1454	3420	Tank	1987	50000 gal	NONE	R13-952
T-1455	3421	Tank	1987	50000 gal	NONE	R13-952
T-1463	3423	Tank	1981	< 20,000 gal	NONE	R13-952
T-1464	3424	Tank	1981	24000 gal	NONE	R13-952
Emission Group 356						
T-1847	3433	Tank	1996	20000 gal	NONE	
T-1849	3435	Tank	1996	< 20,000 gal	E-1537	
T-1850	3435	Tank	1996	< 20,000 gal	E-1537	
T-1852B	3436	Tank	1996	< 20,000 gal	NONE	
T-1852T	3437	Tank	1996	< 20,000 gal	NONE	
T-1854	3438	Tank	1996	50000 gal	NONE	
Polymers II Control Devices						
E-2229*	3020	Thermal Oxidizer	--	--	S-248	
S-248	3020	Scrubber	--	--	NONE	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
E-1442	3033	Barometric Condenser/scrubber	--	--	NONE	
C-426	3043 or 3027	Scrubber	--	--	NONE	
S-192	3402	Scrubber	--	--	NONE	R13-952
E-1281	3431	Water Scrubber	--	--	NONE	
E-1537	3435	Venturi Water Scrubber	--	--	NONE	
Production Area New Product Development						
Emission Group 405						
C-67	4001	Vacuum Ejectors	--	--	NONE	
H-382	4001	Water Condenser	--	--	C-65	
H-524	4001	Brine Condenser	--	--	C-65	
K-18	4001	Reactor	--	--	C-65	
S-36	4001	Distillation Column	--	--	C-65	
T-358	4001	Tank	1957	< 20,000 gal	C-65	
T-365*	4002	Tank	1952	< 20,000 gal	S-75	
T-373	4001	Tank	1950	< 20,000 gal	C-65	
T-1693*	4002	Tank	1989	< 20,000 gal	S-75	
Emission Group 409						
C-106	4004	Vacuum Ejectors	--	--	C-448	
K-19	4004	Strip receiver/feed tank	--	--	C-448	
K-36	4004	Reactor	--	--	C-448	
K-36 Sump	NA	Sump	--	--	NONE	
S-37	4004	Distillation Column	--	--	C-448	
T-1693*	4002	Tank	1989	< 20,000 gal	S-75	
T-365*	4002	Tank	1952	< 20,000 gal	S-75	
T-565	4004	Tank	1964	< 20,000 gal	C-448	
Emission Group 415						
C-68	4006	Vacuum Ejectors	--	--	NONE	
K-21	4006	Reactor	--	--	C-80	
T-1794	4002	Tank	1993	< 20,000 gal	S-75	
T-365*	4002	Tank	1952	< 20,000 gal	S-75	
T-501	4006	Tank	1959	< 20,000 gal	C-80	
T-507	4006	Tank	1959	< 20,000 gal	C-80	
Emission Group 415						
E-463	4008	Evaporator	--	--	S-247	
H-1343	4008	Heat Exchanger	--	--	S-247	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
T-1676/T-1677	4008	Dumpster	1989	< 20,000 gal	S-247	
T-1889	4008	Tank	1999	< 20,000 gal	S-247	
T-370	4008	Tank	1950	< 20,000 gal	S-247	
T-683	4011	Tank	1967	< 20,000 gal	NONE	
T-789	4008	Tank	1969	< 20,000 gal	S-247	
Emission Group 416						
C-76	4009	Vacuum Pump	--	--	NONE	
H-255	4009	Condenser	--	--	NONE	
K-13	4009	Tank		< 20,000 gal	NONE	
Emission Group 417						
H-1366	4320	Feed vaporizer	--	--	S-241	
K-20	4320	Kettle	--	--	S-241	
T-2018	4320	Tank	2001	< 20,000 gal	S-241	
T-502	4320	Tank	1959	< 20,000 gal	S-241	
T-800	4320	Tank	1968	< 20,000 gal	S-241	
Emission Group 418						
C-66	4015	Vacuum Ejectors	--	--	NONE	
T-357	4015	Tank	1956	< 20,000 gal	NONE	
Emission Group 432						
H-1308	4008	Heat Exchanger	--	--	S-210	
R-107	4008	Reactor	--	--	S-210	
R-93	4008	Tank	--	--	S-210	
T-1923	4008	Tank	1998	< 20,000 gal	S-210	
T-1967	4008	Tank	1998	< 20,000 gal	S-210	
New Product Development Control Devices						
C-65	4001	Water Scrubber	--	--	NONE	
S-75	4002	Scrubber	--	--	NONE	
C-448	4004	Water Scrubber	--	--	NONE	
C-80	4006	Water Scrubber	--	--	NONE	
S-210	4008	Caustic Scrubber	--	--	NONE	
S-247	4008	Water Scrubber	--	--	NONE	
S-241	4320	Water Scrubber	--	--	NONE	
Environmental Protection						
Emission Group 601						
Filter Cake Treatment	6056	Filter Cake Treatment	--	--	NONE	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
Primary Clarifiers	6057	WWTU	--	--	NONE	
R-72	6004	Hydrolysis Reactor	--	--	S-209	
S-229	6011	Air Stripper	--	--	NONE	R13-1746
S-230	6012	Air Stripper	--	--	NONE	R13-1746
Settling Basin and Panic Pond	6063; 6058	WWTU	--	--	NONE	
T-1414	6064	Tank	1987	75000 gal	NONE	
T-1415	6065	Tank	1987	75000 gal	NONE	
UNOX Reactors	6052, 6053, 6054, 6055	WWTU	--	--	NONE	
Emission Group 649						
E-915	6491	Diesel Generator	1998	1340 HP	NONE	
P-2139	6491	Diesel Engine	1998	185 HP	NONE	
Emission Group 651						
T-10004	6507	Tank	1973	< 20,000 gal	NONE	
T-1259	6511	Tank	1978	< 20,000 gal	NONE	
T-768	6004	Tank	1966	< 20,000 gal	S-209	
T-769	6004	Tank	1966	< 20,000 gal	S-209	
T-873	6004	Tank	1973	< 20,000 gal	S-209	
T-874	6004	Tank	1973	< 20,000 gal	S-209	
Emission Group 901: Rotary Kiln Incinerator						
C-357	9001	Induced Draft Fan	--	--	NONE	
D-1003	9001	Water Quench	--	--	Rotary Kiln scrubber System	
D-1608	9001	Stack	--	--	NONE	
T-10008	9001	Tank	--	--	Rotary Kiln scrubber System	
E-10032	9001	Kiln	--	--	Rotary Kiln scrubber System	
Environmental Protection Control Devices						
C-417	6509	Scrubber	--	--	NONE	
S - 209	6004	Scrubber	--	--	NONE	
	9001	<i>Rotary Kiln Emission Control System</i>	--	--		
S-10001	9001	Packed Tower	--	--	S-10003	
S-10003	9001	Scrubber	--	--	S-10005	
S-10005	9001	Scrubber	--	--	S-162	
S-162	9001	Ionizer Wet Scrubber #1	--	--	S-163	
S-163	9001	Ionizer Wet Scrubber #2	--	--	S-164	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year	Approximate Design Capacity	Control Device or Next Control Device in Series	Listed in R13 Permit Section 1.0 list
S-164	9001	Ionizer Wet Scrubber #3	--	--	NONE	
Energy Systems						
Emission Group 949: Generators and Water Pumps						
1339-F	9491	Natural Gas Emergency Electric Generator	2010	23 HP	NONE	G60-C030
60-L	9491	Natural Gas Emergency Electric Generator	2010	54 HP	NONE	G60-C030
P-5	9491	Diesel Fire Water Pump	1954	170 HP	NONE	
P-6	9491	Diesel Fire Water Pump	2006	265 HP	NONE	
P-1375	9491	Diesel Fire Water Pump Clarke Model JU6H-UFADQ0-D	2014	224 HP	NONE	G60-C030
P-2620	9491	Diesel Fire Water Pump	2006	265 HP	NONE	
ES Sullair Air Compressor	9491	Rental Diesel Air Compressor	2006	475 HP	NONE	
T-1319	9063	Tank		< 20,000 gal	NONE	
T-1354	9063	Tank		< 20,000 gal	NONE	
T-1355	9063	Tank	1984	< 20,000 gal	NONE	
T-1357	9063	Tank	1980	< 20,000 gal	NONE	
Emission Group 950						
T-1698	9064	Tank	1990	< 20,000 gal	NONE	
T-992	9063	Tank	1973	< 20,000 gal	NONE	
Emission Groups 955 & 956: Boilers						
955	9055	#5 Boiler	2009	<99MMBtu/hr	Low NO _x Burner	R13-2806
956	9056	#6 Boiler	2014	99MMBtu/hr	Low NO _x Burner	R13-2806

*Equipment is listed in two or more emission groups.

Note A – Scrubber S-42 is not normally used; it is available as a backup to Scrubber S-203. Scrubber S-42 vents through emission point 1015.

Note B – In the event that the thermal oxidizer is out of service, by-pass vent 1121 will be used.

Note C – Emission Group 133, CEU unit will vent to the E-2322 Thermal Oxidizer or oxidizer bypass during production of products subject to the MON MACT (40 CFR 63 Subpart FFFF) Group 1 Process Vent Emission Standards, but may vent to Scrubber S-224 (Emission Point 1321) instead during production of products which are not subject to those MON Standards.

Note D - Tanks 1140 and 1141 routinely vent to control device S-132 Emission Point 1032. However they may also vent to S-137, Emission Point 1001.

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 or Consent Order Number	Date of Issuance
R13-16	8/16/1973

R13-50	4/18/1974
R13-657	4/15/1982
R13-952C	6/30/2005
R13-1649B	10/31/2006
R13-1746B	12/15/2006
R13-1748A	1/05/2006
R13-2030A	10/12/1999
R13-2180D	1/8/2013
R13-2338I	12/15/2011
R13-2806A	10/5/2009
G60-C030A	12/10/2014

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.** This stationary source, as defined in 40 C.F.R. § 68.3, is subject to Part 68. This stationary source shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. Part 68.10. This stationary source 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. During stack sampling pursuant to 45CSR§7-8.1, any stack serving any process source operation or air pollution control equipment on any process source operation that emits particulate matter and is subject to stack testing shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.

[45CSR§7-4.12]

- 3.1.10. No person shall cause, suffer, allow, or permit any manufacturing process generating fugitive particulate matter to operate that is not equipped with a system to minimize the emissions of fugitive particulate matter. To minimize means that a particulate capture or suppression system shall be installed to ensure the lowest fugitive particulate emissions reasonably achievable.

[45CSR§7-5.1.]

- 3.1.11. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased, or controlled access roads, by paving, application of asphalt, chemical dust suppressants, or other suitable dust control measures. Good operating practices shall be implemented and when necessary dust (particulate matter) suppressants shall be applied in relation to stockpiling and general material handling to prevent dust generation (minimize particulate matter) and atmospheric entrainment.

[45CSR§7-5.2]

- 3.1.12. Due to unavoidable malfunction of equipment, emissions exceeding those set forth in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.

[45CSR§7-9.1]

- 3.1.13. **Benzene Waste Operations.** The permittee is subject to the Benzene Waste Operations NESHAP (40 C.F.R. Part 61, Subpart FF) because the permittee owns and operates a "chemical manufacturing plant" as defined in 40 C.F.R. §61.341. The chemical manufacturing plant does not manufacture benzene, but does use a raw material in its manufacturing operations that contains benzene as a contaminant. Total Annual Benzene (TAB) quantity is less than 1 Megagram/year (Mg/yr). Pursuant to 40 C.F.R. §61.355(a)(5), the permittee shall:

- a. Comply with the following record keeping requirements specified in 40 C.F.R. §§61.356(a) and (b)(1):
 - i. Maintain records of the quantity of each raw material received, by shipment that is known to contain benzene.
 - ii. Maintain records of the benzene concentration in each shipment of each such raw material (either

- by (1) analyzing, using an EPA-approved method, a representative sample of each shipment, or (2) using a supplier's analysis for the shipment, or (3) using the contractual specification of the maximum benzene level allowed in the raw material).
- iii. Calculate the total benzene received in a calendar year in all such raw materials to demonstrate that this total is less than 1 Mg and maintain a record of this calculation.
 - iv. Each record shall be maintained in a readily accessible location at the facility site for a period not less than 2 years from the date the information is recorded unless otherwise specified.
- b. Submit to the WV DAQ, in accordance with 40 C.F.R. §61.357(b), a report that updates the information listed in paragraphs (a)(1) through (a)(3) of 40 C.F.R. §61.357 whenever there is a change in the process generating the waste stream that could cause the TAB quantity from facility waste to increase to 1 Mg/yr or more.
 - c. Repeat the determination of TAB quantity from facility waste, in accordance with 40 C.F.R. §61.355(a)(5)(ii), whenever there is a change in the process generating the waste that could cause the TAB quantity from facility waste to increase to 1 Mg/yr or more.

[45CSR34 and 40 C.F.R. 61, Subpart FF]

- 3.1.14. **New applicable requirements.** If any applicable requirement becomes effective 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.]
- 3.1.15. **MON MACT.** The permittee shall comply with the applicable sections of the general requirements for emission limits, work practice standards and compliance requirements as specified by §63.2450.
[40 C.F.R. §63.2450, 45CSR34]
- 3.1.16 **MON MACT.** The permittee shall comply with the applicable general provisions of 40 C.F.R.63 Subpart A as specified by 40 C.F.R. §63.2540 and Table 12 of Subpart FFFF.
[40 C.F.R. §63.2540; 40 C.F.R. 63,Table 12 to Subpart FFFF, 45CSR34]
- 3.1.17 **OLD MACT.** The permittee is subject to applicable requirements for transfers in from rail cars or tank trucks as specified by section §63.2338(b)(2) and §63.2343(c).
[40 C.F.R. §63.2338(b)(2), §63.2343(c), 45CSR34]
- 3.1.18. **Site Remediation MACT.** In the event the Permittee conducts a site remediation that is not exempt from 40 C.F.R. 63, Subpart GGGGG pursuant to 40 C.F.R. §63.7881(b), the Permittee shall comply with the applicable requirements in Subpart GGGGG with respect to such site remediation.
[45CSR34 and 40 C.F.R. 63, Subpart GGGGG]

3.2. Monitoring Requirements

- 3.2.1. No facility-wide monitoring requirements are applicable to the facility.

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 R13-0952, Condition 4.4.1, 45CSR13, Permit R13-1649, Condition 4.4.1, 45CSR13, R13-1748, Condition 4.4.1, 45CSR13, R13-2338, Condition 4.4.1, and 45CSR13, Permit R13-2806, 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. **Fugitives.** The permittee shall monitor all fugitive particulate emission sources regulated by 3.1.10. to ensure that a system to minimize fugitive emissions has been installed or implemented. Records shall be maintained on site for a period of no less than five (5) years stating the types of fugitive particulate capture and/or suppression systems used, the times these systems were inoperable, and the corrective actions taken to repair these systems.

[45CSR§30-5.1.c.]

- 3.4.5. **Fugitives.** The permittee shall maintain records indicating the use of any dust suppressants or any other suitable dust control measures as required by 3.1.11. to be applied at the facility. These records shall be maintained on site or accessible electronically at the site for a period of no less than five (5) years.

[45CSR§30-5.1.c.]

- 3.4.6. **MON MACT.** The permittee shall maintain the applicable records for MON MACT compliance as specified by 40 C.F.R. §63.2525.

[40C.F.R.§63.2525, 45CSR34]

- 3.4.7. **OLD MACT.** The permittee shall maintain the applicable records for OLD MACT transfer racks as specified by 40 C.F.R. §63.2343(c).

[40C.F.R.§63.2343(c), 45CSR34]

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:

Associate Director
Office of Air Enforcement and Compliance
Assistance (3AP20)
U. S. Environmental Protection Agency
Region III
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.]

3.5.10 **MON MACT.** The permittee shall comply with the applicable notification requirements of the MON (40 C.F.R. §63, Subpart FFFF) in accordance with 40 C.F.R. §63.2515.
[40 C.F.R. §63.2515]

3.5.11. **MON MACT.** The permittee shall comply with the applicable reporting requirement of the MON (40 C.F.R. §63, Subpart FFFF) in accordance with 40 C.F.R. §63.2520.
[40 C.F.R. §63.2520]

3.6. Compliance Plan

3.6.1. None

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.

40 C.F.R. §§60.40b-60.49b NSPS Subpart Db (June 19, 1984)	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. Boilers #5 and #6 are below 100 MM Btu/hr.
40 C.F.R. §§60.110-60.113 NSPS Subpart K (June 11, 1973)	Standards of Performance for Storage Vessels for Petroleum Liquids For Which Construction, Reconstruction, or Modification Commenced after June 11, 1973 and prior to May 19, 1978. Petroleum liquid storage vessels have capacities less than 40,000 gallons.
40 C.F.R. §§60.110a-60.115a NSPS Subpart Ka (May 19, 1978)	Standards of Performance for Storage Vessels for Petroleum Liquids For Which Construction, Reconstruction, or Modification Commenced after May 18, 1978 and prior to July 23, 1984. Petroleum liquid storage vessels have capacities less than 40,000 gallons.

<p>40 C.F.R. §§60.110b-60.117b NSPS Subpart Kb (July 23, 1984)</p>	<p>All tanks were found not to be subject to NSPS Kb since all:</p> <ol style="list-style-type: none"> 1) Were built before July 23, 1984, and no physical modifications or reconstructions were performed since July 23, 1984 and/or 2) Are of capacity less than 19,813 gallons and/or 3) Are of a capacity greater than 39,890 gallons, and have a maximum true vapor pressure of 0.51 psia or less and/or 4) Are of a capacity between 19,818 gallons and 39,890 gallons and have a maximum true vapor pressure of 2.2 psia or less.
<p>40 C.F.R. §§60.150-60.156 NSPS Subpart O</p>	<p>Standards of Performance for Sewage Treatment Plants. The Permittee does not operate a municipal treatment plant.</p>
<p>40 C.F.R. §§60.610-60.618 NSPS Subpart III (October 21, 1983)</p>	<p>Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Process. This facility does not produce any of the listed chemicals as a product, co-product, by-product, or intermediate.</p>
<p>40 C.F.R. §§60.700-60.708 NSPS Subpart RRR (6/29/1990)</p>	<p>Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes. This facility does not produce any of the listed chemicals as a product, co-product, by-product, or intermediate.</p>
<p>40 C.F.R. §§ 60.480-60.489 NSPS Subpart VV (1/5/1981)</p>	<p>Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry. This facility does not produce final or intermediate products as defined in § 60.489.</p>
<p>40 C.F.R. §§ 63.100-63.107 Subpart F</p>	<p>National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry is not applicable to the facility. The facility does not produce any of the listed chemicals as a primary product.</p>
<p>40 C.F.R. §§ 63.110-63.153 Subpart G</p>	<p>National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Tanks, Transfer Operations, and Wastewater is not applicable to the facility. The facility does not produce any of the listed chemicals as a primary product.</p>
<p>40 C.F.R. §§63.160-63.183 Subpart H</p>	<p>National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Equipment Leaks is not applicable to the facility. The facility does not produce any of the listed chemicals as a primary product.</p>
<p>40 C.F.R. §§63.40-63.44 Subpart B</p>	<p>Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections, Sections 112 (g) and 112(j) is currently not applicable to the facility.</p>
<p>40 C.F.R. §§63. 7880-63.7957 Subpart GGGGG</p>	<p>National Emission Standards for Site Remediation is not currently applicable to any remediation activities being conducted at the facility. There are no existing sources at the facility subject to this MACT.</p>

<p>40 C.F.R. Part 64</p>	<p>Compliance Assurance Monitoring does not apply to this facility.</p> <p>Potential pre-control device emissions are less than Title V major source levels, per 40 C.F.R. §64.2(a)(3) for the following control devices: S-205, M-319, S-203, S-157, C-426, E-1442, S-192, E-1281, C-196, C-448, C-80, C-589, E-1537, and S-75.</p> <p>Continuous compliance determination method is in place per 40 C.F.R. §64.2(b)(1)(vi) for the following control devices: S-174, E-1353, S-171, S-137, S-196, S-197, S-224, E-2322, S-223, S-270, S-257, S-260, S-132, S-272, E-2229, S-248, S-237, S-10001, S-10003, S-10005, S-162, S-163, M-320, and S-164.</p> <p>The following control devices are subject to the MON MACT (40 C.F.R. 63, Subpart FFFF): C-49, C-405, C-370, and C-65. These control devices are not subject to CAM because they are subject to 40 C.F.R. Part 63, Subpart FFFF that was proposed after November 11, 1990. 40 C.F.R. §64.2(b)(1)(i) exempts emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act; and 40 C.F.R. §64.2(b)(1)(vi) exempts emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method.</p> <p>The following control devices are subject to no emission standard or limitation: S-240, C-363, EDA Scrubber, S-247, S-241, S-210, and S-209.</p> <p>The Esters HCl Absorption System does not meet definition of control device (40 CFR 64.1), as this is inherent process equipment.</p>
<p>45 CSR§ 7-4.2</p>	<p>Emission Points 2001, 2005, 2020, 4001, 4002, and 4006 are exempt from the mineral acid (sulfuric acid) requirements as a result of 45CSR§7-10.6</p>
<p>45 CSR 10A</p>	<p>Testing, Monitoring, Record Keeping, and Reporting Requirements under 45CSR10 section 8 are not applicable to the facility since its fuel burning units only combust natural gas. This exemption is provided within 45CSR§10-10.3.</p>
<p>45 CSR 21</p>	<p>Regulation to Prevent and Control Air Pollution from the Emissions of Volatile Organic Compounds. This regulation applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County.</p>

4.0 Silanes Production [emission group ID(s): 101-107, 116, 120, 126, 130, 132, 133, 134, 151, 152, 153, 153 P1, 155, 155P1, 156, 156P1, 157, 157P1, 159, 252SIL, 431 and 577]

4.1. Limitations and Standards

4.1.1 Vent emissions to the atmosphere from the Silanes Manufacturing Unit, which consists of the equipment listed in Section 1.0, and identified as permitted in R13-2338, shall not exceed the emission limitations set forth in Table 4.1.1.

Table 4.1.1. Emission Limits for Silanes Manufacturing Unit

Pollutant	Emission Limit (TPY)
NO _x	4.2
PM ₁₀	9.5
VOC	95.8
THAP	77.10
Ethyl Chloride*	57.83
Toluene*	57.83

* Hazardous Air Pollutant (HAP)

[45CSR13, Permit R13-2338, (Condition 4.1.1.), Emission Point ID (See Section 1.0 R13-2338 emission points)]

4.1.2 Emissions to the atmosphere from the Flare, Equipment ID No. E-1353, shall not exceed the emission limitations set forth in Table 4.1.2.

Table 4.1.2. Emission Limits for E-1353 (Flare)

Pollutant	Emission Limit (lb/hr)
PM ₁₀	0.04
Opacity	20%

[45CSR13, Permit R13-2338, (Condition 4.1.2.), 45CSR§§6-4.1 and 4.3, Emission Point ID (1038)]

4.1.3 Emissions to the atmosphere from the Thermal Oxidizer, Equipment ID No. E-2322, shall not exceed the emission limitations set forth in Table 4.1.3.

Table 4.1.3. Emission Limits for E-2322 (Thermal Oxidizer)

Pollutant	Emission Limit (lb/hr)
PM ₁₀	0.34
Opacity	20%

[45CSR13, Permit R13-2338, (Condition 4.1.3.), 45CSR§§6-4.1. and 4.3, Emission Point ID (1120)]

4.1.4 During all periods of normal operations, process vent air emissions from the emission sources and equipment listed in Section 1.0 and identified as permitted in R13-2338 shall be routed to and controlled by their associated control devices prior to venting emissions to the atmosphere.

[45CSR13, Permit R13-2338, (Condition 4.1.4.), Emission Point ID (Section 1.0 R13-2338 emission points)]

4.1.5 MON MACT. The permittee shall comply with the applicable continuous process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2455.

[40 C.F.R. §63.2455, 45CSR34, Emission Group 431]

4.1.6 *Reserved*

4.1.7 Compliance with the emission limits set forth in Sections 4.1.1, shall be demonstrated by calculating emissions for every product in the Silanes Manufacturing Unit using ChemCAD®, Essential EHS (formally known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA’s TANKS 4.0, WATER9, etc.). When these emissions are calculated, each emission point listed in Section 1.0 and identified as permitted in R13-2338 with emissions of regulated air pollutants listed in Section 4.1.1 shall be included in the calculations and accounted for in the emission estimates. The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.

[45CSR13, Permit R13-2338, (Condition 4.1.7.), Emission Point ID (Section 1.0 R13-2338 emission points)]

4.1.8 Emissions to the atmosphere from the following emission sources subject to 45CSR7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations” shall not exceed the emission limitations set forth in Table 4.1.8.

Table 4.1.8 45CSR7 Sources Emission Limits

Source Description	Pollutant	Emission Limit
F-995-S	Opacity	20%
F-996-S	Opacity	20%
M-319	PM ₁₀ Opacity	6.7 pph 20%
M-320	PM ₁₀ Opacity	6.7 pph 20%
S-137	HCl Opacity	210 mg/dscm 20%
S-174	HCl Opacity	210 mg/dscm 20%
S-203	HCl Opacity	210 mg/dscm 20%
S-132	HCl Opacity	210 mg/dscm 20%
E-1353	HCl Opacity	210 mg/dscm 20%
S-196	HCl Opacity	210 mg/dscm 20%

Source Description	Pollutant	Emission Limit
S-197	HCl Opacity	210 mg/dscm 20%
S-270	HCl Opacity	210 mg/dscm 20%
S-237	HCl Opacity	210 mg/dscm 20%
Thermal Oxidizer By-pass Vent 1	HCl Opacity	210 mg/dscm 20%

¹ Will only apply to Emission Point 1121 when venting through the by-pass, around the Thermal Oxidizer System. [Compliance with this streamlined condition shall insure compliance with 45CSR§§7-3.1, -4.1, and -4.2]

[45CSR§7-3.1, 4.1, 4.2., 45CSR13, Permit R13-2338, (Condition 4.1.8.), Equipment or Emission Point ID (Listed above)]

4.1.9 The control devices listed in Section 1.0 shall be inspected and maintained—in accordance with the Inspection & Preventive Maintenance schedules listed in Appendix A of R13-2338, which is incorporated herein as Attachment A.

[45CSR13, Permit R13-2338, (Condition 4.1.9.), Emission Point ID (See Attachment A)]

4.1.10 In order to demonstrate compliance with the Group 1 control requirements of the MON incorporated within 4.1.20 – 4.1.23, the permittee shall monitor, record, and abide by the operating parameter limitations summarized within attachment A of this permit.

[40 C.F.R. §63.2450(e), 45CSR34; 45CSR13, R13-2338 condition 4.1.22., Control Equipment IDs (S-132, S-137, S-171, S-197, S-223, S-260, S-270, E-2322)]

4.1.11 The opacity provisions of Section 4.1.2 and 4.1.3 shall not apply to smoke which is less than forty (40) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up, or six (6) minutes in any sixty (60) minute period for stoking operations.

[45CSR13, Permit R13-2338, 45CSR§6-4.4, (Condition 4.1.11.), Emission Point ID (1038, 1120)]

4.1.12 The opacity provisions of Section 4.1.8 shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.

[45CSR13, Permit R13-2338, (Condition 4.1.12.), 45CSR§7-3.2, Emission Point ID (Table 4.1.8.)]

4.1.13 The following equipment, listed in Table 4.1.13 in the Silanes Manufacturing Unit is used on an as-needed basis and may not be operated for extended periods of time. Written notification shall be provided to the Director in the event of permanent shutdown of this equipment.

Table 4.1.13 Intermittent Use Equipment

Equipment ID	Source Description
<i>Reserved</i>	<i>Reserved</i>

[45CSR13, Permit R13-2338, (Condition 4.1.15.), Emission Point ID (Table 4.1.15.)]

4.1.14 Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and identified

as permitted in R13-2338 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR13, Permit R13-2338, (Condition 4.1.16.), Emission Point ID (Section 1.0 R13-2338 emission points)]

- 4.1.15. **NSPS NNN SPCEU (Emission Group 431).** The SPCEU process unit design capacity for production of all chemicals listed in 40 C.F.R. §60.667 is less than 1 gigagram/yr and therefore is exempt from all provisions of NSPS, Subpart NNN except for the recordkeeping and reporting requirements in section 4.4.10, 4.5.6, and 4.5.7.

[45CSR16, 40 C.F.R. §60.660(c)(5) and 45CSR13, Permit R13-2338 Condition 4.1.17; Emission Group 431]

- 4.1.16. **NSPS NNN CEU (Emission Group 133).** The CEU process unit is subject to NSPS, Subpart NNN while producing any chemicals listed in 40 C.F.R. §60.667.

[45CSR16, 40 C.F.R. §60.660(a) and 45CSR13, Permit R13-2338 Condition 4.1.18; Emission Group 133]

- 4.1.17. **NSPS NNN CEU (Emission Group 133).** The owner or operator shall maintain a TRE index value greater than 1.0 without use of VOC emission control devices for each vent stream in the CEU unit.

[45CSR16, 40 C.F.R. §60.662(c) and 45CSR13, Permit R13-2338 Cond. 4.1.19; Emission Group 133]

- 4.1.18. **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the standards and maintenance requirements of NSPS General Requirements §60.11 unless specifically exempted by NSPS subpart NNN.

[45CSR16, 40 C.F.R. §60.11 and 45CSR13, Permit R13-2338 Condition 4.1.20; Emission Group 133]

- 4.1.19. **NSPS NNN CEU (Emission Group 133).** Each affected facility that has a total resource effectiveness (TRE) index value greater than 8.0 is exempt from terms 4.2.4, 4.2.5, 4.3.5, 4.4.11, and 4.4.12.

[45CSR16, 40 C.F.R. §60.660(c)(4) and 45CSR13, Permit R13-2338, Condition 4.1.21; Emission Group 133]

- 4.1.20. **MON MACT.** The permittee shall comply with the applicable continuous process vent standards of the MON MACT as specified by 40 C.F.R. §63.2455.

[40 C.F.R. §63.2455, 45CSR34 and 45CSR13, Permit R13-2338, Condition 4.1.23; Emission Groups 116, 133]

- 4.1.21. **MON MACT.** The permittee shall comply with the applicable batch process vent standards of the MON MACT as specified by 40 C.F.R. §63.2460.

[40 C.F.R. §63.2460, 45CSR34 and 45CSR13, Permit R13-2338, Condition 4.1.23; Emission Groups 107, 134]

- 4.1.22. **MON MACT.** The permittee shall comply with the applicable process vent standards for sources that emit hydrogen halide and halogen HAP or HAP metals of the MON MACT as specified by 40 C.F.R. §63.2465.

[40 C.F.R. §63.2465, 45CSR34 and 45CSR13, Permit R13-2338, Condition 4.1.23; Emission Group 133]

- 4.1.23. **MON MACT.** The permittee shall comply with the applicable storage tank standards of the MON MACT as specified by 40 C.F.R. §63.2470.

[40 C.F.R. §63.2470, 45CSR34 and 45CSR13, Permit R13-2338, Condition 4.1.23; Emission Groups 130, 151, 152]

- 4.1.24. **MON MACT.** The permittee shall comply with the applicable equipment leak standards of the MON MACT as specified by 40 C.F.R. §63.2480.
[40 C.F.R. §63.2480, 45CSR34 and 45CSR13, Permit R13-2338, Condition 4.1.23]
- 4.1.25. **MON MACT.** The permittee shall comply with the applicable wastewater streams and liquid streams in open systems within an MCPU standards of the MON MACT as specified by 40 C.F.R. §63.2485.
[40 C.F.R. §63.2485, 45CSR34 and 45CSR13, Permit R13-2338, Condition 4.1.23]
- 4.1.26. **MON MACT.** The permittee shall comply with the applicable heat exchange system standards of the MON MACT as specified by 40 C.F.R. §63.2490.
[40 C.F.R. §63.2490, 45CSR34 and 45CSR13, Permit R13-2338, Condition 4.1.23; Emission Groups 104, 116, 134, 132]

4.2. Monitoring Requirements

- 4.2.1. The permittee shall perform monitoring of all equipment parameters listed in Attachment A – (Appendix A of R13-2338) per the minimum data collection frequency and per the data averaging period as indicated.
[45CSR13, Permit R13-2338, (Condition 4.2.1), Equipment ID (See Attachment A)]
- 4.2.2. For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1 and -3.2, and 45CSR§6-4.3, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 C.F.R. Part 60, Appendix A, Method 22 or from the lecture portion of the 40 C.F.R. Part 60, Appendix A, Method 9 certification course.

Visible emission checks shall be conducted at least once per calendar month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed at each source (stack, transfer point, fugitive emission source, etc.) for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 or 45CSR§7A as soon as practicable, but within seventy-two (72) hours of the final visual emission check. A Method 9 or 45CSR§7A observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, Permit R13-2338, (Condition 4.2.2.), Emission Point ID (Table 4.1.2, 4.1.3, and 4.1.8)]

- 4.2.3. *Reserved.*
- 4.2.4. **NSPS NNN CEU (Emission Group 133).** The permittee shall monitor the CEU process unit in accordance with 40 C.F.R. §60.663(e) while producing any chemicals listed in 40 C.F.R. §60.667.
[45CSR16, 40C.F.R. §60.663(e) and 45CSR13, Permit R13-2338 Cond., 4.2.4; Emission Group 133]

- 4.2.5. **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the monitoring requirements of NSPS General Requirements §60.13 unless specifically exempt by NSPS Subpart NNN.
[45CSR16, 40 C.F.R. §60.13 and 45CSR13, Permit R13-2338 Condition 4.2.5; Emission Group 133]

4.3. Testing Requirements

- 4.3.1. *Reserved.*
- 4.3.2. **NSPS NNN CEU (Emission Group 133).** The permittee shall run at full operating conditions and flow rates during any performance test required under Section 4.3.3.
[45CSR16, 40C.F.R.§60.664(a) and 45CSR13, Permit R13-2338 Cond., 4.3.2; Emission Group 133]
- 4.3.3. **NSPS NNN CEU (Emission Group 133).** The permittee shall determine the net heating value for calculating the TRE index value specified by 40 C.F.R. §60.664(e).
[45CSR16, 40C.F.R.§60.664(e), 45CSR13, Permit R13-2338 Condition 4.3.3; Emission Group 133]
- 4.3.4. **NSPS NNN CEU (Emission Group 133).** The permittee shall calculate the TRE index value of the vent stream as specified by 40 C.F.R. §60.664(f).
[45CSR16, 40C.F.R.§60.664(f), 45CSR13, Permit R13-2338 Condition 4.3.4; Emission Group 133]
- 4.3.5. **NSPS NNN CEU (Emission Group 133).** The permittee shall recalculate the TRE index value of the vent stream as specified in 40 C.F.R. §60.664(g).
[45CSR16, 40C.F.R.§60.664(g), 45CSR13, Permit R13-2338 Condition 4.3.5; Emission Group 133]
- 4.3.6. **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the performance test requirements of the NSPS General Requirements §60.8 unless specifically exempt by NSPS Subpart NNN.
[45CSR16, 40C.F.R.§60.8, 45CSR13, Permit R13-2338 Condition 4.3.6; Emission Group 133]

4.4. Recordkeeping Requirements

- 4.4.1 *Record of Maintenance of Air Pollution Control Equipment.* For all pollution control equipment listed in Section 1.0 and identified as permitted in R13-2338, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit R13-2338, (Condition 4.4.2.), Equipment ID (See Section 1.0 R13-2338 emission points)]
- 4.4.2 *Record of Malfunctions of Air Pollution Control Equipment.* For all air pollution control equipment listed in Section 1.0 and identified as permitted in R13-2338, 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 R13-2338, (Condition 4.4.3.), Equipment ID (See Section 1.0 R13-2338 emission points)]

- 4.4.3 The emission estimation models and calculation methodologies developed in Section 4.1.7, as well as production records for each calendar month shall be maintained onsite or readily accessible from the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request. **[45CSR13, Permit R13-2338, (Condition 4.4.4.), Equipment ID (See Section 1.0 R13-2338 emission points)]**
- 4.4.4 The permittee shall maintain onsite for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 4.1.7, over a continuous rolling twelve (12)-month period, showing emission totals for the regulated air pollutants listed in Section 4.1.1. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.**[45CSR13, Permit R13-2338, (Condition 4.4.5.), Equipment ID (See Section 1.0 R13-2338 emission points)]**
- 4.4.5 Records of all monitoring data required by Section 4.2.1 shall be maintained onsite or readily accessible from the site as follows:
 - a. All monitoring data required by Section 4.2.1, as specified in Attachment A – (R13-2338 Appendix A), shall be maintained onsite for a period of no less than five (5) years. Such records may include strip charts, electronic data system records, and hand-written data forms. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
 - b. An out-of-range occurrence of a monitoring parameter value specified in Appendix A shall not by itself be considered a deviation. However, for each out-of-range occurrence of a monitoring parameter value for the averaging period specified in Appendix A, records stating the starting date/time and duration of the control device’s out-of-range alarm or reading, the cause of the out-of-range parameter, and any corrective actions taken, shall be maintained onsite for a period of no less than five (5) years from the date of monitoring, sampling, or measurement. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
 - c. Missed readings for a monitoring parameter data element specified in Attachment A – (R13-2338 Appendix A), shall not exceed 5% of the total readings in a rolling consecutive twelve (12) month period, for each monitoring parameter data element. A twelve (12) month tabulation of missing readings for each monitoring parameter element shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
 - d. In the event that an applicable rule or regulation (such as the MON MACT) requires monitoring more stringent than that required by Section 4.2.1, the more stringent provisions shall apply. Any such required monitoring data shall be maintained onsite for a period of no less than five (5) years.

Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR13, Permit R13-2338, (Condition 4.4.6.), Equipment ID (See Attachment A)]

- 4.4.6. The permittee shall maintain records of all opacity monitoring data required by Section 4.2.2 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80F, 6-10 mph NE wind) during the visual emission check(s). An example form is supplied as Attachment B within this Title V Permit. Should a visible emission observation be required to be performed per the requirements specified in Method 9 or 45CSR7A, the data records of each observation shall be maintained per the requirements of Method 9 or 45CSR7A. For an emission unit out of service during the normal monthly evaluation, the record of observation may note "out of service" (O/S) or equivalent.

[45CSR13, Permit R13-2338, (Condition 4.4.7.), Emission Point ID (1001, 1003, 1015, 1032, 1038, 1120, 1121, 1301, 1302, 1348, 1349, 4310)]

- 4.4.7. Compliance with Sections 4.4.1 and 4.4.2 may be shown by keeping similar records required by the requirements of the Startup, Shutdown, and Malfunction Plan as contained in 40 C.F.R. 63 Subpart A and as may be amended by specific MACT subpart requirements.

[45CSR13, Permit R13-2338, (Condition 4.4.8.), Equipment ID (See Section 1.0 R13-2338 emission points)]

4.4.8 Reserved

4.4.9 Reserved.

- 4.4.10 **NSPS NNN SPCEU (Emission Group 431).** The facility shall keep up to date, readily accessible records of any change in equipment or process operation in SPCEU (Emission Group 431) that increases the design production capacity of the process unit to produce any chemical listed in 40 C.F.R. §60.667.

[45CSR16, 40 C.F.R. §60.665(j) and 45CSR13, Permit R13-2338 Cond. 4.4.11; Emission Group 431]

- 4.4.11 **NSPS NNN CEU (Emission Group 133).** The permittee shall maintain the data from the performance test as specified by 40 C.F.R. §60.665(b).

[45CSR16, 40 C.F.R. §60.665(b) and 45CSR13, Permit R13-2338 Cond. 4.4.12; Emission Group 133]

- 4.4.12 **NSPS NNN CEU (Emission Group 133).** The permittee shall maintain monitoring records under section 4.2.4 as specified by 40 C.F.R. 60.665(g).

[45CSR16, 40 C.F.R. §60.665(g) and 45CSR13, Permit R13-2338 Cond. 4.4.13; Emission Group 133]

- 4.4.13 **NSPS NNN CEU (Emission Group 133).** In order to demonstrate compliance with 40 C.F.R. §60.662(c), the permittee shall keep up-to-date, readily accessible records of any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal or addition of recovery equipment or a distillation unit as specified by 40 C.F.R. §60.665(h)(1).

[45CSR16, 40C.F.R.§60.665(h)(1) & 45CSR13, Permit R13-2338 Cond. 4.4.14; Emission Group 133]

- 4.4.14. **NSPS NNN CEU (Emission Group 133).** In order to demonstrate compliance with §60.662(c), the permittee shall keep up-to-date readily accessible TRE calculation records as specified by §60.665(h)(2).

[45CSR16, 40C.F.R. §60.665(h)(2) & 45CSR13, Permit R13-2338 Cond. 4.4.15; Emission Group 133]

- 4.4.15 **NSPS NNN CEU (Emission Group 133).** The permittee shall comply with the record keeping requirements of the NSPS General provisions 40 C.F.R. §60.7 unless exempt by NSPS subpart NNN.

[45CSR16, 40 C.F.R. §60.7 and 45CSR13, Permit R13-2338 Condition 4.4.16; Emission Group 133]

4.5. Reporting Requirements

- 4.5.1 If the permittee emits any HAPs or TAPs other than those listed in Attachment C from the Silanes Manufacturing Unit, at an estimated annual emission rate of 50 ppy or greater, the permittee shall provide written notification to the Director of the Division of Air Quality within thirty (30) days of knowledge of such emission. This written notification shall include the potential to emit (in pph and tpy) for each new HAP or TAP species from each of the newly identified emission points or existing emission points listed in Section 1.0 and identified as permitted in R13-2338 that emit the new HAP or TAP species. This condition in no way limits or restricts the reporting requirements of Section 4.5.3.

If the potential to emit for the TAP is greater than the threshold levels of 45CSR27 Table A a compliance program to bring the TAP emissions below threshold levels shall be submitted to the Director within 60 days of notification.

Upon approval by the Director of the proposed compliance program, the permittee shall apply for a modification of permit number R13-2338 to incorporate the changes. This condition shall not be construed to limit the Director's ability to initiate any enforcement action prescribed by the Code as a result of deficiencies, errors, or emissions in the prior compliance plan submitted by the permittee.

[45CSR13, Permit R13-2338, (Condition 4.5.1.), Equipment ID (See Section 1.0 R13-2338 emission points) State Enforceable Only]

- 4.5.2 Reserved.

- 4.5.3 The emission to the air of any TAP resulting from an abnormal release or spill in excess of the following amounts shall be reported to the Director or his authorized representative not later than 24-hours after the permittee has knowledge of such emission:

- a. For ethylene oxide and vinyl chloride, one (1) pound;
- b. For acrylonitrile and butadiene, ten (10) pounds;
- c. For all other toxic air pollutants, fifty (50) pounds.

The permittee shall file a written report with the Director stating the details of all such incidents resulting in the emission of more than fifty (50) pounds of any toxic air pollutant within seven (7) days of the occurrence. The owner/operator shall submit to the Director, at his request, records of all abnormal toxic air pollutant discharges to the air. **[45CSR13, Permit R13-2338, (Condition 4.5.3.), Equipment ID (See Section 1.0 R13-2338 emission points) State Enforceable Only]**

- 4.5.4 Any violation(s) of the allowable visible emission requirement for any emission source discovered during observations using [40 C.F.R. Part 60, Appendix A, Method 9 or 45CSR7A] must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible

determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

[45CSR13, Permit R13-2338, (Condition 4.5.4.), Equipment ID (See Section 1.0 R13-2338 emission points)]

4.5.5 A change in the equipment listed in Section 1.0, and identified as permitted in R13-2338, shall not, by itself, constitute a change to a permit condition for the purposes of determining whether an administrative update is required. Provided a change to this equipment list does not otherwise result in a change to a permit condition necessitating an administrative update or a permit modification, written notification of any revisions to this permit's Section 1.0 list of equipment/emission units or emission points, shall be submitted to the Director of the Division of Air Quality within thirty (30) days of the end of this calendar quarter in which the revision occurred. This section does not limit the permittee's ability to request a permit administrative update or modification pursuant to 45CSR13 Section 2.8., 2.9., or 2.10., and in no way limits the permittee's responsibility to obtain a modification of this permit pursuant to 45CSR§13-5 prior to activities that would constitute a modification or major modification as defined under 45CSR13, 45CSR14, or 45 CSR19 (whichever is appropriate). **[45CSR13, Permit R13-2338, (Condition 4.5.5.), Equipment ID (See Section 1.0 R13-2338 emission points)]**

4.5.6 **NSPS NNN (Emission Group 431).** The owner or operator that seeks to demonstrate compliance with the low capacity exemption level in Section 4.1.15 must submit to the Administrator an initial report detailing the design production capacity of the process unit.

[45CSR16, 40 C.F.R. §60.665(n) and 45CSR13 permit R13-2338 Condition 4.5.6; Emission Group 431]

4.5.7. **NSPS NNN (Emission Group 431).** In accordance with 40 C.F.R. §60.665(l)(6), any change in equipment or process operation that increases the design production capacity above the low capacity exemption level in Section 4.1.15 for the SPCEU process unit, must be reported no later than 180 days after the change.

[45CSR16, 40C.F.R.§60.665(l)(6) & 45CSR13 permit R13-2338 Condition 4.5.7; Emission Group 431]

4.5.8 **NSPS NNN (Emission Group 133).** The permittee subject to 40 C.F.R. §60.662 shall notify the Administrator of the specific provisions of 40 C.F.R. §60.662 with which the owner or operator has elected to comply. Notification shall be submitted with the notification of initial start-up required by 40 C.F.R. §60.7(a)(3). If an owner or operator elects at a later date to use an alternative provision of 40 C.F.R. §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 conducted as specified by 40 C.F.R.§ 60.664 within 180 days.

[45CSR16, 40 C.F.R. §60.665(a) and 45CSR13 permit R13-2338 Condition 4.5.8; Emission Group 133]

4.5.9 **NSPS NNN (Emission Group 133).** The permittee subject to NSPS, Subpart NNN is exempt from the quarterly reporting requirements contained in 40 C.F.R. §60.7(c).

[45CSR16, 40 C.F.R. §60.665(k) and 45CSR13 permit R13-2338 Condition 4.5.9; Emission Group 133]

4.5.10 **NSPS NNN (Emission Group 133).** The permittee shall submit semiannual reports as specified by 40 C.F.R. §60.665(l).

[45CSR16, 40C.F.R. §60.665(l) and 45CSR13 permit R13-2338 Condition 4.5.10; Emission Group 133]

4.5.11 **NSPS NNN (Emission Group 133).** The permittee shall comply with the notification requirements of the NSPS General Provisions within 40 C.F.R. §60.7 unless specifically exempted by the standard.

[45CSR16, 40 C.F.R. §60.7 and 45CSR13 permit R13-2338 Condition 4.5.11; Emission Group 133]

4.6. Compliance Plan

4.6.1. None

5.0 Polymers I [emission group ID(s): 201, 204, 206, 207, 225, 235, 240, 245, 249, 252, 253, 254, 256, and 312]

5.1. Limitations and Standards

5.1.1. Scrubber C-589 shall be functioning during all periods of operation of the D-Unit when regulated air pollutants are being vented to the atmosphere through emission point 2401.

[45CSR13, Permit R13-1649, (Condition 4.1.1.), Emission Point ID (2401)]

5.1.2. Emissions released into the atmosphere from C-589 shall be vented through emission point 2401.

[45CSR13, Permit R13-1649, (Condition 4.1.2.), Emission Point ID (2401)]

5.1.3. Emissions released through emission point 2401 shall be limited to the sources, pollutants and associated emission rates shown in Table 5.1.3. of this permit.

Table 5.1.3.

Emission Source(s)	Control Device	Pollutant	Emission Rates	
			Hourly (pph)	Annual ¹ (tpy)
C-538 F-751 F-755 R-77 R-78 S-225 S-271	C-589	n-Hexane	0.03	0.12
		HCl	0.01	0.01
		VOC	1.7	7.0

1 – Annual emission limits shall be based on a 12-month rolling total.

[45CSR13, Permit R13-1649, (Condition 4.1.3.), Emission Point ID (2401)]

5.1.4. The hydrochloric acid emissions released through emission point 2401 shall be limited in accordance to the applicable requirements set forth in 45CSR7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations”. Such emissions shall not exceed the maximum limits identified in Table 5.1.4. of this permit.

Table 5.1.4.

Emission Point	Pollutant	Maximum Limit
2401	HCl	210 mg/dscm
	Opacity	20%

[45CSR§§7-3.1 and 4.2; 45CSR13, Permit R13-1649, (Condition 4.1.4.), Emission Point ID (2401)]

[Compliance with this streamlined requirement will ensure compliance with 45CSR§§7-3.1 and 4.2]

5.1.5. Compliance with the emission and concentration limits set forth in Sections 5.1.3 and 5.1.4. of this permit shall be demonstrated by calculating emissions for every product/process in the D-Unit using ChemCAD®, Essential EHS (formally known as PlantWare®, or Emission Master® emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA’s TANKS 4.0, WATER9, etc.). When these emissions are calculated, each emission point listed in Section 1.0 and identified as permitted in R13-1649 of this permit with emissions of regulated air pollutants listed in Sections 5.1.3. and 5.1.4., shall be included in the calculation(s) and accounted for in the emissions record. The calculations shall be maintained current for all processes, process modifications and new variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he/she deems it appropriate and necessary.

[45CSR13, Permit R13-1649, (Condition 4.1.5.)]

5.1.6. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and identified as permitted in R13-1649 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR13, Permit R13-1649, (Condition 4.1.6)]

5.1.7. Except as authorized by or pursuant to 45 CSR 7, emissions to the atmosphere from the following emission points subject to 45CSR7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations” shall not exceed the emission limitations set forth in Table 5.1.7.

Table 5.1.7.

Emission Point ID	Pollutant	Emission Limit
2001	HCl	420 mg/m ³
	Opacity	20%
2005	HCl	420 mg/m ³
	Opacity	20%
2509	HCl	420 mg/m ³
	Opacity	20%
2402	HCl	210 mg/m ³
	Opacity	20%

[45CSR§7-3.1, 4.2., Emission Point ID(s) 2001, 2005, 2509, and 2402]

5.1.8. Compliance with the concentration standards for HCl shall be demonstrated by calculating emissions from the emission points listed in Table 5.1.7 above, using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA’s TANKS 4.0, WATER9, etc.). The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.

[45CSR§30-5.1.c., Emission Point ID(s) 2001, 2005, 2509, and 2402]

5.1.9. **MON MACT.** The permittee shall comply with the applicable continuous process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2455.

[40 C.F.R. §63.2455, 45CSR34]

5.1.10. MON MACT. The permittee shall comply with the applicable batch process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2460.

[40 C.F.R. §63.2460, 45CSR34]

5.1.11. MON MACT. The permittee shall comply with the applicable process vent standards for sources that emit hydrogen halide and halogen HAP or HAP metals of Subpart FFFF, as specified by 40 C.F.R. §63.2465.

[40 C.F.R. §63.2465, 45CSR34, Emission Groups (204, 206, 207)]

5.1.12. MON MACT. The permittee shall comply with the applicable storage tank standards of Subpart FFFF, as specified by 40 C.F.R. §63.2470.

[40 C.F.R. §63.2470, 45CSR34, Emission Group (252)]

5.1.13. MON MACT. The permittee shall comply with the equipment leak standards of Subpart FFFF, as specified by 40 C.F.R. §63.2480.

[40 C.F.R. §63.2480, 45CSR34]

5.1.14. MON MACT. The permittee shall comply with the applicable wastewater streams and liquid streams in open systems within an MCPU standards of Subpart FFFF as specified by 40 C.F.R. §63.2485.

[40 C.F.R. §63.2485, 45CSR34]

5.2. Monitoring Requirements

5.2.1. For the purpose of demonstrating compliance with Section 5.1.1. of this permit, the permittee shall maintain a low flow alarm on scrubber water flow to C-589 during all periods of operation of the D-Unit.

[45CSR13, Permit R13-1649, (Condition 4.2.1.), Equipment ID (C-589)]

5.2.2. The permittee shall conduct an inspection of C-589 at least once every two years of operation.

[45CSR13, Permit R13-1649, (Condition 4.2.2.), Equipment ID (C-589)]

5.2.3. For the purpose of determining compliance with the opacity limits set forth in Section 5.1.4. of this permit, the permittee shall conduct opacity monitoring for all emission points and equipment subject to an opacity limit under 45CSR7, including, but not limited to, the emission points listed in Section 5.1.4 of this permit.

Monitoring shall be conducted at least once per month with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed from any of the subject emission points, those emission points will be allowed to conduct visible emission checks or opacity monitoring once per calendar quarter. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval to determine if there is a visible emission.

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of

45CSR7A within three (3) days of the first sign of visible emissions. A 45CSR7A evaluation shall not be required if the visible emission condition is corrected within seventy-two (72) hours after the visible emission and the sources are operating at normal conditions.

[45CSR13, Permit R13-1649, (Condition 4.2.3.), Emission Point ID (2401)]

- 5.2.4. The permittee will conduct inspection and/or preventive maintenance of the control devices C-49, C-196, C-370, C-405, and S-157 once every two years.

[45CSR§30-5.1.c., Emission Unit ID (C-49, C-196, C-370, C-405, and S-157)]

- 5.2.5. For the purpose of determining compliance with the opacity limits of 45CSR§7-3.1, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.

Monitoring shall be conducted at least once per month, with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed from an emission point subject to an opacity standard, Permittee may conduct visible emission checks or opacity monitoring once per calendar quarter for that emission point. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A within three (3) days of the first sign of visible emissions. A 45CSR7A evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.

[45CSR§30-5.1.c. Excludes Emission Point listed in Section 5.2.3.]

- 5.2.6. In order to demonstrate compliance with MON control requirements for hydrogen halide and halogen vents within 5.1.11, the permittee shall, when required per 5.1.11, monitor and record the following parameters and maintain scrubber flows above the minimum operating limits:

Emission Group	Control Equipment ID	Operating Limit Scrubber water flow gallons per min – (gpm)
204	K-2 Scrubber	>23
206	K-3 Scrubber	>40
207	K-4 Scrubber	>36

The operating limits summarized above were defined within the permittee's notification of compliance status report dated October 6, 2008. Upon submittal of a notification of process change as specified within §63.2520(e)(10) and a subsequent finding of compliance is made by the WVDAQ, the operating limits listed above may be revised as allowed under the Federal Regulation.

[40 C.F.R. §63.2465, 45CSR34, Emission Unit ID (C-49, C-370, and C-405)]

- 5.2.7. In order to demonstrate compliance with MON control requirements for storage tanks within 5.1.12, the permittee shall, when required per 5.1.12, monitor and record the following parameters and maintain scrubber flows above the minimum operating limits:

Emission Group / Tank ID(s)	Control Equipment ID	Operating Limit Scrubber Water Flow gallons per min – (gpm)
252 / T-596	S-272 Scrubber	> 0.30

The operating limits summarized above were defined within the permittee's notification of compliance status report dated October 6, 2008. Upon submittal of a notification of process change as specified within §63.2520(e)(10) and a subsequent finding of compliance is made by the WVDAQ, the operating limits listed above may be revised as allowed under the Federal Regulation.

[40 C.F.R. §63.2470, 45CSR34]

5.3. Testing Requirements

- 5.3.1 Stack testing will be performed upon the request of the Director per 45CSR§7-8.1.
[45CSR§7-8.1.]

5.4. Recordkeeping Requirements

- 5.4.1. *Record of Maintenance of Air Pollution Control Equipment.* For all pollution control equipment listed in Section 1.0 and identified as permitted in R13-1649, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, Permit R13-1649, (Condition 4.4.2)]

- 5.4.2. *Record of Malfunctions of Air Pollution Control Equipment.* For all air pollution control equipment listed in Section 1.0 and identified as permitted in R13-1649, 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 R13-1649, (Condition 4.4.3)]

- 5.4.3. The emission estimation models and calculation methodologies developed in Section 5.1.5, as well as production records for each calendar month, shall be maintained on-site, or readily accessible to the site, for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR13, Permit R13-1649, (Condition 4.4.4)]

- 5.4.4. Reserved.

- 5.4.5. The permittee shall maintain all records on-site, or readily accessible to the site, for a period of five (5) years, including quarterly emissions reports of emissions calculated by the method described in section 5.1.5. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his/her duly authorized representative upon request.

[45CSR13, Permit R13-1649, (Condition 4.4.5)]

- 5.4.6 **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 5.2.4, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR§30-5.1.c., Emission Unit ID (C-49, C-196, C-370, C-405 and S-157)]

- 5.4.7 **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 5.2.4, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment that results in emissions of an air pollutant in excess of an applicable standard. 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 estimated 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 malfunction.

[45CSR§30-5.1.c., Emission Unit ID (C-49, C-196, C-370, C-405 and S-157)]

- 5.4.8 The emission estimation models and calculation methodologies developed in Section 5.1.8, as well as production records for each calendar month shall be maintained onsite or readily accessible to the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR§30-5.1.c., 45CSR§7-3.1, 4.2., Emission Point ID (2001, 2005, 2402, 2509)]

- 5.4.9 The permittee shall maintain onsite or readily accessible to the site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 5.1.8., over a calendar year period. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request

[45CSR§30-5.1.c, 45CSR§7-3.1, 4.2., Emission Point ID (2001, 2005, 2402, 2509)]

5.5. Reporting Requirements

- 5.5.1. None

5.6. Compliance Plan

- 5.6.1. None

6.0 Polymers II [emission group ID(s): 301, 306, 307, 308, 313, 315, 337, 341, 344, 345, 348, 352, 353, 354, 355, 356]

6.1. Limitations and Standards

- 6.1.1 **Acetoxy Capper** Maximum emissions of volatile organic compounds from Emission Point Identification Number 3431 shall not exceed 0.127 pounds per hour or 0.556 tons per year.
[45CSR13, Permit R13-2030, (Condition A.1.), Emission Point ID (3431)]
- 6.1.2 **Acetoxy Capper** Maximum emissions of Hazardous Air Pollutants (HAPs), from Emission Point Identification Number 3431 shall not exceed 0.124 pounds per hour or 0.541 tons per year. This total HAP limit streamlines compliance with the NSR propionaldehyde limitation since the values are equivalent.
[45CSR13, Permit R13-2030, (Condition A.2.), 45CSR§30-12.7, Emission Point ID (3431)]
- 6.1.3 **Acetoxy Capper** Maximum emissions of volatile organic compounds from Emission Point Identification Number 3435 shall not exceed 0.151 pounds per hour or 0.032 tons per year.
[45CSR13, Permit R13-2030, (Condition A.3.), Emission Point ID (3435)]
- 6.1.4 **R-79** Emissions of volatile organic chemicals from emission point ID 3412 shall not exceed 1.77 tons per year.
[45CSR13, Permit R13-1748, (Condition 4.1.1.), Emission Point ID (3412)]
- 6.1.5. **R-79** Compliance with the emission limits set forth in 6.1.4 shall be demonstrated by calculating emissions from the Continuous SiH process using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA's TANKS 4.0, WATER9, etc.). When these emissions are calculated, each emission point listed in Section 1.0 and identified as permitted in R13-1748 with emissions of regulated air pollutants listed in Section 6.1.4 shall be included in the calculations and accounted for in the emission estimates. The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.
[45CSR13, Permit R13-1748, (Condition 4.1.2.), Emission Point ID (3412)]

6.1.6 **Methyl Capper Oxidizer** The emissions to the atmosphere from Emission Point ID No. 3020 shall not exceed the following:

Emission Point ID No.	Equipment ID No.	Pollutant	Allowable Emissions	
			pph	Tpy
3020	S-248-A	HCl	0.1	0.2
		Cl ₂	0.12	0.6
		NO _x	0.1	0.2
		CO	0.1	0.2
		PM ₁₀	0.01	0.01
		PM _{Total}	0.01	0.01
		VOC	1	4.6

[45CSR13, Permit R13-2180, (Condition 4.1.1.), Emission Point ID (3020)]

6.1.7 MON MACT. The permittee shall comply with the applicable control device standards of Subpart FFFF, as specified by 40 C.F.R. §63.2450(e).

[40 C.F.R. §63.2450(e), 45CSR34, Permit R13-2180, Condition 4.1.3., Control Equipment ID: E-2229-A, S-248]

6.1.8 **K-84** Vent emissions to the atmosphere from the K-84 Production Unit, shall not exceed the emission limitations set forth in Table 6.1.8.

Table 6.1.8. Emission Limits for the K-84 Production Unit

Pollutant	Emission Limit	
	pph	Tpy
VOC	6.8	0.32
THAP	4.18	0.223

[45CSR13, Permit R13-0952, (Condition 4.1.1.), Emission Point ID(s) (See Section 1.0 R13-0952 emission points)]

6.1.9 **K-84** During all periods of normal operations, process vent air emissions from the K-84 unit shall be routed to and controlled by their associated control devices prior to venting emissions to the atmosphere.

[45CSR13, Permit R13-0952, (Condition 4.1.2.), Emission Point ID(s) (See Section 1.0 R13-0952 emission points)]

- 6.1.10 **K-84** Compliance with the emission limits set forth in 6.1.8. shall be demonstrated by calculating emissions for every product in the K-84 Production Unit using ChemCAD®, Essential EHS (formally known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA’s TANKS 4.0, WATER9, etc.). When these emissions are calculated, each emission point listed in Section 1.0 and identified as permitted in R13-925 with emissions of regulated air pollutants listed in 6.1.8 shall be included in the calculations and accounted for in the emission estimates. The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.
[45CSR13, Permit R13-0952, (Condition 4.1.3.), Emission Point ID(s) (See Section 1.0 R13-0952 emission points)]
- 6.1.11 **K-84** *Operation and Maintenance of Air Pollution Control Equipment.* The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and identified as permitted in R13-0952, and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13, Permit R13-0952, (Condition 4.1.4.), Emission Unit ID(s) (S-192), Emission Point ID (3402)]
- 6.1.12 **MON MACT.** In order to demonstrate compliance with the continuous process vent standards of the MON, the permittee shall operate the thermal incinerator at or above 1840°F which was the minimum temperature established during the performance test of December 2007 or a minimum temperature established by the most recent performance test that documented compliance with emission limits.
[40 C.F.R. §63.2450(e), 45CSR34, 45CSR13, Permit R13-2180, Condition 4.1.4, Emission Point ID (3020)]
- 6.1.13 **MON MACT.** In order to demonstrate compliance with the applicable continuous process vent standards of Subpart FFFF, the permittee shall operate the water scrubber with a minimum makeup water flow rate at or above 7.9 gpm, which was the water flow rate established during the December 5, 2007 MON performance test or a minimum makeup water flow rate established by the most recent performance test that documented compliance with emission limits.
[40 C.F.R. §63.2450(e), 45CSR34, 45CSR13, Permit R13-2180, Condition 4.1.5, Emission Unit ID (S-248)]
- 6.1.14. **Methyl Capper Oxidizer** Emissions to the atmosphere from the Methyl Capper Thermal Oxidizer, Equipment ID No. E-2229 shall not exceed the emission limitations set forth in Table 6.1.14.

Table 6.1.14. Emission Limits for E-2229 (Methyl Capper Thermal Oxidizer)

Pollutant	Emission Limit lb/hr
PM ₁₀	0.20
Opacity	20%

[45CSR§§6-4.1 and 4.3, 45CSR13, Permit R13-2180, Condition 4.1.7, Emission Unit (E-2229)]

- 6.1.15. **45CSR7** Except as authorized by or pursuant to 45 CSR 7, emissions to the atmosphere from the following emission points subject to 45CSR7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations” shall not exceed the emission limitations set forth in

Table 6.1.15.

Table 6.1.15.

Emission Point ID	Pollutant	Emission Limit
3020	HCl	210 mg/m ³
3027	HCl	420 mg/m ³
	Opacity	20%
3030	HCl	210 mg/m ³
	Opacity	20%
3033	HCl	210 mg/m ³
	Opacity	20%
3034	HCl	420 mg/m ³
	Opacity	20%
3037	HCl	420 mg/m ³
	Opacity	20%
3043	HCl	420 mg/m ³
	Opacity	20%
3402	HCl	210 mg/m ³
	Opacity	20%

[45CSR§7-3.1, 4.2., Emission Point ID(s) (3020, 3027, 3030, 3033, 3034, 3037, 3043 and 3402)]
[45CSR13, Permit R13-2180, condition 4.1.8, Emission Point ID (3020)]

6.1.16 **45CSR7** Compliance with the concentration standards for HCl shall be demonstrated by calculating emissions from the emission points listed in Table 6.1.15 above, using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA’s TANKS 4.0, WATER9, etc.). The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.

[45CSR§30-5.1.c., Emission Point ID(s) 3020, 3027, 3030, 3033, 3034, 3037, 3043, and 3402]

6.1.17 MON MACT. The permittee shall comply with the applicable continuous process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2455.

[40 C.F.R. §63.2455, 45CSR34, 45CSR13, Permit R13-2180, Condition 4.1.2., Emission Point 3020]

6.1.18 MON MACT. The permittee shall comply with the applicable batch process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2460.

[40 C.F.R. §63.2460, 45CSR34]

6.1.19 MON MACT. The permittee shall comply with the applicable process vent standards for sources that emit hydrogen halide and halogen HAP or HAP metals of Subpart FFFF, as specified by 40 C.F.R. §63.2465.

[40 C.F.R. §63.2465, 45CSR34]

6.1.20 MON MACT. The permittee shall comply with the applicable transfer rack standards of Subpart FFFF, as specified by 40 C.F.R. §63.2475.

[40 C.F.R. §63.2475, 45CSR34]

6.1.21 *Reserved.*

6.1.22 MON MACT. The permittee shall comply with the equipment leak standards of Subpart FFFF, as specified by 40 C.F.R. §63.2480.

[40 C.F.R. §63.2480, 45CSR34]

6.1.23 MON MACT. The permittee shall comply with the applicable wastewater streams and liquid streams in open systems within an MCPU standards of Subpart FFFF as specified by 40 C.F.R. §63.2485.

[40 C.F.R. §63.2485, 45CSR34]

6.1.24. MON MACT. The permittee shall comply with Startup, Shutdown and Malfunction Plan requirements as specified by 40 C.F.R. 63.6, 40 C.F.R. §63.2450(a), and 40 C.F.R. §63.2525(j).

[40 C.F.R. §63.6, 40 C.F.R. §63.2450(a), and 40 C.F.R. §63.2525(j), 45CSR34, Permit R13-2180, Condition 4.1.6.]

6.2. Monitoring Requirements

6.2.1 **K-84** The permittee shall perform monitoring of all equipment parameters listed in Attachment D per the minimum data collection frequency and per the data averaging period as indicated.

[45CSR13, Permit R13-0952C, (Condition 4.2.1.), Emission Point ID (3402)]

6.2.2 Reserved

6.2.3 For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1 and 45CSR§6-4.3, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.

Monitoring shall be conducted at least once per month with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings point in which no visible emissions are observed from an emission point subject to an opacity standard, permittee may conduct visible emission checks or opacity monitoring once per calendar quarter. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission.

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A or Method 9 within three (3) days of the first sign of visible emissions. A 45CSR7A or Method

9 evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.

[45CSR§30-5.1.c.]

6.2.4 The permittee will conduct inspection and/or preventive maintenance of the control devices C-426, E-1442, S-192, and S-248 once every two years.

[45CSR§30-5.1.c., Emission Unit ID (C-426, E-1442, S-192, and S-248)]

6.2.5 **MON MACT.** The permittee shall comply with the applicable monitoring requirements of the MON MACT as specified by 40 C.F.R. §63.2450(e).

[40 C.F.R. §63.2450(e), 40 C.F.R. 63 Subpart SS, 45CSR34, 45CSR13, permit R13-2180, 4.2.1.]

6.2.6 **MON MACT.** The permittee shall continuously monitor the thermal incinerator temperature and scrubber water flow rate specified in Sections 6.1.12 and 6.1.13. Data values are to be measured at least once every 15 minutes as specified by 40 C.F.R. §63 Subpart SS.

[40 C.F.R. §63.2450(e), 40 C.F.R. 63 Subpart SS, 45CSR34, 45CSR13, permit R13-2180, 4.2.2.]

6.3. Testing Requirements

6.3.1 Stack testing will be performed upon the request of the Director per 45CSR§7-8.1.

[45CSR§7-8.1.]

6.3.2 **MON MACT.** The permittee shall comply with the applicable performance test requirements of the MON MACT as specified by 40 C.F.R. §63.2450(e).

[40 C.F.R. §63.2450(e), 40 C.F.R. 63 Subpart SS, 45CSR34, 45CSR13, permit R13-2180, 4.3.1.]

6.4. Recordkeeping Requirements

6.4.1 **K-84** The emission estimation models and calculation methodologies developed in Section 6.1.10, as well as production records for each calendar month shall be maintained onsite for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR13, Permit R13-0952, (Condition 4.4.4.), Emission Point ID (See Section 1.0 R13-0952 emission points)]

6.4.2 **K-84** The permittee shall maintain onsite for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 6.1.10., over a calendar year period, showing emission totals for all regulated air pollutants. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR13, Permit R13-0952, (Condition 4.4.5.), 45CSR§30-5.1.c., Emission Point ID (See Section 1.0 R13-0952 Emission Points)]

6.4.3 **K-84** Records of all monitoring data required by Section 6.2.1 shall be maintained onsite as follows:

a. All monitoring data required by Section 6.2.1, as specified in Attachment D, shall be maintained onsite for a period of no less than five (5) years. Such records may include strip charts, electronic data system records, and hand-written data forms. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

b. For each out-of-range occurrence of a monitoring parameter value for the averaging period specified in

Attachment D, records stating the starting date/time and duration of the control device's out-of-range alarm or reading, the cause of the out-of-range parameter, and any corrective actions taken, shall be maintained onsite for a period of no less than five (5) years from the date of monitoring, sampling, or measurement. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

- c. Missed readings for a monitoring parameter data element specified in Attachment D shall not exceed 5% of the total readings in a rolling consecutive twelve (12) month period, for each monitoring parameter data element. A twelve (12) month tabulation of missing readings for each monitoring parameter element shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
- d. In the event that an applicable rule or regulation (such as the MON MACT) requires monitoring more stringent than that required by Section 6.2.1, the more stringent provisions shall apply. Any such required monitoring data shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR13, Permit R13-0952, (Condition 4.4.6.), Equipment ID (S-192), Emission Point ID (3402)]

- 6.4.4 **K-84** The permittee shall keep and maintain accurate records stating the date of each control device's inspection and/or preventative maintenance activity, the results of the inspection and/or preventative maintenance activity, and any corrective actions taken. These records shall be maintained onsite for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR13, Permit R13-0952, (Condition 4.4.4.), Equipment ID (S-192)]
- 6.4.5. **R-79** The emission/discharge estimation models and calculation methodologies developed in Section 6.1.5., as well as production records for each calendar month shall be maintained on site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR13, Permit R13-1748, (Condition 4.4.4.), Equipment ID (Section 1.0 R13-1748 equipment)]
- 6.4.6. **R-79** The permittee shall maintain on site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 6.1.5 over a calendar year period, showing emission totals for the regulated air pollutants listed in Section 6.1.4. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CSR13, Permit R13-1748, (Condition 4.4.5.), 45CSR§30-5.1.c., Emission Point ID (3412)]
- 6.4.7. **K-84** *Record of Maintenance of Air Pollution Control Equipment.* For all pollution control equipment listed in Section 1.0 and identified as permitted in R13-0952, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit R13-0952, (Condition 4.4.2.)]
- 6.4.8. **K-84** *Record of Malfunctions of Air Pollution Control Equipment.* For all air pollution control equipment listed in Section 1.0 and identified as permitted in R13-0952, 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 R13-0952, (Condition 4.4.3.)]

- 6.4.9. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 6.2.4, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR§30-5.1.c., Emission Unit ID (C-426, E-1442, S-192, and S-248)]

- 6.4.10 **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 6.2.4, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment that results in emissions of an air pollutant in excess of an applicable standard. For each such case, the following information shall be recorded:

- i. The equipment involved.
- ii. Steps taken to minimize emissions during the event.
- iii. The estimated duration of the event.
- iv. The estimated increase in emissions during the event.

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

- v. The cause of the malfunction.
- vi. Steps taken to correct the malfunction.
- vii. Any changes or modifications to equipment or procedures that would help prevent future recurrences of malfunction.

[45CSR§30-5.1.c., Emission Unit ID (C-426, E-1442, S-192, and S-248)]

- 6.4.11 The emission estimation models and calculation methodologies developed in Section 6.1.16, as well as production records for each calendar month shall be maintained onsite or readily accessible to the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR§30-5.1.c, Emission Point ID (3020, 3027, 3030, 3033, 3034, 3037, 3043, and 3402)]

- 6.4.12 The permittee shall maintain onsite or readily accessible to the site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 6.1.16, over a calendar year period. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request
[45CSR§30-5.1.c, Emission Point ID (3020, 3027, 3030, 3033, 3034, 3037, 3043, and 3402)]
- 6.4.13. **MON MACT.** The permittee shall maintain the applicable records for MON MACT compliance as specified by 40 C.F.R. §63.2525.
[40 C.F.R. §63.2525, 40 C.F.R. §63.998, 45CSR34, 45CSR13, permit R13-2180, 4.4.4.]
- 6.4.14. **MON MACT.** The permittee shall maintain the applicable continuous records and daily averages for the thermal incinerator and water scrubber specified in sections 6.1.12 and 6.1.13, and as specified by 40 C.F.R. §63.998.
[40 C.F.R. §63.2525, 40 C.F.R. §63.998, 45CSR34, 45CSR13, permit R13-2180, 4.4.5.]
- 6.4.15. **MON MACT.** The permittee shall maintain records to demonstrate compliance with Startup, Shutdown and Malfunction Plan requirements set forth in Section 6.1.24.
[40 C.F.R. §63.6, 40 C.F.R. §63.2450(a), and 40 C.F.R. §63.2525(j), 45CSR34, 45CSR13, permit R13-2180, 4.4.6.]

6.5. Reporting Requirements

- 6.5.1 **K-84** If the permittee emits any HAPs other than those listed in Attachment E from the K-84 Production Unit, at an estimated annual emission rate of 50 ppy or greater, the permittee shall provide written notification to the Director of the Division of Air Quality within thirty (30) days of knowledge of such emission. This written notification shall include the potential to emit (in pph and tpy) for each new HAP species from each of the newly identified emission points or existing emission points listed in, Section 1.0 and identified as permitted in R13-0952, that emit HAP species.
[45CSR13, Permit R13-0952, (Condition 4.5.1.), Emission Point ID (See Section 1.0 R13-0952 emission points)]
- 6.5.2. **MON MACT.** The permittee shall comply with reporting requirements as specified by 40 C.F.R. §63.2520.
[40C.F.R. §63.2520, 45CSR34, 45CSR13, permit R13-2180, 4.5.1.]

6.6. Compliance Plan

- 6.6.1. None

7.0 New Product Development [emission group ID(s): 405, 409, 415, 416, 417, 418, 432]

7.1. Limitations and Standards

7.1.1. Except as authorized by or pursuant to 45 CSR 7, emissions to the atmosphere from the following emission points subject to 45CSR7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations” shall not exceed the emission limitations set forth in Table 7.1.1.

Table 7.1.1.

Emission Point ID	Pollutant	Emission Limit
4001	HCl	420 mg/m ³
	Opacity	20%
4002	HCl	420 mg/m ³
	Opacity	20%
4004	HCl	420 mg/m ³
	Opacity	20%
4006	HCl	420 mg/m ³
	Opacity	20%

[45CSR§7-3.1, 4.2., Emission Point ID(s) 4001, 4002, 4004 and 4006]

7.1.2. Compliance with the concentration standards for HCl shall be demonstrated by calculating emissions from the emission points listed in Table 7.1.1 above, using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA’s TANKS 4.0, WATER9, etc.). The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.

[45CSR§30-5.1.c., Emission Point ID(s) 4001, 4002, 4004 and 4006]

7.1.3. *Reserved.*

7.1.4. MON MACT. The permittee shall comply with the applicable batch process vent standards of Subpart FFFF, as specified by 40 C.F.R. §63.2460.

[40 C.F.R. §63.2460, 45CSR34]

7.1.5. MON MACT. The permittee shall comply with the applicable process vent standards for sources that emit hydrogen halide and halogen HAP or HAP metals of Subpart FFFF, as specified by 40 C.F.R. §63.2465.

[40 C.F.R. §63.2465, 45CSR34, Emission Group 405]

7.1.6 MON MACT. The permittee shall comply with the equipment leak standards of Subpart FFFF, as specified by 40 C.F.R. §63.2480.

[40 C.F.R. §63.2480, 45CSR34]

7.1.7 MON MACT. The permittee shall comply with the applicable wastewater streams and liquid streams in open systems within an MCPU standards of Subpart FFFF as specified by 40 C.F.R. §63.2485.

[40 C.F.R. §63.2485, 45CSR34]

7.1.8 MON MACT. The permittee shall comply with the applicable heat exchanger system standards of Subpart FFFF, as specified by 40 C.F.R. §63.2490.

[40 C.F.R. §63.2490, 45CSR34, Emission Groups 415, 432]

7.2. Monitoring Requirements

7.2.1. The permittee will conduct inspection and/or preventive maintenance of the control devices C-65,S-75, C-80, and C-448 once every two years.

[45CSR§30-5.1.c., Emission Unit ID (C-65, S-75, C-80, C-448)]

7.2.2. For the purpose of determining compliance with the opacity limits of 45CSR§7-3.1, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.

Monitoring shall be conducted at least once per month, with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed from an emission point subject to an opacity standard, Permittee may conduct visible emission checks or opacity monitoring once per calendar quarter for that emission point. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A within three (3) days of the first sign of visible emissions. A 45CSR7A evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.

[45CSR§30-5.1.c.]

- 7.2.3 In order to demonstrate compliance with MON control requirements for halogenated process vents within 7.1.5 the permittee shall, when required per 7.1.5, monitor and record the following parameters and maintain scrubber flows above the minimum operating limits:

Emission Group	Control Equipment ID	Operating Limit Scrubber Water Flow gallons per min – (gpm)
405	K-18 Scrubber	> 7.0

The operating limits summarized above were established within the permittee's notification of compliance status report dated October 6, 2008. Upon submittal of a notification of process change as specified within §63.2520(e)(10) and a subsequent finding of compliance is made by the WVDAQ, the operating limits listed above may be revised as allowed under the Federal Regulation.

[40 C.F.R. §63.2465, 45CSR34, Emission Unit ID (C-65)]

7.3. Testing Requirements

- 7.3.1 Stack testing will be performed upon the request of the Director per 45CSR§7-8.1.
[45CSR§7-8.1.]

7.4. Recordkeeping Requirements

- 7.4.1 **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 7.2.1, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR§30-5.1.c., Emission Unit ID (C-65, C-75, C-80, C-448)]

- 7.4.2 **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 7.2.1, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment that results in emissions of an air pollutant in excess of an applicable standard. 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 estimated 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 malfunction.

[45CSR§30-5.1.c., Emission Unit ID (C-65, C-75, C-80, C-448)]

- 7.4.3 The emission estimation models and calculation methodologies developed in Section 7.1.2, as well as production records for each calendar month shall be maintained onsite or readily accessible to the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR§30-5.1.c, Emission Point ID (4001, 4002, 4004, and 4006)]

- 7.4.4 The permittee shall maintain onsite or readily accessible to the site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 7.1.2., over a calendar year period. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request

[45CSR§30-5.1.c, Emission Point ID (4001, 4002, 4004, and 4006)]

7.5. Reporting Requirements

- 7.5.1. None

7.6. Compliance Plan

- 7.6.1. None

8.0 Distribution [emission group ID(s): 577, 578, 585, 586]

8.1. Limitations and Standards

- 8.1.1 Except as authorized by or pursuant to 45 CSR 7, emissions to the atmosphere from the following emission points subject to 45CSR7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations” shall not exceed the emission limitations set forth in Table 8.1.1.

Table 8.1.1.

Emission Point ID	Pollutant	Emission Limit
5074	HCl	420 mg/m ³
	Opacity	20%

[45CSR§7-3.1, 4.2., Emission Point ID(s) 5074]

- 8.1.2. Compliance with the concentration standards for HCl shall be demonstrated by calculating emissions from the emission points listed in Table 8.1.1 above, using ChemCAD®, Essential EHS (formerly known as PlantWare®), or Emission Master®, emission modeling software, or other appropriate emission estimation models or calculation methodologies (e.g., USEPA’s TANKS 4.0, WATER9, etc.). The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems it appropriate and necessary.

[45CSR§30-5.1.c., Emission Point ID(s) 5074]

8.2. Monitoring Requirements

- 8.2.1. The permittee will conduct inspection and/or preventive maintenance of the control device S-169 once every two years.
[45CSR§30-5.1.c., Emission Unit ID (S-169)]
- 8.2.2. For the purpose of determining compliance with the opacity limits of 45CSR§7-3.1, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.

Monitoring shall be conducted at least once per month, with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed

from an emission point subject to an opacity standard, Permittee may conduct visible emission checks or opacity monitoring once per calendar quarter for that emission point. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A within three (3) days of the first sign of visible emissions. A 45CSR7A evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.

[45CSR§30-5.1.c.]

8.3. Testing Requirements

8.3.1. Stack testing will be performed upon the request of the Director per 45CSR§7-8.1.

[45CSR§7-8.1.]

8.4. Recordkeeping Requirements

8.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 8.2.1, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR§30-5.1.c., Emission Unit ID (S-169)]

8.4.2. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 8.2.1, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment that results in emissions of an air pollutant in excess of an applicable standard. 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 estimated 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 malfunction.

[45CSR§30-5.1.c., Emission Unit ID (S-169)]

- 8.4.3 The emission estimation models and calculation methodologies developed in Section 8.1.2, as well as production records for each calendar month shall be maintained onsite or readily accessible to the site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR§30-5.1.c, Emission Point ID (5074)]

- 8.4.4 The permittee shall maintain onsite or readily accessible to the site for a period of five (5) years a tabulation of actual emissions generated using those methods specified in Section 8.1.2., over a calendar year period. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request

[45CSR§30-5.1.c, Emission Point ID (5074)]

8.5. Reporting Requirements

- 8.5.1. None

8.6. Compliance Plan

- 8.6.1. None

9.0 Environmental Protection [emission group ID(s): 601, 651]

9.1. Limitations and Standards

9.1.1. Emissions from the Wastewater Air Strippers (“Air Strippers”) released to the atmosphere through Emission Points 6011 and 6012 shall not exceed the emission limitations set forth in Table 9.1.1.

Table 9.1.1. – Total Combined Emission Limits for Emission Points 6011 and 6012

Pollutant	Emission Limits	
	Hourly (pph)	Annual (tpy)
Ethyl Chloride	2.7	7.9
Methyl Chloride	2.7	3.5
Toluene	2.7	4.9
VOC ¹	12.8	21.2

1 – As described in Sections 9.2.1. and 9.2.3.

[45CSR13, Permit R13-1746, (Condition 4.1.1.), Emission Point ID (6011, 6012)]

9.1.2. As used herein, “process upset or accidental spills” shall be defined as an event that necessitates the use of the purge blowers due to elevated VOC concentrations in the wastewater treatment unit UNOX bioreactor units.

[45CSR13, Permit R13-1746, (Condition 4.1.2.), Emission Point ID (6011, 6012)]

9.1.3. Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 as permitted by R13-1746 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR13, Permit R13-1746, (Condition 4.1.3.)]

9.2. Monitoring Requirements

9.2.1. During normal operations of the Air Strippers, the permittee shall be required to conduct, or have conducted, monitoring for pollutants as required by the facility’s National Pollutant Discharge Elimination System (NPDES) permit, to determine the Air Strippers’ inlet and outlet wastewater concentrations of regulated pollutants; and to determine wastewater flow rates, in order to determine emissions to the

atmosphere resulting from the operation of the Air Strippers. NPDES required monitoring for specific pollutants is required on weekly, quarterly, or annual bases, depending on the likelihood of the presence of each pollutant. The emissions of these pollutants shall be calculated using the difference between the inlet and outlet concentrations of each monitored pollutant and the wastewater flow rate.

Compliance with the hourly emission limits of Table 9.1.1. shall be determined by the calendar monthly average of monitoring results for those pollutants – both speciated and/or belonging to the class of pollutants VOC – that are monitored on a weekly basis. A calendar monthly average shall mean an average of the weekly monitoring conducted in a calendar month during normal operations.

[45CSR13, Permit R13-1746, (Condition 4.2.1.), Emission Point ID (6011, 6012)]

- 9.2.2. In the event of process upsets or accidental spills that affect emissions from the wastewater treatment system, the monitoring described in 9.2.1., that is conducted on a weekly basis, shall be performed within six (6) hours of the initial determination of process upsets or accidental spills, and shall be repeated every six (6) hours until such abnormal conditions are corrected.

[45CSR13, Permit R13-1746, (Condition 4.2.2.), Emission Point ID (6011, 6012)]

- 9.2.3. The permittee shall demonstrate compliance with the annual emission limits set forth in Table 9.1.1. by calculating the sum of emissions described in Sections 9.2.3.a., 9.2.3.b., and 9.2.3.c., over a calendar year.

a. The total emissions for each defined week during which no process upsets or accidental spills occurred, calculated using the results of all the weekly concentration analyses and monthly average flow results conducted in accordance with 9.2.1. of this permit, and

b. The total emissions occurring during each defined week during which a process upset or accidental spill occurred, calculated using a time-weighted average of the monitoring conducted in accordance with 9.2.1. and 9.2.2., and

c. The total emissions of those pollutants – both speciated and/or belonging to the class of pollutants VOC – that are monitored on a quarterly or annual basis, using average flow results for the corresponding period.

[45CSR13, Permit R13-1746, (Condition 4.2.3.), Emission Point ID (6011, 6012)]

9.3. Testing Requirements

- 9.3.1. *[Reserved]*

9.4. Recordkeeping Requirements

- 9.4.1. The permittee shall prepare, on a monthly basis, an emissions summary of the results of the monitoring required under Sections 9.2.1., 9.2.2., and 9.2.3. of this permit. The emission summary shall include all information obtained from the monitoring required under this permit.

[45CSR13, Permit R13-1746, (Condition 4.4.4.), Emission Point ID (6011, 6012)]

- 9.4.2. The permittee shall maintain all records on-site, or readily accessible to the site, for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his/her duly authorized representative upon request.

[45CSR13, Permit R13-1746, (Condition 4.4.5.), Emission Point ID (6011, 6012)]

9.5. Reporting Requirements

- 9.5.1. The permittee shall report to the Director any noncompliance with the emission limits under Table 9.1.1. In addition, the permittee shall report any process upset or accidental spills to the wastewater treatment facility which result in a violation of any of the applicable emission limits set forth in Table 9.1.1. of this permit. Such reports shall be made within five (5) business days to the DAQ by telephone or telefax. A written report of any such exceedance or accidental spill shall be submitted to the DAQ within ten (10) days of the permittee becoming aware of the exceedance or spill. Such written report shall include the probable cause of such exceedance or spill and any corrective actions or preventative measures taken.
[45CSR13, Permit R13-1746, (Condition 4.5.1.), Emission Point ID (6011, 6012)]

9.6. Compliance Plan

- 9.6.1. None

10.0 Rotary Kiln Incinerator [emission group ID(s): 901]

10.1. Limitations and Standards

10.1.1. The permittee shall comply with all applicable requirements of 40 C.F.R. 63 Subpart EEE “National Emission Standard for Hazardous Air Pollutants from Hazardous Waste Combustors”. The enumerated requirements that follow address specific obligations taken from applicable sections of this regulation. However, the permittee shall comply with the hazardous waste combustor MACT as referenced above in its entirety, which includes the specific requirements listed within this section of the Title V permit. In addition, the Permittee shall comply with applicable sections of 40 C.F.R. Part 63, Subpart A.

[45CSR34, 40 C.F.R. 63, Subpart EEE]

10.1.2. **Compliance with standards** The emission standards and operating requirements set forth in Section 10.1 apply at all times except as provided in §63.1206(b)(1)(i) and §63.1206(b)(1)(ii).

[45CSR34, 40 C.F.R. §63.1206(b)(1) Emission Unit E-10032]

10.1.3. **Emission Limits** The permittee shall comply with the Replacement Standards for Hazardous Waste Incinerators established within 40 C.F.R. §63.1219(a)(1-7), as follows:

(a) The Permittee must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) (Not applicable)

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen, for incinerators not equipped with either a waste heat boiler or dry air pollution control system;

(2) Mercury in excess of 130 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 230 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 92 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

- (i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If the permittee elects to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph 40 C.F.R. §63.1203(a)(5)(ii), the permittee must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or
- (ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;
- (6) Hydrogen chloride and chlorine gas in excess of 32 parts per million by volume, combined emissions, expressed as a chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen; and
- (7) Particulate matter in excess of 0.013 gr/dscf corrected to 7 percent oxygen.

Alternatively, the permittee may comply with the alternative to the particulate matter standard for incinerators per 40 C.F.R. §63.1219(e)(2).

(e) (2) **Alternative metal emission control requirements for existing incinerators.**

- (i) The permittee must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 230 µgm/dscm, combined emissions, corrected to 7 percent oxygen; and,
- (ii) The permittee must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 92 µgm/dscm, combined emissions, corrected to 7 percent oxygen.

[45CSR34, 40 C.F.R. §§63.1219(a)(1-7), 40 C.F.R. §63.1219(e)(2), Emission Point ID (9001)]

10.1.4. **Destruction and removal efficiency** Except as authorized by law or regulation, the permittee shall comply with the Replacement Standards for Hazardous Waste Incinerators established within 40 C.F.R. §§63.1219(c)(1) and (3):

(c) *Destruction and removal efficiency (DRE) standard.*

- (1) *99.99% DRE.* , The permittee must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. The permittee must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} / W_{in})] \times 100\%$$

Where:

W_{in} = mass feedrate of one principal organic hazardous constituent (POHC) in a waste

feedstream; and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(3) *Principal organic hazardous constituents (POHCs).*

- (i) The permittee must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that the permittee specifies under paragraph 40 C.F.R. 63.1219(c)(3)(ii) to the extent required by paragraph 40 C.F.R. §63.1219(c)(1) and (c)(2).
- (ii) The permittee must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in the permittee’s hazardous waste feedstream. The permittee must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

[45CSR34, 40 C.F.R. §§63.1219(c)(1) and (3), Emission Point ID (9001)]

10.1.5. **Operating Parameter Limits** For the purpose of ensuring compliance with the emission standards of sections 10.1.3 and 10.1.4, the following operating parameter limits (OPLs) established during the Documentation of Compliance shall be maintained, except as authorized by law:

From Section 6 of the May 2009 Notification of Compliance (Modified based on testing from September 2014)

Parameter	OPL	Averaging Period *	Emission Standard
Minimum Combustion Temperature	1613°F	HRA	DRE and D/F
Maximum Combustion Chamber Pressure	0.03Inches W.C.	Sustained for 1 second	Fugitives
Maximum Combustion Gas Flow Rate	12,218 scfm	HRA	DRE, D/F, HCl/Cl ₂ , SVM, LVM and PM
Maximum Pumpable Waste Feed Rate	3,112 lb/hr	HRA	DRE and D/F
Maximum Total Hazardous Waste Feed Rate	3,358 lb/hr	HRA	DRE and D/F
Maximum Ash Feed Rate	503 lb/hr	4-HRA	PM
Maximum Total Chlorine and Chloride Feed Rate	589 lb/hr	4-HRA	SVM, LVM, and HCl/Cl ₂
Maximum Mercury Feed Rate	0.0019 lb/hr	4-HRA	Mercury
Maximum SVM Feed Rate	0.35 lb/hr	4-HRA	SVM
Maximum Total LVM feed rate	0.63 lb/hr	4-HRA	LVM
Maximum Pumpable LVM feed rate	0.54 lb/hr	4-HRA	LVM
Maximum Hazardous Waste Viscosity	100 cP	None	DRE

Parameter	OPL	Averaging Period *	Emission Standard
Minimum Air Atomization Pressure	90 psig	None	DRE
Minimum Steam Atomization Pressure	80 psig	None	DRE
CO Concentration	100 ppmv	HRA	DRE
Minimum Combustion Gas Flow Rate	9,000 scfm	4-HRA	Mercury
Minimum Make-up Water Flow Rate for Ionizing Wet Scrubber (IWS)	8.4 gpm	HRA	PM
Minimum Sump Level for IWS – Stage 3	49% level	HRA	PM
Minimum Total Power Input to IWS – sum of stages 1, 2, and 3	5,476kVma	HRA	PM
Minimum Pressure Drop Across the IWS	0.24 inches W. C.	HRA	HCl/Cl ₂
Minimum IWS – Stage 3 pH	2.6 pH	HRA	HCl/Cl ₂
Minimum IWS Scrubber Water Flow Rate to Gas Flow Rate Ratio	54gpm/1000 scfm	HRA	HCl/Cl ₂
Minimum Pressure Drop Across the Counter Current Scrubber (CCS)	0.18 Inches W.C.	HRA	HCl/Cl ₂
Minimum CCS Scrubber Water Flow Rate to Gas Flow Rate Ratio	33gpm/1000 scfm	HRA	HCl/Cl ₂
Minimum Pressure Drop Across the Cross Flow Scrubber (CFS)	0.24 Inches W.C.	HRA	HCl/Cl ₂
Minimum CFS-Stage 2 Recirculation Stream pH	8.9 pH	HRA	HCl/Cl ₂
Minimum CFS Scrubber Water Flow Rate to Gas Flow Rate Ratio	34gpm/1000 scfm	HRA	HCl/Cl ₂

* **HRA: Hourly Rolling Average; 4-HRA: 4-Hour Rolling Average**
[45CSR34, 40 C.F.R. §63.1206(c)(1)(v), Emission Point ID (9001)]

10.1.6. The permittee must prepare a startup, shutdown, malfunction plan in accordance with 40 C.F.R. §63.1206(c)(2).
[45CSR34, 40 C.F.R. § 63.6(e)(3), 40 C.F.R. § 63.1206(c)(2), Emission Unit E-10032]

10.1.7. **Automatic Waste Feed Cutoffs** The permittee shall operate the rotary kiln incinerator with a functioning system that immediately and automatically cuts off the hazardous waste feed when operating parameter limits are exceeded or emission standards monitored by a CEMS are exceeded. The permittee has the option of ramping down waste feed in certain circumstances in accordance with 40 C.F.R. §63.1206(c)(3)(viii). An immediate and automatic cutoff shall also be triggered when the span value of any continuous process monitor is exceeded. Any malfunctions of the monitoring equipment or automatic waste feed cutoff system shall also initiate an immediate and automatic cutoff of hazardous waste feed. These specific cutoffs are listed as follows:

Automatic Cutoff of Hazardous Waste Feed Parameter	Cutoff Trigger	Cutoff Reason
Combustion Chamber Outlet Temperature	<1613°F	OPL
Combustion Gas Flow Rate (Maximum)	>12,218 scfm	OPL
Combustion Gas Flow Rate (Minimum)	<9000 scfm	OPL
Pumpable Waste Feed Rate	>3,112 lb/hr	OPL
Total Waste Feed Rate	>3,358 lb/hr	OPL
Stack CO Concentration	≥100ppmv	CEMS Emission Standard
Air Atomization Pressure	<90 psig	OPL
Steam Atomization Pressure	<80 psig	OPL
Mercury Feed Rate	>0.0019 lb/hr	OPL
Ionizing Wet Scrubber (IWS) Stage 3 Make-up Water Flow Rate	<8.4 gpm	OPL
IWS Stage 3 – Sump Level	<49 %	OPL
IWS Power Input	<5.476 kWma	OPL
IWS Stage 3 – pH	<2.6pH	OPL
IWS Scrubber Water Flow Rate to Gas Flow Rate Ratio	<54 gpm/ 1000 scfm	OPL
Ash Feed Rate	>503 lb/hr	OPL
Total LVM Feed Rate	>0.63 lb/hr	OPL
Pumpable LVM Feed Rate	>0.54 lb/hr	OPL
Total SVM Feed Rate	>0.35 lb/hr	OPL
Chlorine And Chloride Feed Rate	>589 lb/hr	OPL
Pressure Drop Across the Counter Current Scrubber (CCS)	<0.18 inches W.C.	OPL
CCS Scrubber Water Flow Rate to Gas Flow Rate Ratio	<33 gpm/ 1000 scfm	OPL
Pressure Drop Across the Cross Flow Scrubber (CFS)	<0.24 inches of W.C.	OPL
CFS – Stage 2 Recirculation Stream pH	<8.9pH	OPL
CFS Scrubber Water Flow Rate to Gas Flow Rate Ratio	<33 gpm/ 1000 scfm	OPL
Combustion Chamber Pressure	>0.03inches W. C.	OPL

[45CSR34, 40 C.F.R. §63.1206(c)(3), Emission Point ID (9001)]

10.1.8. The permittee shall develop, implement, and maintain an emergency safety vent (ESV) operating plan in accordance with 40 C.F.R. §63.1206(c)(4):

[45CSR34, 40 C.F.R. §63.1206(c)(4), Emission Point ID (9001)]

10.1.9. The permittee shall adhere to the combustion system leak provisions listed within 40 C.F.R. §63.1206(c)(5).

[45CSR34, 40 C.F.R. §63.1206(c)(5), Emission Point ID (9001)]

10.1.10. The permittee shall develop and maintain an operator training and certification program in accordance with 40 C.F.R. §63.1206(c)(6). Records pertaining to the operator training and certification program shall be documented within the operating record.

[45CSR34, 40 C.F.R. §63.1206(c)(6), Emission Point ID (9001)]

10.1.11. The permittee shall implement and maintain an operation and maintenance plan as specified by 40 C.F.R. §63.1206(c)(7).

[45CSR34, 40 C.F.R. §63.1206(c)(7), Emission Point ID (9001)]

- 10.1.12. The permittee must develop and implement a feed stream analysis plan and record it in the operating record in accordance with 40 C.F.R. §63.1209(c)(2).
[45CSR34, 40 C.F.R. §63.1209(c)(2)]
- 10.1.13. The permittee must prepare a continuous monitoring system (CMS) performance evaluation plan in accordance with 40 C.F.R. §63.8(d)(2) & Appendix to 40 C.F.R. 63, Subpart EEE “Quality Assurance Procedures for Continuous Emissions Monitors Used for Hazardous Waste Combustors”.
[45CSR34, 40 C.F.R. §63.8(d)(2) & Appendix to 40 C.F.R. 63, Subpart EEE]
- 10.1.14. No person shall cause, suffer, allow or permit the emission of particulates of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.
[45CSR§6- 4.5, Emission Unit E-10032]
- 10.1.15. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emissions of objectionable odors.
[45CSR§6- 4.6, Emission Unit E-10032]
- 10.1.16. No person shall cause suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater. Compliance with 10.1.3(a)(7) ensures compliance with this standard.
[45CSR§6- 4.3, Emission Unit E-10032]
- 10.1.17. The provisions of 10.1.16 shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up or six (6) minutes in any sixty (60) minute period for stoking operations. Compliance with 10.1.3(a)(7) ensures compliance with this standard.
[45CSR§6-4.4, Emission Unit E-10032]
- 10.1.18. The permittee shall comply with the changes in design, operation or maintenance provisions in accordance with 40 C.F.R. §63.1206(b)(5)
[45CSR34, 40 C.F.R. §63.1206(b)(5)]

10.2. Monitoring Requirements

- 10.2.1. The permittee shall install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) for CO and O₂ in accordance with 40 C.F.R. §63.1209(a).
[45CSR34, 40 C.F.R. §63.1209(a), Emission Point ID (9001)]
- 10.2.2. The permittee shall comply with the other continuous monitoring systems (CMS) requirements of 40 C.F.R. §63.1209(b).
[45CSR34, 40 C.F.R. §63.1209(b), Emission Point ID (9001)]
- 10.2.3. The permittee shall comply with the feed steam analysis requirements of 40 C.F.R. §63.1209(c).
[45CSR34, 40 C.F.R. §63.1209(c), Emission Point ID (9001)]
- 10.2.4. The permittee shall comply with the performance evaluation requirements of 40 C.F.R. §63.1209(d).
[45CSR34, 40 C.F.R. §63.1209(d), Emission Point ID (9001)]

10.2.5. The permit shall comply with the operation and maintenance of continuous monitoring systems in accordance with 40 C.F.R. §63.1209(f).
[45CSR34, 40 C.F.R. §63.1209(f), Emission Point ID (9001)]

10.2.6. The permittee shall comply with the monitoring provisions identified in the Documentation of Compliance Table 6.1 and provided in Section 10.1.5.
[45CSR34, 40 C.F.R. §63.1209 (j), (k), (n), (o) and (p), and 40 C.F.R. §63.1207(m)(4)(i); Emission Unit E-10032]

10.2.7. For the purpose of determining compliance with the opacity limits of 45CSR§6-4.3, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit. The opacity monitoring shall include visual emission checks, as described below, for all emission points subject to an opacity limit contained within this section.

Monitoring shall be conducted at least once per month with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings point in which no visible emissions are observed from an emission point subject to an opacity standard, permittee may conduct visible emission checks or opacity monitoring once per calendar quarter. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), or at any other time, then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 22, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval, but no less than one (1) minute, to determine if there is a visible emission.

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of Method 9 within three (3) days of the first sign of visible emissions. A Method 9 evaluation shall not be required if the visible emission condition is corrected within three (3) days after the visible emission and the sources are operating at normal conditions.
[45CSR§30-5.1.c]

10.3. Testing Requirements

10.3.1. The permittee shall adhere to the frequency of testing requirements in accordance with 40 C.F.R. § 63.1207(d).
[45CSR34, 40 C.F.R. §§63.1207(d), Emission Point ID (9001)]

10.4. Recordkeeping Requirements

10.4.1. *Calculation of hazardous waste residence time.* The permittee must maintain a copy of the calculation of the hazardous waste residence time for the rotary kiln incinerator and include the calculation in the operating record.
[45CSR34, 40 C.F.R. §63.1206(b)(11)]

- 10.4.2. The permittee must keep a copy of all data recorded by continuous monitoring systems (CMS) (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods) and copies of all notification, reports, plans and other documents submitted to the Administrator in a form suitable and readily available for expeditious inspection and review.
[45CSR34, 40 C.F.R. §63.10(b) & (c)]
- 10.4.3. The permittee must maintain a record of changes that will not adversely affect compliance with the emission standards or operating requirements, and must document the change upon making such change.
[45CSR34, 40 C.F.R. §63.1206(b)(5)(ii)]
- 10.4.4. The permittee must maintain a copy of the Start-up, Shutdown, and Malfunction (SSM) Plan on site.
[45CSR34, 40 C.F.R. §63.1206(c)(2)(iv)]
- 10.4.5. The permittee shall keep a copy of any documentation of investigation and evaluation of excessive exceedences during malfunctions.
[45CSR34, 40 C.F.R. §63.1206(c)(2)(v)(A)(3)(ii)]
- 10.4.6. The permittee shall keep a copy of any documentation of investigation and corrective measures taken for any automatic waste feed cutoffs that result in an exceedance of an emission standard or operating parameter limit.
[45CSR34, 40 C.F.R. §63.1206(c)(3)(v)]
- 10.4.7. The permittee shall keep a copy of any documentation and results of the automatic waste feed cutoff operability testing.
[45CSR34, 40 C.F.R. §63.1206(c)(3)(vii)]
- 10.4.8. The permittee shall keep a copy of the Operator Training and Certification program.
[45CSR34, 40 C.F.R. §63.1206(c)(6)(vii)]
- 10.4.9. The permittee shall keep a copy of the Operation and Maintenance (O&M) Plan.
[45CSR34, 40 C.F.R. §63.1206(c)(7)(i)(D)]
- 10.4.10. The permittee shall keep a copy of the Feedstream Analysis Plan.
[45CSR34, 40 C.F.R. §63.1209(c)(2)]
- 10.4.11. The permittee shall adhere to the Recordkeeping Requirements for Continuous Monitoring Systems provided in 40 C.F.R. §63.10(c).
[45CSR34, 40 C.F.R. §63.10(c)]
- 10.4.12. The permittee shall record the Emergency Safety Vent operating plan in the operating record as specified in 40 C.F.R. §63.1206(c)(4)(ii)(A).
[45CSR34, 40 C.F.R. §63.1206(c)(4)(ii)(A)]
- 10.4.13. The permittee shall record the corrective measures for any emergency safety vent opening in the operating record as specified in 40 C.F.R. §63.1206(c)(4)(iii).
[45CSR34, 40 C.F.R. §63.1206(c)(4)(iii)]

10.5. Reporting Requirements

- 10.5.1. The permittee shall comply with the applicable reporting requirements summarized in 40 C.F.R. §63.1211(a).
[45CSR34, 40 C.F.R. §63.1211(a)]

10.6. Compliance Plan

- 10.6.1. None

11.0 Energy Systems, Boilers and Reciprocating Internal Combustion Engines [emission group ID(s): 649, 949, 955, 956]

11.1 Limitations and Standards

11.1.1. No person shall cause, suffer, allow, or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

[45CSR13, Permit R13-2806, (Condition 4.1.3.), 45CSR§2-3.1, Emission Point ID (9055 and 9056)]

11.1.2. No person shall cause, suffer, allow, or permit the discharge of particulate matter into the open air from the following fuel burning units located at one plant, measured in terms of pounds per hour in excess of the amount determined as follows:

For Type 'b' fuel burning units, the product of 0.09 and the total design heat inputs for such units in million BTUs per hour, provided however that no more than six hundred (600) pounds per hour of particulate matter shall be discharged into the open air from all such units.

Emission Point ID	Emission Unit ID	Heat Input (MM Btu/hr)	PM Limit (lb/hr)	45CSR§2-4.1.b PM Limit (lb/hr)
9055	955	≤99	1.0 ^a	8.9 ^b
9056	956	99	N/A	8.9 ^b

^a Compliance with a permitted PM₁₀ emission limit of 1.0 pounds per hour, as specified in Condition 4.1.1 of R13-2806, will ensure compliance with the less stringent limit of 8.9 pounds per hour specified in 45CSR§2-4.1.b.

^bCompliance with the requirement to use “pipeline quality natural gas” specified in conditions 4.1.1.b and 4.1.2.c of R13-2806 will ensure compliance with this limit.

[45CSR13, Permit R13-2806, (Condition 4.1.1.), 45CSR§2-4.1, Emission Point ID (9055 and 9056)]

11.1.3. The visible emission standards set forth in 45CSR§2-3 shall apply at all times except in periods of start-ups, shutdowns, and malfunctions. Where the Director believes that start-ups and shutdowns are excessive in duration and/or frequency, the Director may require an owner or operator to provide a written report demonstrating that such frequent start-ups and shutdowns are necessary.

[45CSR§2-9.1, Emission Point ID (9055 and 9056)]

11.1.4. At all times, including periods of start-ups, shutdowns, and malfunctions, owners and operators shall, to the extent practicable, maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, visible emission observations, review of operating and maintenance procedures, and inspection of the source.

[45CSR§2-9.2, Emission Point ID (9055 and 9056)]

11.1.5. The owner or operator of a fuel burning unit(s) subject to 45CSR2 shall report to the Director any malfunction of such unit or its air pollution control equipment which results in any excess particulate matter emission rate or excess opacity (i.e., emissions exceeding the standards in 45CSR§§2-3 and 4) as provided in one of the following subdivisions:

- a. Excess opacity periods meeting the following conditions may be reported on a quarterly basis unless otherwise required by the Director:
 1. The excess opacity period does not exceed thirty (30) minutes within any 24-hour period; and
 2. Excess opacity does not exceed 40%.

- b. The owner or operator shall report to the Director any malfunction resulting in excess particulate matter or excess opacity, not meeting the criteria set forth in 11.1.5.a. above, by telephone, telefax, or e-mail by the end of the next business day after becoming aware of such condition. The owner or operator shall file a certified written report concerning the malfunction with the Director within thirty (30) days providing the following information:
 1. A detailed explanation of the factors involved or causes of the malfunction;
 2. The date and time of duration (with starting and ending times) of the period of excess emissions;
 3. An estimate of the mass of excess emissions discharged during the malfunction period;
 4. The maximum opacity measured or observed during the malfunction;
 5. Immediate remedial actions taken at the time of the malfunction to correct or mitigate the effects of the malfunction; and
 6. A detailed explanation of the corrective measures or program that will be implemented to prevent a recurrence of the malfunction and a schedule for such implementation.

[45CSR§2-9.3, Emission Point ID (9055 and 9056)]

11.1.6. Total Allowable Emission Rates for Similar Units in Priority I and Priority II Regions – No person shall cause, suffer, allow or permit the discharge of sulfur dioxide into the open air from all stacks located at one plant, measured in terms of pounds per hour, in excess of the amount determined as follows:

- a. For Type 'b' and Type 'c' fuel burning units, the product of 3.1 and the total design heat inputs for such units discharging through those stacks in million BTU's per hour

Emission Point ID	Emission Unit ID	Heat Input (MM Btu/hr)	45CSR§10-3.1.e SO ₂ Limit (lb/hr)
9055	955	≤99	306.9 ^a
9056	956	99	306.9 ^a

^a Compliance with the requirement to use “pipeline quality natural gas” specified in conditions 4.1.1.b and 4.1.2.c of R13-2806 will ensure compliance with this limit.

[45CSR§10-3.1.e]

11.1.7. The following conditions and requirements are specific to Boiler #5 (ID# 955):

- a. Emissions from Boiler #5 shall not exceed the following:

Pollutant	Pounds per Hour (lb/hr)	Tons per Year (TPY)
NO _x	3.6	15.61
CO	3.8	16.26
VOC	0.4	1.73
PM ₁₀	1.0	4.04

Total Organic HAPs	0.2	0.80
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Compliance with a permitted PM₁₀ emission limit of 1.0 pounds per hour will ensure compliance with the less stringent limit of 8.9 pounds per hour specified in 45CSR§2-4.1.b.

- b. The boiler shall only be fired with “pipeline quality natural gas” as defined in 45 CSR §10A-2.7. Compliance with this condition satisfies compliance with the limitations of 45CSR§2-3.1., 45CSR§2-4.1.b., 45CSR§10-3.1.e.; and the requirement of 45 CSR §2-8.1.a., 45 CSR §2-8.2., and Section 8 of 45CSR10.
- c. The boiler shall be designed or constructed with a maximum design heat input of 99 MMBtu/hr. Compliance with this limit for the boiler shall be satisfied by limiting the annual natural gas usage on 12 month rolling total of less than 741 MM cubic feet.

[45CSR13, Permit R13-2806, (Condition 4.1.1.), Emission Point ID (9055)]

11.1.8. The following conditions and requirements are specific to Boiler #6 (ID #956):

- a. CO emissions emitted to the atmosphere from the boiler shall not exceed 3.71 pounds per hour with a 12 month rolling total not to exceed 16.26 tons per year.
- b. NO_x emissions emitted to the atmosphere from the boiler shall not exceed 3.56 pounds per hour with a 12 month rolling total not to exceed 15.61 tons per year.
- c. The boiler shall only be fired with “pipeline quality natural gas” as defined in 45 CSR §10A-2.7. Compliance with this condition satisfies compliance with the limitations of 45CSR§2-3.1., 45CSR§2-4.1.b., 45CSR§10-3.1.e.; and the requirement of 45 CSR §2-8.1.a., 45 CSR §2-8.2., and Section 8 of 45CSR10.
[45 CSR §2-8.4.b., 45 CSR §2A-3.1.a., 45 CSR §10-10.3., and 45CSR §10A-3.1.b.]
- d. The boiler shall be designed or constructed with a maximum design heat input of 99 MMBtu/hr. Compliance with this limit for the boiler shall be satisfied by limiting the annual natural gas usage on 12 month rolling total of less than 741 MM cubic feet.

[45CSR13, Permit R13-2806, (Condition 4.1.2), Emission Point ID (9056)]

11.1.9. The permittee shall equip, maintain, and operate an oxygen trim system that maintains an optimum air to fuel ratio for Boilers #5 and #6. For Boiler #5, the permittee shall install such system prior conducting the initial tune-up for the unit as required in Condition 11.1.10. For Boiler #6, such system shall be installed and operational upon initial start-up of the unit.

[45CSR13, Permit R13-2806, (Condition 4.1.4.), 40 CFR §63.7575; 45CSR34]

11.1.10. The permittee shall conduct the initial tune-up and subsequent tune-ups for the boilers in accordance with the following timing and tune-up requirements:

- a. The initial tune up for Boiler #5 shall be completed by no later than January 31, 2016.
[45CSR34; 40 CFR §63.7510(e) & §63.7495(b)]
- b. The initial tune up for Boiler #6 shall be completed no later than 61 months after initial start-up of the unit.
[45CSR34; 40 CFR §63.7510(g); 40 CFR §63.7515(d)]
- c. Subsequent tune-ups shall be completed no later than 61 months after the previous tune-up.
[45CSR34; 40 CFR §63.7515(g) § 63.7540(a)(12)]

- d. Each tune-up shall consist of the following:
- i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (permittee may delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
 - ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
 - iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);
 - iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, which includes the manufacturer's NO_x concentration specification taken in consideration when optimizing the CO from the unit; and
 - v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

[45CSR13, Permit R13-2806, (Condition 4.1.5.); 45CSR34; 40 CFR §63.7500(a)(1), §63.7505(a), §63.7515(d), §§63.7540(a)(10) & (12), and Table 3 to Subpart DDDDD of Part 63—Work Practice Standards]

11.1.11. The permittee shall conduct a "one-time energy assessment" of the facility, which shall include Boiler #5, as specified in Table 3 of 40 CFR 63 Subpart DDDDD. Pursuant to 40 CFR §63.7510(e), the energy assessment shall be completed no later than January 31, 2016.

[45CSR13, Permit R13-2806, (Condition 4.1.6.), 40 CFR §63.7500(a)(1), §63.7505(a), and Table 3 of 40 CFR 63 Subpart DDDDD; 45CSR34]

11.1.12. Due to unavoidable malfunction of equipment or inadvertent fuel shortages, emissions exceeding those provided for in 45CSR10 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the equipment malfunction or fuel shortage. In cases of major equipment failure or extended shortages of conforming fuels, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.

[45CSR§10-9.1, Emission Point ID (9055 and 9056)]

11.1.13. Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and identified as permitted in R13-2806 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR13, Permit R13-2806, (Condition 4.1.7.), Emission Point ID (9055 and 9056)]

11.1.14. Reserved

11.1.15. Reserved

11.1.16. Maximum emissions to the atmosphere for Emergency Generators 1339-F and 60-L and the P-1375 Clarke Fire Pump shall not exceed the values given in the following table:

Emission Unit	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tpy)
1339-F Generac Power Systems 0055221	Nitrogen Oxides + THC	0.68	0.17
	Carbon Monoxide	26	6.6
60-L Generac Power Systems SG-035	Nitrogen Oxides	0.66	0.17
	Carbon Monoxide	9.5	2.4
	Total Hydrocarbons	0.12	0.03
P-1375 Clarke Fire Pump	Nitrogen Oxides	1.3	0.3
	PM ₁₀	0.04	0.01

[45CSR13, Permit No. G60-C030]

11.1.17. NSPS JJJJ. The permittee shall comply with the following requirements applicable to Natural Gas Emergency Electric Generators 1339-F and 60-L from 40 C.F.R. 60 Subpart JJJJ:

- a. Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008, must comply with the emission standards in 40 C.F.R. §60.4231(a) for their stationary SI ICE.
[40 C.F.R. §60.4233(a)]
- b. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards for field testing in 40 C.F.R. § 1048.101(c) for their non-emergency stationary SI ICE and with the emission standards in Table 1 to 40 C.F.R. 60 Subpart JJJJ for their emergency stationary SI ICE. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP, may optionally choose to meet those standards.
[40 C.F.R. §60.4233(d)]
- c. Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in 40 C.F.R. §60.4233 over the entire life of the engine.
[40 C.F.R. §60.4234]
- d. For emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in 40 C.F.R. §60.4233 after January 1, 2011.
[40 C.F.R. §60.4236(c)]
- e. The owner or operator of a stationary SI internal combustion engine that must comply with the emission standards specified in 40 C.F.R. §60.4233(d) or (e), shall demonstrate compliance according to the following:

1. Purchasing an engine certified according to procedures specified in 40 C.F.R. 60 Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified in 40 C.F.R. §60.4243(a).

[40 C.F.R. §60.4243(b)(1)]

- f. (Note: The following section numbers match those of 40 C.F.R. §60.4243)
 - (d) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (d)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (d)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (d)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
 - (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (d)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (d)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (d)(2).
 - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
 - (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
 - (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
 - (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (d)(2) of this section. Except as provided in paragraph (d)(3)(i) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

- (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
 - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
 - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
 - (D) The power is provided only to the facility itself or to support the local transmission and distribution system.
 - (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 C.F.R. §60.4243(d)]

g. The permittee shall comply with the general provisions in Table 3 of 40 C.F.R. 60 Subpart JJJJ.

[40 C.F.R. §60.4246]

[45CSR16; G60-C030; Emission Unit IDs (1339-F and 60-L)]

11.1.18. Reserved

11.1.19. RICE MACT. For emergency generators and fire water pump engines that are existing stationary RICE with a site rating of equal to or less than 500 brake HP, the permittee shall comply by May 3, 2013, per 40 C.F.R. § 63.6595(a), with the following requirements from 40 C.F.R. 63 Subpart ZZZZ:

a. The permittee must comply with the emission limitations in Table 2c to 40 C.F.R. 63 Subpart ZZZZ. Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE. ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ² b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and replace as necessary, c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ³

¹If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of 40 C.F.R. 63 Subpart ZZZZ, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

²Sources have the option to utilize an oil analysis program as described in 40 C.F.R. §63.6625(i) in order to extend the specified oil change requirement in Table 2c of 40 C.F.R. 63 Subpart ZZZZ.

³Sources can petition the Administrator pursuant to the requirements of 40 C.F.R. §63.6(g) for alternative work practices.

[40 C.F.R. §§63.6602; Table 2c to 40 C.F.R. 63 Subpart ZZZZ]

- b. The permittee must be in compliance with the applicable emission limitations and operating limitations in 40 C.F.R. 63 Subpart ZZZZ at all times.
[40 C.F.R. §63.6605(a)]
- c. At all times the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by 40 C.F.R. 63 Subpart ZZZZ have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
[40 C.F.R. §63.6605(b)]
- d. The permittee shall demonstrate continuous compliance with the operating limitations in Table 2c according to the methods in Table 6 of 40 C.F.R. 63, Subpart ZZZZ.

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance with Emission Limitations, Operating Limitations, Work Practices, and Management Practices

9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions
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[40 C.F.R. §§63.6640(a); Table 6 to 40 C.F.R. 63 Subpart ZZZZ]

- e. (Note: The following section numbers match those of 40 C.F.R. §63.6640)
- (f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in

paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

- (1) There is no time limit on the use of emergency stationary RICE in emergency situations.
- (2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
 - (i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
 - (ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
 - (iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- (3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 C.F.R. §§63.6640(f)]

- f. The permittee shall comply with the general provisions specified in Table 8 of 40 C.F.R. Part 63, Subpart ZZZZ with the exception of 40 C.F.R. §§ 63.7(b) and (c); 63.8(e), (f)(4) and (f)(6); and 63.9(b)-(e), (g) and (h).

[40 C.F.R. §§63.6645(a)(5)]

- g. (Note: The following section numbers match those of 40 C.F.R. §63.6604)
 - (b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must use diesel fuel

that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.
[40 C.F.R. §63.6604(b)]

[45CSR34; Emission Point ID (E-429, P-5, P-2139)]

11.1.20. RICE MACT. For emergency stationary RICE with a site rating of more than 500 brake HP that was installed prior to June 12, 2006, the permittee must operate the engine according to the following:

a. (Note: The following section numbers match those of 40 C.F.R. §63.6640)

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-

emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[45CSR34; 40 C.F.R. §63.6640(f); Emission Unit ID (E-676, E-915)]

b. (Note: The following section numbers match those of 40 C.F.R. §63.6604(b))

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

[45CSR34; 40 C.F.R. §63.6604(b); Emission Unit ID (E-676, E-915)]

11.1.21. NSPS III. The permittee shall comply with the following requirements applicable to Diesel Fire Water Pump (P-1375) from 40 C.F.R. 60 Subpart III:

a. **Emission Standards.** Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 of 40 C.F.R. 60, Subpart III, for all pollutants.

[40 C.F.R. §60.4205(c)]

b. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in 40 C.F.R. §60.4204 and 40 C.F.R. §60.4205 over the entire life of the engine.

[40 C.F.R. §60.4206]

c. **Fuel Requirements.** Beginning October 1, 2010, owners and operators of stationary CI ICE subject to 40 C.F.R. 60, Subpart III with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 C.F.R. §80.510(b) for nonroad diesel fuel.

[40 C.F.R. §60.4207(b)]

d. The permittee must install a non-resettable hour meter prior to startup of the engine.

[40 C.F.R. §60.4209(a)]

e. The permittee must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions. In addition, owners and operators may only change those settings that are permitted by the manufacturer. You must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply.

[40 C.F.R. §60.4211(a)]

f. If the permittee owns or operates a CI fire pump engine that is manufactured during or after the model year that applies to the fire pump engine power rating in table 3 to 40 C.F.R. 60, Subpart III and must comply with the emission standards specified in 40 C.F.R. §60.4205(c), the permittee must comply by purchasing an engine certified to the emission standards in 40 C.F.R. §60.4204(b), or 40 C.F.R. §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.

[40 C.F.R. §60.4211(c)]

- g. (Note: The following section numbers match those of 40 C.F.R. §60.4211)
- (f) If the permittee owns or operates an emergency stationary ICE, the permittee must operate the emergency stationary ICE according to the following requirements. In order for the engine to be considered an emergency stationary ICE, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in the following requirements, is prohibited. If the permittee does not operate the engine according to the following requirements, the engine will not be considered an emergency engine and must meet all requirements for non-emergency engines.
- (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
- (2) The permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs (2)(i) through (iii) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (c) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (b).
- (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
- (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
- (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (2) of this condition. Except as provided in paragraph (3)(i) of this condition, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
- (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
- (B) The dispatch is intended to mitigate local transmission and/or distribution limitations

so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

- (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- (D) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 C.F.R. §60.4211(f)]

- h. If the permittee does not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:

The permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the permittee changes emission-related settings in a way that is not permitted by the manufacturer.

[40 C.F.R. §§60.4211(g) and (g)(2)]

[45CSR16; G60-C030; Emission Unit ID (P-1375)]

11.2. Monitoring Requirements

- 11.2.1. NSPS JJJJ. If the permittee owns or operates an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, the permittee must install a non-resettable hour meter upon startup of the emergency engine. **[45CSR16; 40 C.F.R. §60.4237(c); G60-C030; Emission Unit IDs (1339-F and 60-L)]**
- 11.2.2. RICE MACT. For emergency generators and fire water pump engines, the permittee shall comply with the monitoring requirements found in 40 C.F.R. §§63.6625(e), (f), (h), and (i). **[45CSR34; 40 C.F.R. §§63.6625(e), (f), (h), and (i); Emission Unit ID (E-429, P-5, P-2139)]**

11.3. Testing Requirements

- 11.3.1. At such reasonable times as the Director may designate, the owner or operator of any fuel burning unit(s) may be required to conduct or have conducted tests to determine the compliance of such unit(s) with the emission limitations of 11.1.1 or 11.1.2. Such tests shall be conducted in accordance with the appropriate method set forth in the Appendix to 45CSR2 or other equivalent EPA approved method approved by the Director. The Director, or This duly authorized representative, may at his option witness or conduct such tests. Should the Director exercise his option to conduct such tests, the operator will provide all necessary

sampling connections and sampling ports located in such manner as the Director 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.

[45CSR§2-8.1.b.]

- 11.3.2. The Director, or his duly authorized representative, may conduct such other tests as he may deem necessary to evaluate air pollution emissions other than those noted in 11.1.2.

[45CSR§2-8.1.c.]

- 11.3.3. NSPS III. Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests must do so according to paragraphs (a) through (c) of this condition.

a. The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F.

b. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR §1039.101(e) and 40 CFR §1039.102(g)(1), except as specified in 40 CFR §1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

c. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR §89.112 or 40 CFR §94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR §89.112 or 40 CFR §94.8, as applicable, determined from the following equation:

NTE Requirement for each pollutant - $(1.25) \times (\text{STD})$

Where:

STD = The standard specified for that pollutant in 40 C.F.R. §89.112 or 40 C.F.R. §94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR §89.112 or 40CFR §94.8 may follow the testing procedures specified in 40 CFR §60.4213 of this subpart, as appropriate.

[45CSR16; 40 C.F.R. §§60.4212(a), (b), and (c); G60-C030; Emission Unit ID (P-1375)]

11.4. Recordkeeping Requirements

11.4.1 The Owner or operator shall maintain records of the operating schedule and the quantity and quality of fuel consumed in each fuel burning unit. Such records are to be readily accessible from the site and made available to the Director or his duly authorized representative upon request. Where appropriate the owner or operator may maintain such records in an electronic format. For fuel burning unit(s) which burn only pipeline quality natural gas, such records shall include, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis.

[45CSR§2A-7.1.a.1., 45CSR§2-8.3.c.]

11.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed

in Section 1.0 and identified as permitted in R13-2806, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit R13-2806, (Condition 4.4.2.)]

11.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0 and identified as permitted in R13-2806, 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.
- b. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, Permit R13-2806, (Condition 4.4.3.)]

11.4.4. Reserved

11.4.5. NSPS JJJJ. The permittee must keep records of the following information:

- a. All notifications submitted to comply with this subpart and all documentation supporting any notification.
- b. Maintenance conducted on the engine.
- c. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 C.F.R. parts 90, 1048, 1054, and 1060, as applicable.
- d. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 C.F.R. §60.4243(a)(2), documentation that the engine meets the emission standards.

[45CSR16; 40 C.F.R. §60.4245(a); G60-C030; Emission Unit IDs (1339-F and 60-L)]

11.4.6. RICE MACT. For the emergency generators and fire water pump engines, the permittee shall comply with the applicable recordkeeping requirements found in 40 C.F.R. §63.6655.

[45CSR34; 40 C.F.R. §63.6655; Emission Unit ID (E-429, P-5, P-2139)]

11.4.7. The permittee shall keep records of the amount of natural gas consumed by each boiler on a monthly basis and a 12 month rolling total of natural gas usage. For the purpose of demonstrating that the natural gas has

insignificant amount of sulfur, the permittee shall keep fuel receipts (such as a, valid purchase contract, tariff sheet, or transportation contact) from the natural gas supplier. Such records shall be maintained in accordance with Condition 3.4.2.

[45CSR13, Permit R13-2806, (Condition 4.4.4.); 45CSR16; 40 CFR §60.48c(g)(2); 45CSR §2A-7.1.a.1.; and 45 CSR §2-8.3.c.]

11.4.8. The permittee shall keep the following records in accordance with 40CFR§63.7555. This includes but not limited to the following information during the tune-up as required in Condition 11.1.10.c. and 40 CFR §63.7540:

- a. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater. If concentrations of NOx were taken during the tune-up of the unit, record of such measurements shall be included; and
- b. A description of any corrective actions taken as a part of the tune-up.

[45CSR13, Permit R13-2806, (Condition 4.4.5.); 40 CFR §§63.7540(a)(10)(vi) and 63.7555; 45CSR34]

11.4.9. NSPS IIII. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to 40 CFR 60, Subpart IIII, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

[45CSR16; 40 C.F.R. §60.4214(b); G60-C030; Emission Unit ID (P-1375)]

11.5. Reporting Requirements

11.5.1. RICE MACT. The permittee must report each instance in which the permittee did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to 40 C.F.R. 63, Subpart ZZZZ that apply. These instances are deviations from the emission and operating limitations in 40 C.F.R. 63, Subpart ZZZZ. These deviations must be reported according to the requirements in 40 C.F.R. §63.6650. When the permittee reestablishes the values of the operating parameters, the permittee must also conduct a performance test to demonstrate that the permittee is meeting the required emission limitations applicable to each stationary RICE.

[45CSR34; 40 C.F.R. §63.6640(b); Emission Unit ID (E-429, P-5, P-2139)]

11.5.2. RICE MACT. The permittee must also report each instance in which the permittee did not meet the applicable requirements in Table 8 to 40 C.F.R. 63, Subpart ZZZZ.

[45CSR34; 40 C.F.R. §63.6640(e); Emission Unit ID (E-429, P-5, P-2139)]

11.5.3. (Note: The following section numbers match those of 40 C.F.R. §63.6650(h))

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

- (ii) Date of the report and beginning and ending dates of the reporting period.
 - (iii) Engine site rating and model year.
 - (iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
 - (v) Hours operated for the purposes specified in §63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(2)(ii) and (iii).
 - (vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §63.6640(f)(2)(ii) and (iii).
 - (vii) N/A
 - (viii) If there were no deviations from the fuel requirements in §63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.
 - (ix) If there were deviations from the fuel requirements in §63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.
- (2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.
- (3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §63.13.

[45CSR34; 40 C.F.R. §63.6650(h); Emission Unit ID (E-429, P-5, P-2139, E-676 & E-915)]

11.5.4. The permittee shall submit a "Notification of Compliance Status" for Boiler #5 to the Director before the close of business on the sixtieth (60th) day after completion of the initial compliance demonstration as required in 40 CFR §63.7530(d) and (e). Such "Notification of Compliance Status" shall be in accordance with 40 CFR §63.9(h)(2)(ii) and contain the information specified in 40 CFR §§63.7545(e)(1), and (8), which includes a statement the one time energy assessment was completed as required in Condition 11.1.11., and the initial tune-up for Boiler #5 was completed.

[45CSR13, Permit R13-2806, (Condition 4.5.1.); 40CFR§63.7545(e); 40CFR§§63.7530(d) and (e); 45CSR34]

11.5.5. The permittee shall submit a "Notification of Compliance Status" for Boiler #6 to the Director before the close of business on the sixtieth (60th) day after completion of the initial compliance demonstration as required in 40 CFR§63.7530(d). Such "Notification of Compliance Status" shall be in accordance with 40 CFR §63.9(h)(2)(ii) and contain the information specified in 40 CFR §§63.7545(e)(1) and (8), which includes a statement the initial tune-up for Boiler #6 was completed.

[45CSR13, Permit R13-2806, (Condition 4.5.2.); 40CFR §63.7530(d); 40CFR §63.7545(e); 45CSR34]

11.5.6. The permittee shall submit "5 year Compliance Report" to the Director for Boilers #5 and #6 with the first report being submitted by no later than January 31, 2016 for Boiler #5, the first report being submitted no later than January 31 following the initial tune-up of Boiler #6, and subsequent reports are due every 5 years from thereafter. Such reports shall contain the information specified in 40 CFR §§63.7550(c)(5)(i) through (iv) and (xiv) which are:

- a. Permittee and facility name, and address;
- b. Process unit information, emission limitations, and operating limitations;
- c. Date of report and beginning and ending dates of the reporting period;
- d. The total operating time during the reporting period of each affected unit;
- e. Include the date of the most recent tune-up for the boiler; and
- f. Include the date of the most recent burner inspection if it was not done on 5 year tune-up period and was delayed until the next scheduled or unscheduled unit shutdown.

The permittee must submit this report electronically using CEDRI that is accessed through the EPA's Center Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form for this report is not available in CEDRI at the time the report is due, the permittee shall submit the report to the Administrator using the address listed in Condition 3.5.3.

[45CSR13, Permit R13-2806, (Condition 4.5.3.); 40CFR §§63.7550(b), (b)(1), (c)(1), & (c)(5)(i) though (iv) and (xiv), and (h)(3); 45CSR34]

11.6 Compliance Plan

11.6.1. None

Attachment A –

(R13-2338 Appendix A)

(Parametric Monitoring)

Control Device ID	Emission Point	Description	Applicable Regulations	Emission Group(s) ¹	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/ Preventative Maintenance Frequency
M-319	1348	Cartridge Filter	45CSR§7	134 TMS	Opacity	≤ 20%	Monthly	Each reading	Every two months
M-320	1349	Baghouse	45CSR§7	134 TMS	Opacity	≤ 20%	Monthly	Each reading	Every two months
					Pressure drop	> 1 inch H ₂ O	Min. 1 reading per 15 minutes	Each calendar day	
S-132	1032	Water Scrubber	45CSR§7 45CSR§13	116 Esters 133 CEU 134 TMS 151 Esters TF	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Water flow	Recycle ⁷ ≥ 150gpm Make-up ^{6,7} ≥ 4 gpm or ≥ 1.6 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-137	1001	Water Scrubber	45CSR§7 45CSR§13	101/102 K-65 116 Esters 151 Esters TF 159 Esters Six Pack TF	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Water flow	Recycle ⁷ ≥ 150 gpm Make-up ^{6,7} ≥ 4 gpm or ≥ 1.6 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-171	1006	Water Scrubber	45CSR§13	107 K-45	Make-up water flow ⁷	≥ 25 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-174	1003	Water Scrubber	45CSR§7 45CSR§13	103/104 HVD1 105 R-23/R-70 106 K-17 120 S-19/S-21 126 S-219 152 Intermed. TF 157 TF5	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 65 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-196	1301	Water Scrubber	45CSR§7 45CSR§13	120 S-19/S-21 130 CNT 151 Esters TF	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 25 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-197	1302	Caustic Scrubber	45CSR§7 45CSR§13	102 K-65 120 S-19/S-21 130 CNT 151 Esters TF 156 TF4	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow ⁷	≥ 7 gpm	Min. 1 reading per 15 minutes	Each calendar day	
					Inlet scrubbing liquor temp	≤ 20°C	Min. 1 reading per 15 minutes	Each calendar day	
S-203	1015	Water Scrubber	45CSR§13	133 CEU 134 TMS 153 TF2 155 TF3 156 TF4 157 TF5	Opacity	≤ 20%	Monthly	Each reading	Once every two years
					Make-up water flow	≥ 220gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-205	1038	Caustic Scrubber	45CSR§13	105 R-23/R-70	Drain and recharge scrubber to parameter value, with 25% caustic solution	50% Level Indicator	At least once per calendar week	Each charge	Once every two years
S-223	1120, 1121, or 1321 ²	Water Scrubber	45CSR§13	132 HVD2 133 CEU	Make-up water flow	≥ 65 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-224	1321	Water	45CSR§13	132 HVD2	Opacity	≤ 20%	Monthly	Each reading	Once every

Control Device ID	Emission Point	Description	Applicable Regulations	Emission Group(s) ¹	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/ Preventative Maintenance Frequency
		Scrubber		133 CEU	Water flow	Recycle: ≥ 250 gpm Make-up: ≥ 40 gpm	Min. 1 reading per 15 minutes	Each calendar day	two years
S-237	4310	Water Scrubber	45CSR§13	431 SPCEU	Opacity	$\leq 20\%$	Monthly	Each reading	Once every two years
					Water Flow	≥ 15 gpm	Min. 1 reading per 15 minutes	Each calendar day	
S-257	1340	Water Scrubber	45CSR§13	134 TMS	Recycle water flow	≥ 200 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-260	1341	Water Scrubber	45CSR§13	134 TMS	Water flow	Recycle ⁵ ≥ 60 gpm Make-up ⁵ ≥ 32.4 gpm	Min. 1 reading per 15 minutes	Each calendar day	Once every two years
S-270	1120	Caustic Scrubber	45CSR§6 45CSR§13	101/102 K65 116 Esters 132 HVD2 133 CEU	Opacity	$<20\%$	Monthly	Each reading	Once every two years
					Make-up Water Flow ⁵	≥ 7.1 gpm	Min. 1 reading per 15 minutes	Each calendar day	
					Recycle Water flow ^{4,5}	≥ 62.4 gpm	Min. 1 reading per 15 minutes	Each calendar day	
					PH ⁵	>8.9	Min. 1 reading per 15 minutes	Each calendar day	
E-1353	1038	Flare	45CSR§6 45CSR§13	105 R-23/R70	Opacity	$\leq 20\%$	Monthly	Each reading	Once every two years
					Flare operating temperature (TI-E1353-4)	$\geq 260^{\circ}\text{C}$	Min. 1 reading per 15 minutes	Each calendar day	
E-2322	1120	Thermal Oxidizer	45CSR§13	101/102 K65 116 Esters 132 HVD2 133 CEU	Firebox Temperature ⁵	$\geq 1700^{\circ}\text{F}$	Min. 1 reading per 15 minutes	Each calendar day	Once every two years

- ¹ The control device requirements apply when the listed emission group(s) are operating and venting to the control device.
- ² During normal operations the Esters HCl absorption system and S-223 will vent to the thermal oxidizer system. When the thermal oxidizer is down Esters HCl adsorption system and S-223 will vent to 1121. For products in Emission Group 133, the CEU unit, where the Thermal Oxidizer is not required (e.g. by the MON MACT), the CEU equipment may vent via Scrubber S-224 (Emission Point 1321) instead of the Thermal Oxidizer (Emission Point 1120).
- ³ Reserved.
- ⁴ Recycle water flow from S-270 pot has branches going to the E-2322 quench and to S-270.
- ⁵ Monitoring parameters are based on the MON performance tests and included in the NOCS. The parameters may change as authorized by 40 CFR § 63.2520.
- ⁶ S-132 and S-137 makeup flow minimum is 4 gpm only when 116 Esters, and 151 Esters TF methanol storage tanks (Group 1 storage tanks under the MON MACT) are both operating and venting to the control device. Otherwise the minimum is 1.6 gpm.
- ⁷ Monitoring parameters are based on design evaluations conducted for the MON and included in the MON NOCS. The parameters may change as authorized by 40 CFR § 63.2520.

Attachment B:

GE Silicones, LLC, Sistersville Plant
Plant ID No. 095-00001; Permit No. R13-2338
APPENDIX C (Monthly Opacity Record)

Date of Observation: _____

Data Entered by: _____

Reviewed by: _____

Date Reviewed: _____

Describe the General Weather Conditions: _____

Stack ID/Vent ID/ Emission Point ID	Stack/Vent/Emission Point Description	Time of Observation	Visible Emissions? Yes/No	Consecutive Months of Visual Emissions	Comments

Attachment C

APPENDIX B of R13-2338 (Toxic Air Pollutants)

CAS No.	Name	Table 45-13A/Rule 27 Toxic Air Pollutant?	Exceeds 45-13A/Rule 27 Threshold?
107-13-1	Acrylonitrile	Yes	Yes
107-05-1	Allyl Chloride	Yes	No
62-53-3	Aniline	No	--
75-00-3	Ethyl Chloride	No	--
*	Glycol Ethers	No	--
7647-01-0	Hydrochloric Acid	No	--
67-56-1	Methanol	No	--
74-87-3	Methyl Chloride	No	--
80-62-6	Methyl Methacrylate	No	--
109-86-4	2-Methoxyethanol	No	--
108-88-3	Toluene	No	--

* Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH₂CH)_n-OR' where:
 n = 1, 2, or 3
 R = alkyl or aryl groups
 R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH₂CH)_n-OH. Polymers are excluded from the glycol category.

Attachment D

R13-0952C Appendix A Parametric Monitoring

Control Device ID	Emission Point	Description	Applicable Regulations	Emission Group(s) *	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/ Preventative Maintenance Frequency
S-192 [†]	3402	Water Scrubber	45CSR13	341 K-84	NA	NA	NA	NA	Once every two years

* The control device requirements apply when the listed emission group(s) are operating and venting to the control device.

† The permittee is not taking any emission reduction credit in its potential or actual emission calculations for the sources connected to S-192.

Attachment E

R13-0952C Appendix B

Toxic Air Pollutants emitted by the K-84 (341) Unit

CAS No.	Name	Table 45-13A/Rule 27 Toxic Air Pollutant?	Exceeds 45-13A/Rule 27 Threshold?
67-56-1	Methanol	No	--
108-88-3	Toluene	No	--
123-38-6	Propionaldehyde	No	--