

Fact Sheet



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

Permit Number: **R30-05100113-2015**
Application Received: **December 4, 2014**
Plant Identification Number: **03-054-05100113**
Permittee: **CertainTeed Gypsum WV, Inc.**
Facility Name: **Moundsville**
Mailing Address: **9622 Energy Road, Proctor, WV 26055**

Revised: N/A

Physical Location:	Moundsville, Marshall County, West Virginia
UTM Coordinates:	516 km Easting • 4,408 km Northing • Zone 17
Directions:	The plant is located approximately 5 miles south of Moundsville on State Highway 2.

Facility Description

This is a gypsum wallboard forming facility. SIC code – 3275. Operations of the gypsum wallboard forming facility consist of receiving raw materials (primarily synthetic gypsum with some natural gypsum and additives), drying, grinding, and calcining the gypsum, followed by mixing with wet and dry additives to form slurry. The slurry is placed between two layers of paper to form the wallboard. The wallboard is dried, cut, and stacked for delivery.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions ¹	2013 Actual Emissions ²
Carbon Monoxide (CO)	342.6	100.44
Nitrogen Oxides (NO _x)	120.77	43.47
Particulate Matter (PM _{2.5})	128	<i>Unavailable from CES</i>
Particulate Matter (PM ₁₀)	160	<i>Unavailable from CES</i>
Total Particulate Matter (TSP)	212	62.88
Sulfur Dioxide (SO ₂)	0.865	0.32
Volatile Organic Compounds (VOC)	79.1	7.01
Hazardous Air Pollutants	Potential Emissions	2013 Actual Emissions
Total HAP	2.15	1.0

¹ Potential emissions of NO_x, SO₂, total HAP, and particulates are from the Title V renewal application less the PTEs of the four (4) emergency generator engines to be reviewed under application G60-C070 (that will become a modification of this permit at a future date). The PTEs for CO and VOC are the limits in permit condition 4.1.1.

² Actual emissions data were transcribed from the 2014 Certified Emissions Statement (CES) Invoice, and represent emissions from January 1, 2013 through December 31, 2013.

Title V Program Applicability Basis

This facility has the potential to emit 342.6 tpy of CO; 121 tpy of NO_x, and 160 tpy of PM₁₀. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, CertainTeed Gypsum's Moundsville facility 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.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR7	Control of PM from Manufacturing Sources
	45CSR10	Control of Sulfur Oxide Emissions
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for Construction & Modification
	45CSR16	New Source Performance Standards
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	40 C.F.R. Part 60 Subpart OOO	NSPS for Mineral Processing Plants
	40 C.F.R. Part 60 Subpart UUU	NSPS for Calciners and Dryers in Mineral Industries

	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.

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

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2656E	August 22, 2013	

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

The following determinations affect the renewal permit. No other changes are made for the renewal permit.

I. Miscellaneous Changes.

- a. Condition 2.1.4. was updated to reflect current boilerplate.
- b. Condition 3.4.2. was updated to reflect current boilerplate.
- c. Condition 3.5.3. was updated to reflect current boilerplate information for U.S. EPA.
- d. Condition 4.3.2. required testing during the current permit term. The dates are revised in the schedule based upon the recent testing.
- e. Condition 3.3.1.d. has been added to the permit and the WV Code citation of authority revised in order to reflect current Title V permit "boilerplate" requirements.

II. 45CSR10 – To Prevent and Control Air Pollution from the Emission of Sulfur Oxides. This rule applies to fuel burning units that operate as indirect heat exchangers; SO₂ emitting manufacturing process sources; and combustion of process gas streams that contains H₂S. Since the DSG cage mill system, kettles, paper heaters, and board dryer are all direct heat transfer units, these units are not subject to 45CSR§10-3.1. as they are not classified as fuel burning units. In addition, the Stucco Cooler (EU14) does not meet the definition of a fuel burning unit since there is no combustion associated with it. This determination applies to the following sources: Cage Mill DSG Dryer (EU05), K10 Kettle (EU12), K20 Kettle (EU13), Board Dryer (EU36), Two Paper Heaters (EU37), and Stucco Cooler (EU14). With the exception of EU36, these same units also are

not subject to the standards for manufacturing process source operations in 45CSR§10-4.1. since the potential to emit for each is less than 500 lb/yr of sulfur oxides (45CSR§10-4.1.e.). EU36 is subject to 45CSR§10-4.1. which is carried over as renewal permit condition 4.1.16.

Non-Applicability Determinations

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

- a. **45CSR2 – To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers.** This rule applies to fuel burning units that operate as indirect heat exchangers. Since the DSG cage mill system, kettles, paper heaters, and board dryer are all direct heat transfer units, these units are not subject to 45CSR2 as they are not classified as fuel burning units. In addition, the Stucco Cooler (EU14) does not meet the definition of a fuel burning unit since there is no combustion associated with it. This determination applies to the following sources: Cage Mill DSG Dryer (EU05), K10 Kettle (EU12), K20 Kettle (EU13), Board Dryer (EU36), Two Paper Heaters (EU37), and Stucco Cooler (EU14).
- b. **40 C.F.R. Part 64 Compliance Assurance Monitoring (CAM).** The facility utilizes a number of baghouses; however, these baghouses are an integral part of the material transfer and separation process and are not considered air pollution control devices for purposes of meeting an emission limitation. All of the material collected by the baghouses is reintroduced into the process. In addition, the bin vent filters used at the facility are integrated into the bins they serve and operate passively to capture material in displacement air and return it to the storage bin. Therefore, because the baghouses and bin vent filters are for product recovery and are thereby inherent process equipment as defined in 40 C.F.R §64.1, they are not considered control devices with respect to CAM and this regulation does not apply.

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: April 8, 2015
Ending Date: May 8, 2015

Point of Contact

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

Denton B. McDerment, P.E.
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1221 • Fax: 304/926-0478
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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)

No comments were received from the public, including the permittee.

U.S. EPA submitted the following comments via e-mail on May 18, 2015:

Comment (1): Page (15) of Appendix D of title V application:

PTE of VOC as shown on page 2 of the Fact Sheet is appreciably larger than the PTE shown on page 10 of Appendix D to the application (79.1 TPY vs 19 TPY) as is the value for C0 (342.6 in the Fact sheet vs 252 in the appendix the authority must resolve this with the facility.

Comment (2)

As noted in the initial Title V permit application, the facility utilizes a number of bag houses which are deemed by the facility to be an integral part of the material transfer and separation process and so were not considered air pollution control devices for purposes of meeting an emission limitation. All the material collected by the baghouses are reintroduced into the process. In addition it is stated that the bin vent filters used at the facility are integrated into the bins they serve and operate passively to capture material in displacement air and return it to the storage bin. Presumably, the baghouses and bin vent filters are for product recovery or are stated to be inherent to the operations, and they are not considered control devices with respect to the CAM regulations. However, this appears to be a situation for which case-by-case assessments is needed regarding whether a given device or strategy should be considered as air pollution control equipment, or as an inherent part of the process.

Based on the following (2) attachments, the EPA believes that the following list of questions should be considered in this case to assess whether the baghouses and bin vents installed at the facility should be treated as pollution controls or as inherent to the process:

1. Is the primary purpose of the equipment to control air pollution?
2. Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment? Indicate annual savings in dollars of recovered product
3. Would the equipment be installed if no air quality regulations are in place? The facility should demonstrate that none of these units are in place to meet the requirements of 45CSR7 and any other applicable federal requirement.

The facility needs to answer the above questions before considering all of the baghouses to be inherent to the operation. If the answers to these questions suggest that equipment should be considered as an inherent part of the process, then the effect of the equipment or practices can be taken then CAM is not applicable to this facility.

DAQ provided the following responses to the initial comments via e-mail on May 19, 2015:

Regarding Comment (1), the PTEs in the renewal application do not reflect the most current stack test-based emission factors and emission limits in the current NSR permit. In particular, R13-2656D and E are based upon recent stack test results for CO. For VOC, the current NSR permit accounts for inks and other sources that were not in the application. The NSR permit is correct, and the proposed Title V Fact Sheet is consistent with the NSR permit. Considering this, the only thing that could now change would be for the permittee to formally update the renewal application, which would not trigger a

statutory threshold or cause a requirement to become applicable. Since the correct/current PTEs are contained and documented in the proposed Fact Sheet, and no changes are necessary for the proposed operating permit, we do not believe there is any need to revise the application.

Regarding Comment (2), the initial (2010) Title V permit Fact Sheet reads in several places that the filters are an integral part of the equipment and PM is returned to the process by them. The renewal application reads that the bin vent filters are integrated into (i.e., built in by the manufacturer) the bins they serve, and operate passively. The CAM regulation's definition of control device excludes passive control measures, including process design features. Because the bin vent filters are built into the bins as a design feature and passively operate, they do not meet the definition of a control device under the CAM regulation. The baghouses are material recovery equipment that the permittee documents (in the renewal application) is installed and operated primarily for purposes other than compliance with air pollution regulations, and as such, the baghouses meet the definition in 40 C.F.R. §64.1 of "inherent process equipment", which is not considered a control device.

U.S. EPA replied on May 20, 2015 with the following:

We concur with your response to comment no. 1. Regarding comment 2, The definition of inherent process as found in 40 CFR 64 states the following:

Inherent process equipment means equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment. For the purposes of this part, inherent process equipment is not considered a control device.

We concur with the response regarding the bin vents. It is not as certain for the baghouses, because the 3 questions in EPA's original comment must be addressed. If the baghouses were not in place would the additional emissions not captured violate the limits contained in 45 CSFR 7? From a business point of view does the material recovered from the baghouses provide a reasonable payback regarding the cost of installing and operating the units. These are what the 3 questions below are trying to get at. Once they are addressed we can be certain about the primary use of the baghouses: either for emission control or product recovery. Therefore, the comment remains outstanding.

On May 20, 2015 DAQ requested from the permittee detailed information regarding the baghouses to answer the three questions that may be utilized to verify that a device is inherent process equipment under 40 C.F.R. Part 64. On May 22, 2015, Mr. Joseph Sabbatis provided the requested information via e-mail to the permit writer. In turn, the writer sent the following response to U.S. EPA on May 26, 2015:

I have asked the permittee to address the three questions regarding the baghouses, and here are their responses:

1. Is the primary purpose of the equipment to control air pollution?
No. They are in place to separate materials for use in the manufacture of stucco, an intermediate for the production of wallboard. Material collected in the baghouses is required to produce our products, and their use was incorporated into the design of the plant. The fine material extracted from the baghouses serves as an accelerant to our process, allowing a quicker set and a faster line speed. These fine particles are used to dry calcine and rehydrate the stucco particles back to gypsum.
2. Where the equipment is recovering product, how do the cost savings from the product recovery compare to the cost of the equipment? Indicate annual savings in dollars of recovered product
If these fines were not recovered via the baghouses they would need to be produced using grinders and ball mills to create smaller particles for stucco. The cost to produce these fine particulates is estimated at 140% of the cost of our current system. We estimate the value of material collected in the baghouses at \$258,000 per year. The cost of the two baghouses, including installation was approximately \$2.7 million. Operating costs are approximately \$1,000 per month. So, the cost savings exceed the cost to purchase and operate the baghouses.

3. Would the equipment be installed if no air quality regulations are in place? The facility should demonstrate that none of these units are in place to meet the requirements of 45CSR7 and any other applicable federal requirement.

Yes, the purpose of this equipment is to recover and reuse product, as depicted in the slides included below provided by the suppliers of the kettle system.

We also offer the following excerpt from EPA's AP-42 Chapter 11.16 (Gypsum Manufacturing) to demonstrate that the industry considers control devices to be inherent to their processes:

“The uncontrolled emission factors presented in Table 11.16-1 and 11.16-2 represent the process dust entering the emission control device. It is important to note that emission control devices are frequently needed to collect the product from some gypsum processes and, thus, are commonly thought of by the industry as process equipment and not as added control devices.”

To summarize: The permittee needs the material it collects in the baghouses to make intermediate products so that it can make the final product. The payback period is reasonably short for a business such as this (approx. 11 years). The company would install baghouses even if there were no air regulations in place. And the industry as a whole views the baghouses as process equipment and not control devices, as documented in AP-42 (page 3 of 9 at <http://www.epa.gov/ttn/chief/ap42/ch11/final/c11s16.pdf>).

I propose to document the information provided by the company in the final Fact Sheet, and maintain the determination that the baghouses are inherent process equipment and not control devices under CAM. Is this agreeable to you?

U.S. EPA replied on May 26, 2015 that EPA concurs with the company's response.

No changes have been made to the draft permit for the issuance of this final operating permit.

This CAM non-applicability determination applies only to the baghouses that are permitted at the time of issuance of this Title V permit R30-05100113-2015. Any future permitted installation of a baghouse (or any air pollution control device) should be evaluated using the procedures established in 40 C.F.R. Part 64, and as necessary the guidance (i.e., three questions) in this Statement of Basis, to determine CAM applicability for the potentially affected emission unit and control device.