

Fact Sheet



For Final Significant Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Significant Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on June 26, 2012.

Permit Number: **R30-09500001-2012**
Application Received: **January 29, 2014**
Plant Identification Number: **03-54-09500001**
Permittee: **MPM Silicones, LLC**
Facility Name: **Sistersville**
Mailing Address: **3500 South State Route 2, Friendly, WV 26146-9720**

Permit Action Number: *SM02* Revised: *August 5, 2014*

Physical Location: Friendly, Tyler County, West Virginia
UTM Coordinates: 492 km Easting • 4370.5 km Northing • Zone 17
Directions: WV State Route 2 approximately six miles south of Sistersville.

Facility Description

MPM Silicones, LLC, is located approximately six miles south of Sistersville, WV on State Route 2. The Sistersville Plant is located in a rural setting and is situated on approximately 1300 acres of land. The operating areas are situated centrally and encompass approximately 50 acres. The Sistersville Plant is engaged in specialty chemical manufacturing (SIC 2869) and manufactures a broad range of silicone and silane products, plus organic chemical intermediates related to the silanes and silicones products. The site operates 24 hours a day and consists of a number of continuous and batch processes.

This modification facilitates the replacement of existing Boiler #3 with new Boiler #6 and updates this permit with respect to the new boiler MACT.

Emissions Summary

The changes in potential emissions are as follows:

Pollutant	Change in Potential Emissions (TPY)	New PTE (TPY)
CO	-8.4	51.5
NO _x	-66.5	79.6
PM ₁₀	+5.9	28.8
SO ₂	+0.3	5.6
VOC	-2.7	630.5
CO _{2e}	-26,306.9	128,000.0

Note: The methodology for calculating PTEs has been changed since the previous permitting action to yield more accurate values. This emissions summary addresses the facility changes and the differences in PTE calculation methodologies.

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 630.5 TPY of VOC, 69.8 TPY of ethyl chloride, 31.5 TPY of hydrogen chloride, 55.5 TPY of methanol, 48.3 TPY of propionaldehyde, 168.1 TPY of toluene, and 391.82 TPY of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, MPM Silicones, LLC is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Particulate air pollution
	45CSR10	Sulfur oxides air pollution
	45CSR13	NSR Permit
	45CSR16	New Stationary Sources
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for HAPs
	40CFR60, Subpart Dc	NSPS for small steam generating units
	40CFR63, Subpart DDDDD	Boiler MACT

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

The following permit is the only permit related to this modification:

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-2806A	3/12/2014	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

Regulatory Applicability of Boiler #6

The new boiler (Boiler #6) is subject to 45CSR2 and 45CSR10 (WV State Rules for PM and SO₂) and 40 CFR 60 – Subpart Dc (NSPS for small steam generating units).

The boiler is only capable of consuming natural gas. Emissions from sources burning natural gas are significantly below the applicable allowable limitations in 45CSR2 and 45CSR10; therefore, the provisions of 45CSR2A and 45CSR10A exempt such sources from conducting periodic testing and monitoring for the purpose of demonstrating compliance with the limitations under these rules. The only requirements from these rules for natural gas consuming units is tracking fuel usage on a monthly basis and ensuring the unit is using “pipeline quality natural gas”. Subpart Dc also requires natural gas fired units to track usage on a monthly basis (40 CFR §60.48c(g)(2)).

Boiler MACT

The facility is currently classified as a major source of HAPs, which means the facility has the potential to emit 10 tons per year of a single HAP or 25 tpy of total HAPs. Thus, Boilers #5 and #6 are subject to 40 CFR 63, Subpart DDDDD – National Emission Standard for Hazardous Air Pollutants (NESHAP) for Major Sources: Industrial Commercial, and Institutional Boilers and Process Heaters. The following portions of this regulation apply:

- Both boilers use an oxygen trim system [defined in 40 CFR §63.7575].
- The initial tune up for Boiler #5 must be completed by January 31, 2016 [40 CFR §63.7510(e) & §63.7495(b)].
- The initial tune up for Boiler #6 shall be completed no later than 61 months after initial start-up [40 CFR §63.7510(g) and 40 CFR §63.7515(d)].
- Subsequent tune-ups shall be completed no later than 61 months after the previous tune-up [(40 CFR §63.7515(g) and § 63.7540(a)(12)].
- Tune-ups shall consist of inspection of the burner, flame pattern, and system controlling the air to fuel ratio. CO emission must also be optimized [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].
- A one-time energy assessment must be performed on Boiler #5 [40 CFR §63.7500(a)(1), §63.7505(a), and Table 3 of 40 CFR 63 Subpart DDDDD].
- Records must be kept of CO concentrations and corrective actions during tune-ups. [40 CFR §§63.7540(a)(10)(vi) and 63.7555].
- Submission of a notification of compliance status for both boilers [40CFR §63.7545(e)].
- Submission of a five year compliance report for both boilers [40CFR §§63.7550(b), (b)(1), (c)(1), & (c)(5)(i) though (iv) and (xiv), and (h)(3)].

R13-2806A

Several revisions were made with R13-2806A. These revisions were made to replace Boiler #3 with Boiler #6. Additionally, changes were made to incorporate the Boiler MACT.

Changes Made to This Title V Permit

The following changes were made with this modification:

- Boiler #3 (Emission Point: 9053) was removed from the emission units table.
- Boiler #6 (Emission Point: 9056) was added to the emission units table.
- The non-applicability determinations in condition 3.7.2 were revised. All mention of Boiler #3 was removed, and Boiler #6 was added.
- All references to Emission Point 9053 in permit condition citations in section 11 were replaced with references to Emission Point 9056.
- The citation for condition 11.1.1 was updated to reference condition 4.1.3 of R13-2806.
- Emission Point 9056 was added and Emission Point 9053 was removed from condition 11.1.2.
- Emission Point 9053, streamlining language for SO₂, and the citation for condition 4.1.1 of R13-2806 were removed from condition 11.1.6. Condition 4.1.1 of R13-2806 no longer addresses SO₂.
- Boiler #5 SO₂ limits and streamlining language were removed from condition 11.1.7, since condition 4.1.1 of R13-2806 no longer addresses SO₂. Additionally, parts b and c were added to this condition specifying that the boiler shall combust only pipeline quality natural gas and limiting the heat input to 99MMBtu/hr.
- Condition and requirements specific to Boiler #6 were included with the new condition 11.1.8. Parts a and b of this condition include CO and NO_x emission limits. Part c requires the boiler to fire only pipeline quality natural gas. Compliance with 11.1.8.c will satisfy compliance with the limitations of 45CSR§2-3.1., 45CSR§2-4.1.b., 45CSR§10-3.1.e.; and the requirements of 45 CSR §2-8.1.a., 45 CSR §2-8.2., and Section 8 of 45 CSR §10. Part d limits the heat input to 99MMBtu/hr. This condition's citation now references condition 4.1.2 of R13-2806.
- Condition 11.1.9 previously limited Boiler #5 consumption to 741 mmcf per year of natural gas. This condition now requires an oxygen trim system for Boilers #5 and #6.
- Condition 11.1.10 previously limited CO emissions from Boiler #5 to 50 ppmv on a dry basis corrected to 3% oxygen. This condition now provides tune-up requirements for the boilers.
- Condition 11.1.11 previously contained boiler tune-up language. This condition now requires a one-time energy assessment for Boiler #5.
- The citation in Condition 11.1.13 now references Condition 4.1.7 of R13-2806 and also references Emission Point 9056.
- Conditions 11.1.14 and 11.1.15 previously required compliance with the Boiler MACT. Since this permit is being revised to address the Boiler MACT, this language was removed.
- Condition 11.2.1, 11.2.2, 11.3.3, and 11.3.4 were removed. These conditions reference R13-2806 conditions that no longer exist.
- The citation for the record of monitoring requirements in condition 3.4.1 was updated.
- Condition 11.4.7 was added requiring natural gas consumption records.
- Condition 11.4.8 was added requiring tune-up records.
- Conditions 11.5.4 and 11.5.5 were added requiring a "Notification of Compliance Status" for Boilers #5 and #6.
- Condition 11.5.6 was added requiring a "5 year Compliance Report" for Boilers #5 and #6.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

45CSR14-PSD: According to the fact sheet for R13-2806A, "This project does not represent a 'significant emission increase' (45CSR§14-2.75) for any NSR pollutant. Therefore, no further review with regards to PSD program in 45CSR14 is required."

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: June 18, 2014
Ending Date: July 18, 2014

Point of Contact

All written comments should be addressed to the following individual and office:

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Division of Air Quality
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Charleston, WV 25304
Phone: 304/926-0499 ext. 1209 • Fax: 304/926-0478
Rex.E.Compston@wv.gov

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

Not applicable.