

November 18, 2019



via Federal Express

Laura M. Crowder
Director, Division of Air Quality
WV Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

**Re: CertainTeed Gypsum WV, Inc.
Renewal Application for Title V Operating Permit**

Dear Ms. Crowder:

CertainTeed Gypsum WV, Inc. (CertainTeed) is submitting this Title V operating permit renewal application to the West Virginia Department of Environmental Protection (WVDEP) for its facility in Moundsville, WV. The Moundsville facility is currently operating under WVDEP Permit to Operate R30-05100113-2015 issued on May 27, 2015.

CertainTeed is submitting this timely and complete Title V permit application by the submission deadline of November 27, 2019 (i.e., at least 6 months prior to the date of permit expiration) in accordance with 45 CSR 30-4.1.a.3. Presuming WVDEP finds this application administratively complete by November 27, 2019, CertainTeed may continue to operate the Moundsville facility under a permit application shield (45 CSR30-5.6.a) in accordance with the terms of Permit to Operate (R30-05100113-2015) until the renewed Title V operating permit is issued.

Please feel free to contact me at (304) 843-3014 or via email at william.stegman@saint-gobain.com, or our consultant, Avani Panchal of Ramboll US Corporation at (609) 951-9015 or apanchal@ramboll.com, if you have any questions or if additional information will be required to process this application.

Thank you for your assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Stegman", with a long horizontal stroke extending to the right.

William Stegman
Facilities Engineer

cc. Avani Panchal, Ramboll
Steve Branoff, Ramboll
Kyren Gardner, SGC
Carlos Davis, SGC

Prepared for:
CertainTeed Gypsum WV, Inc.
Moundsville, West Virginia

Prepared By:
Ramboll US Corporation
San Francisco, California

Date:
November 2019

Project Number:
1690011476

TITLE V PERMIT RENEWAL APPICATION CERTAINTEED GYPSUM WV, INC.

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1. INTRODUCTION

CertainTeed Gypsum WV, Inc. (CertainTeed) operates a synthetic gypsum wallboard forming facility in Moundsville, West Virginia (Moundsville facility). The Moundsville facility is a major source under Title V because potential emissions of nitrogen oxides (NO_x) and carbon monoxide (CO) exceed the applicable major source threshold of 100 tons per year (tpy).

CertainTeed currently holds a valid Title V Permit to Operate (R30-05100113-2015) pursuant to West Virginia Department of Environmental Protection (WVDEP) Division of Air Quality (DAQ) Title 45, Code of State Rules (CSR), Series 45-30 Requirements for Operating Permits, issued on May 27, 2015.

CertainTeed is submitting this timely and complete Title V permit application by the submission deadline of November 27, 2019 (i.e., at least 6 months prior to the date of permit expiration) in accordance with 45 CSR 30-4.1.a.3. Presuming WVDEP finds this application administratively complete by November 27, 2019, CertainTeed may continue to operate the Moundsville facility under a permit application shield (45 CSR30-5.6.a) in accordance with the terms of Permit to Operate (R30-05100113-2015) until the renewed Title V operating permit is issued.

CertainTeed is also requesting the addition of new equipment (two silos) to the Title V operating permit (Table 1-1).

Table 1-1: Requested Equipment and Associated Potential to Emit (PTE)				
Equipment		Flowrate (cfm)¹	PTE (tpy)	
			PM_{2.5}	PM₁₀
New EU54	Boric Acid Silo	3,000	0.56	1.13
New EU55	Potash Silo	3,000	0.56	1.13

¹ Based on Ramboll site visit in March 2019 and information received in May 2019.

The facility's status as a major source in accordance with New Source Review/Prevention of Significant Determination (PSD) and Title V, as well as, a minor source of emissions of hazardous air pollutants (HAPs) will not change with the addition of these two silos¹. A discussion of the emissions units currently in operation at the Moundsville facility can be found in the facility description below.

¹ WV DAQ 45 CSR 30 (2.26) and §112 of Clean Air Act. Available at: <http://www.dep.wv.gov/daq/publicnoticeandcomment/Documents/Final45CSR30.pdf>.

2. FACILITY AND SOURCE DESCRIPTION

The Moundsville facility is located in Marshall County, West Virginia, at 9622 Energy Road, Moundsville (mailing address). Physical location of the facility is at 10 Energy Road, Moundsville. The facility location map is provided in **Appendix A**.

The CertainTeed facility is a gypsum wallboard forming facility that consists 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 a slurry. The slurry is placed between two layers of paper to form the wallboard. The wallboard is then dried, cut, and stacked for delivery. A general plot plan of the facility and a process flow diagram is provided in **Appendix B** and **Appendix C**, respectively.

Table 2-1 summarizes the emissions units currently in operation at the Moundsville facility including the two silos discussed in Section 1. In addition, Table 2-1 lists the applicable New Source Performance Standards (NSPS) for each piece of equipment, which are discussed in Section 4.

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	NSPS Subpart
EP02	FF02	EU02	Waste Recycle System – End Saws	2 tph	N/A
EP03	FF03	EU03	Waste Recycle System – Dunnage Machine	2 tph	N/A
EP05	FF05	EU05	Cage Mill DSG Dryer	120 tph	000
				50 MMBtu/hr	
EP06	FF06	EU06	Cage Mill Feed Silo (Wet DSG Silo)	200 tons	000
EP07	FF07	EU07	DSG Conveying System	120 tph	000
EP08	FF08	EU08	Dry DSG Storage Silo (Intermediate DSG Silo)	200 tph	000
EP12	FF12	EU12	K10 Kettle	44 tph	UUU
				31.7 MMBtu/hr	
EP13	FF13	EU13	K20 Kettle	44 tph	UUU
				31.7 MMBtu/hr	

Table 2-1: CertainTeed Moundsville Equipment Table

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	NSPS Subpart
EP14	FF14	EU14	Stucco Cooler	88 tph	N/A
EP16	FF16	EU16	HRA DSG Silo	2.61 tph	OOO
EP17	FF17	EU17	HRA Dextrose Silo	0.14 tph	N/A
EP18	FF18	EU18	HRA Ball Mill System	1.65 tph	OOO
EP20	FF20	EU20	Stucco Silo	600 tph	N/A
EP21	FF21	EU21	Mixer and Additive	100 tph	N/A
EP22	FF22	EU22	Stucco Metering Equipment	96 tph	N/A
EP23	FF23	EU23	Intermediate Stucco Silo	60 tph	N/A
EP24	FF24	EU24	Stucco Ball Mill	111 tph	N/A
EP25	FF25	EU25	Starch Bulk Silo	24.8 tph	N/A
EP27	FF27	EU27	Semi-Bulk Transfer Station Bin	24.8 tph	N/A
EP29	FF29	EU29	Boric Acid Feeder	3 tph	N/A
EP30	FF30	EU30	Potash Feeder Bin	6 tph	N/A
EP31	FF31	EU31	Dextrose Feeder Bin	2.5 tph	N/A
EP33	FF33	EU33	Starch Feeder Bin	2 tph	N/A
EP34	FF34	EU34	HRA Feeder Bin	4 tph	N/A
EP36	N/A	EU36	Board Dryer	Total of 147 MMBtu/hr	N/A
EP37	N/A	EU37	Two Paper Heaters	Total of 1.9 MMBtu/hr	N/A
Fugitive	N/A	EU39	Storage Piles	6.83 acres	N/A
Fugitive	N/A	EU40	Material Handling	330 to 1,100 tph	N/A
Fugitive	N/A	EU41	Haul Roads	67,085 mi/yr	N/A

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	NSPS Subpart
EP42	N/A	EU42	Foaming Agent Tank 1 (bulk)	9,500 gal	N/A
EP43	N/A	EU43	Foaming Agent Tank 2 (dry)	100 gal	N/A
EP44	FF44	EU44	K10 Kettle Supply Screw	120 tph	OOO
EP45	FF45	EU45	K20 Kettle Bad Batch Return Screw	100 tph	OOO
EP46	FF46	EU46	Stucco Cooler Bypass Screw #2	100 tph	N/A
EP47	FF47	EU47	Cage Mill Cyclone Transfer Screw	120 tph	OOO
EP48	FF48	EU48	K20 Kettle Transfer Screw	120 tph	OOO
Fugitive	N/A	EU49	Inking Operations	3.3 lb/hr	N/A
EP50	FF50	EU50	Ethylated Starch Silo	5,000 ft ³	N/A
EP51	FF51	EU51	Ethylated Starch Feeder Bin	1 ton/hr	N/A
EP52	FF52	EU52	Vermiculite Silo	3,000 ft ³	OOO
EP53	FF53	EU53	Vermiculite Feeder Bin	1 ton/hr	OOO
New EP54	New FF54	New EU54	Boric Acid Silo	3,000 ft ³	N/A
New EP55	New FF55	New EU55	Potash Silo	3,000 ft ³	N/A
--	--	--	Lift Station Generator 1	37 hp	IIII
--	--	--	Lift Station Generator 2	27 hp	IIII
--	--	--	Lift Station Generator 3	27 hp	IIII
--	--	--	Fire Pump	252 hp	IIII

The renewal of this Title V Permit to Operate does not require updates to the Facility's existing equipment PTE; however, the addition of two pieces of equipment will result in an increase in the facility's overall facility-wide PTE by the potential emissions associated with the new silos. This increase in facility-wide PTE will not change the Facility's Major Source standing for any pollutant. The WVDEP permit application forms are included in **Appendix D** – General Application Form, Attachment D (Equipment Table), Attachment E (Emission Unit Forms), and Attachment G (Air Pollution Control Device Forms).

3. EMISSIONS CALCULATIONS

The Moundsville facility generates criteria pollutant emissions, such as particulate matter (PM), PM with an aerodynamic diameter less than 10 microns (PM_{10}), PM with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$), NO_x , CO, sulfur dioxide (SO_2), as well as volatile organic compounds (VOC), a precursor to ozone formation. The facility also generates certain hazardous air pollutants (HAPs).

The primary sources of PM emissions at the facility are process emissions generated in the dryers and kettle calciners. Additional sources of emissions include - grinding, transfer and handling of the gypsum and stucco. PM emissions are reduced by:

- Appropriate engineering design of the emission units,
- Use of the current fabric filter-type devices (e.g., bag-houses and bin vent filters), and
- Building enclosures.

Fugitive PM emissions are also generated from the gypsum storage piles and road dust. The primary manner of raw material desulfurized gypsum (DSG)-delivery to the facility is by conveyor, which helps minimize the potential for certain types of fugitive dust emissions.

The use of organic additives at the facility generates some VOC emissions. In addition, combustion emissions are generated from the dryers, kettles, heaters, and generators.

CertainTeed is not proposing to change the permitted potential to emit for the existing equipment listed in the current permit.

The PM emissions for the two new silos were calculated using the applicable allowable mass concentrations (in gr/dscf) and the design maximum exhaust flow rate (cfm) of each unit. The PTE calculations assume a grain outlet of 0.01 gr/dscf based on the NSPS-s equipment requirement. Explanations regarding the methodologies used to calculate PTE emissions from the two new silos are provided in Section 4 below, while the emissions calculation have been included as **Appendix E**.

4. REGULATORY ANALYSIS

A key objective of a Title V operating permit renewal application is to compile and update all applicable Clean Air Act-derived requirements into one document. The requirements can be categorized as: (1) emission limits and work practice standards; and (2) testing, monitoring, recordkeeping, and reporting requirements. To compile a list of the requirements applicable to a facility, it is first necessary to determine which Federal and State air regulations apply to the facility as a whole, or to individual emission units. This section documents the applicability determinations made for Federal and State air quality regulations.

The remainder of this section summarizes the air permitting requirements and key air quality regulations that apply to the operation of the Moundsville facility. Applicability or non-applicability of the following regulatory programs is addressed:

- New Source Review (NSR) permitting;
- Title V of the 1990 Clean Air Act Amendments;
- National Emission Standards for Hazardous Air Pollutants (NESHAP);
- New Source Performance Standards (NSPS);
- Compliance Assurance Monitoring (CAM);
- Chemical Accident Prevention;
- Stratospheric Ozone Protection; and
- West Virginia State Implementation Plan regulations.

This review is presented to supplement and/or add clarification to the information provided in the WVDEP Title V application forms, which fulfill the requirement to include citations and descriptions of applicable statutory and administrative code requirements.

In addition to providing a summary of applicable requirements, this section of the application also provides non-applicability determinations for certain regulations, allowing the WVDEP to confirm that identified regulations are not applicable to the Moundsville facility. Note that explanations of non-applicability are limited to those regulations for which there may be some question of applicability specific to the operations at the Moundsville facility. Regulations that are categorically non-applicable are not discussed (e.g., NSPS Subpart J, Standards of Performance for Petroleum Refineries).

4.1 New Source Review Source Classification

Federal construction permitting programs (regulated under 40 CFR 51) regulate new sources of attainment pollutants under PSD² and new sources of non-attainment pollutants under Non-Attainment New Source Review (NNSR). PSD and NNSR regulations apply when a new major stationary source is constructed or when an existing major stationary source proposes to undergo a major modification, such as installing new equipment or modifying existing equipment where a significant increase in emissions results from the change.

² Code of Federal Regulations. 40 CFR 51.166 (b)(1)(i)(b). Available at: <http://www.ecfr.gov/cgi-bin/text-idx?SID=cb0eb3787791666d701fa8d37b0b6742&node=40:2.0.1.1.2&rgn=div5#40:2.0.1.1.2.6.8.6>.

The Moundsville area is in attainment for CO, NO₂, PM_{2.5}, PM₁₀, and O₃, and is in non-attainment for SO₂. The Moundsville facility's PTE, without synthetic or voluntary emissions limitations, is above the major stationary source thresholds, specifically for the attainment CO threshold, as well as, the NSR thresholds for PM and NO_x. As such, the Moundsville facility is a major source with respect to PSD. The proposed additional equipment throughputs will not change the PSD standing of the Moundsville facility as the facility is not proposing an increase in any sources of CO emissions.

4.2 Title V Operating Permit Program

Title 40 of the Code of Federal Regulations Part 70 (40 CFR 70) establishes the federal Title V operating permit program. West Virginia has incorporated the provisions of this federal program in its Title V operating permit program in 45 CSR 30. The major source thresholds are 10 tons per year (tpy) of a single hazardous air pollutant (HAP), 25 tpy of any combination of HAPs, and 100 tpy of criteria pollutants.

The potential emissions of NO_x, PM and CO exceed the corresponding threshold(s) at this facility. Therefore, the Moundsville facility is classified as a major source for Title V purposes. The Moundsville facility currently holds a valid Title V Permit to Operate (R30-05100113-2015) pursuant to WVDEP DAQ Rule 45 CSR 30 Requirements for Operating Permits, issued on May 27, 2015.

CertainTeed is submitting this timely and complete Title V permit renewal application by the submission deadline of November 27, 2019 (i.e., at least 6 months prior to the date of permit expiration) in accordance with 45 CSR 30-4.1.a.3. With the timely and complete submittal of this application, CertainTeed specifically requests that the Moundsville facility be authorized to continue operation under an application shield (45 CSR30-5.6.a) in accordance with the terms of Permit to Operate (R30-05100113-2015) until the renewed Title V operating permit is issued.

4.3 National Emissions Standards for Hazardous Air Pollutants

National Emissions Standards for Hazardous Air Pollutants (NESHAP) are generally only applicable to major sources of HAPs and to sources in specifically regulated industrial source categories [Clean Air Act Section 112(d)] or on a case-by-case basis [Section 112(g)] for facilities not regulated as a specific industrial source type. 40 CFR Part 63 NESHAP allowable emission limits are established on the basis of a maximum achievable control technology determination for a particular major source. A HAP major source is defined as having potential emissions in excess of 25 tpy for total HAPs and/or potential emissions in excess of 10 tpy for any individual HAP. In addition to 40 CFR Part 63 Subpart A (NESHAP Subpart A), the 40 CFR Part 63 Subpart DDDDD - Industrial, Commercial, and Institutional Boilers and Process Heaters could potentially apply to the Moundsville facility. However, because the Moundsville facility is not a major source of HAPs, 40 CFR 63 Subpart DDDDD does not apply.

The Moundsville facility is considered an area source of HAPs because HAP emissions from the facility are below the major source thresholds. Therefore, the diesel fueled stationary engines at Moundsville facility are subject to 40 CFR 63 Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines (RICE), per § 63.6585 (c). According to §63.6590(c)(1), a new stationary RICE, in which the facility commenced construction of the stationary RICE on or after June 12, 2006, is subject to 40 CFR part 60 Subpart IIII, for compression ignition engines (See Section 4.4 for further information). The facility will continue to comply with the RICE NESHAP.

4.4 New Source Performance Standards

New Source Performance Standards (NSPS), regulated under 40 CFR 60, require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Moreover, any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, except where expressly noted. The following is a summary of applicability and non-applicability determinations for NSPS regulations of relevance to the Moundsville facility.

4.4.1 Subpart OOO

NSPS Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, regulates PM emissions from each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin/silos, and enclosed truck or rail car loading operation at a nonmetallic mineral processing plant. Gypsum is included in the list of nonmetallic minerals covered by the rule. The NSPS Subpart A provisions also apply to units covered under Subpart OOO with the exception of §60.18, General Control Device. Line exceptions to provisions of Subpart A are listed in §60.670. NSPS Subpart OOO is incorporated by reference by WVDEP Title 45 CSR 16, Standards of Performance for New Stationary Sources pursuant to 40 CFR Part 60.

The equipment at the Moundsville facility covered by Subpart OOO emission standards is listed in Table 2-1. This equipment includes DSG drying mill, mill feed silo, conveying systems, storage silo, ball mill system, kettle screws, and transfer screws. The gypsum surge/strategic stockpile, the transfer of material to the surge/strategic pile, and the transfer of material to the gypsum storage shed are not covered by Subpart OOO because they are not part of the “non-metallic mineral processing plant” as defined in the rule. This same non-applicability determination applies to all equipment in the wallboard manufacturing part of the plant. In addition, the indirect stucco cooling system, stucco storage bins are not subject to Subpart OOO. These systems involve the handling of stucco, not gypsum, and stucco is not one of the materials specifically listed as regulated under Subpart OOO. Additionally, the new boric acid silo and potash silo and their corresponding feeder bins, as well as, the starch silo and its corresponding feeder bin are not subject to Subpart OOO, since the materials handled are not listed within Subpart OOO. CertainTeed operates the applicable units in compliance with NSPS OOO and meets the requirements applicable to date. (e.g., performance testing).

4.4.2 Subpart UUU

NSPS Subpart UUU, Standards of Performance for Calciners and Dryers in Mineral Industries, regulates PM emissions from calciners and dryers at mineral processing plants. Calciners are defined by the regulation as equipment used to remove chemically bound water from the mineral material through direct or indirect heating. These requirements apply to gypsum processing because gypsum is included in the definition of a mineral processing plant. Subpart UUU is incorporated by reference by WVDEP Title 45 CSR 16 Standards of Performance for New Stationary Sources Pursuant to 40 CFR 60.

The only units at the Moundsville facility subject to NSPS Subpart UUU are the Kettle calciners (EU12 and EU13). CertainTeed will operate the applicable units in compliance with NSPS UUU and meets the requirements applicable to date.

4.4.3 Subpart IIII

NSPS Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, is applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE). The engines are subject to 40 CFR part 60 Subpart IIII. The following sub-sections are applicable to emergency stationary CI ICEs at the Moundsville facility (model year pre-2007 with a displacement of < 10 liters per cylinder):

§60.4205 (a) – owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart.

§60.4205 (c) – 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 to this subpart, for all pollutants.

§60.4206 – owners and operators of stationary emergency CI ICE must operate and maintain these engines as per emission standards as required in §60.4205 over the entire life of the engine.

§60.4207 – owners and operators of stationary CI ICE must comply with the fuel requirements as mentioned in this subpart.

§60.4209 and *§60.4211* – owners and operators of stationary CI ICE are subject to monitoring and compliance requirements of this subpart.

§60.4212 and *§60.4214* - owners and operators of stationary CI ICE must comply with all the testing, notification, reporting, and recordkeeping requirements.

The only units at the Moundsville facility subject to NSPS Subpart IIII are the four diesel-fueled stationary engines as listed in Table 2-1. The engines meet the emission standards of the Subpart based on manufacturer specifications. CertainTeed operates the applicable units in compliance with NSPS IIII.

4.5 Compliance Assurance Monitoring

Under 40 CFR 64, *Compliance Assurance Monitoring*, facilities are required to assess whether their pollution control equipment is being adequately monitored to assure compliance with emission limitations. This regulation only applies to emission units of major sources that use control devices to achieve compliance with an emission limit and whose pre-control emissions are greater than the major source thresholds under Title V.

As summarized in Moundsville's initial Title V permit application, 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 the material collected by the baghouses are reintroduced into the process. In addition, the bin vent filters used at the Moundsville 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 or are inherent to the operations, they are not considered control devices with respect to the CAM regulations. The addition of two silos

(mentioned in Section 1) fall under the same category and are essential for the operations of this facility.

Therefore, CAM is not applicable to this facility.

4.6 Chemical Accident Prevention

Subpart B of 40 CFR 68 outlines requirements for risk management prevention plans pursuant to Section 112(r) of the Clean Air Act. Applicability to this subpart is determined based on type and quantity of the chemicals stored at the Moundsville facility.

A previous evaluation conducted by a consultant for CertainTeed indicated that the amount of Section 112(r) substances stored at the Moundsville facility has determined that the stored quantities do not trigger applicability of the risk management plan regulations of 40 CFR 68 Subpart B.

4.7 Stratospheric Ozone Protection Regulations

The requirements originating from Title VI of the Clean Air Act, entitled Protection of Stratospheric Ozone, are contained in 40 CFR 82. Subparts A, C, D, E, G, and H are not applicable to the Moundsville facility. Subpart B, Service of Motor Vehicle Air Conditioners, would potentially apply if CertainTeed were to perform service on motor (fleet) vehicles and if this service involved an ozone-depleting substance in the air conditioner. 40 CFR 82 Subpart F, Recycling and Emissions Reduction, would potentially apply if and when CertainTeed maintains, services, or disposes of appliances that utilize Class I or Class II ozone depleting substances. Subpart F generally requires persons completing the repairs, service, or disposal to be properly certified. All repairs, service, and disposal of ozone depleting substances from any chillers and air conditioners at the facility will be completed by a certified technician.

4.8 WV State Implementation Plan Regulations

The Moundsville facility is currently permitted under the regulations contained in West Virginia's Title 45 Legislative Rule Department of Environmental Protection Office of Air Quality (WVDEP regulations). A federal operating permit must be issued by the agency upon determination that the facility can reasonably be expected to comply with the WVDEP regulations and all applicable federal requirements. This section of the application highlights specific West Virginia regulations that apply to the Moundsville facility.

Title 45 is divided into various series, each covering a specific aspect of the state's air pollution regulatory program. The series that contain requirements that could be applicable to the Moundsville facility equipment are discussed in the following sections. West Virginia regulations that are generally applicable to the facility as a whole are not discussed.

4.8.1 Series 2

Series 2, To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers, applies to any fuel burning unit that combusts any fuel in which the produced energy is transferred to a usage point through a medium that is not contacted by and adds no substance to the products of combustion. Because the DSG cage mill system, kettles, paper heaters, and board dryer are all direct heat transfer units, these units are not subject to Series 2 as they are not classified as fuel burning units.

4.8.2 Series 7

Series 7, *To Prevent & Control Particulate Matter Air Pollution from Manufacturing Processes & Associated Operations*, defines PM emission standards for manufacturing processes and associated operations. The regulation requires the facility to comply with PM emissions as defined in the regulation from point and fugitive sources, as well as, to employ good operating practices to prevent/reduce fugitive emissions at the facility.

Specifically, opacity from any process source operation shall not exceed 20%, except for 40% for any period or periods aggregating no more than 5 minutes in any 60-minute period. The applicable exception to this standard is that there shall be no visible emissions from any storage structure(s) associated with any manufacturing process(es) that are required to have a full enclosure and be equipped with a PM control device under subsection 5.1 of this series.

Subsection 5.1 requires that fugitive PM be minimized from any manufacturing process or storage structure by operating these sources with an equipped system, that may include, but is not limited to, process equipment design, control equipment design or operation or maintenance procedures to minimize emissions. These systems should be in place to ensure the lowest fugitive PM emissions are reasonably achievable. CertainTeed applies proper control measures to roads, stockpiles, and general material handling sources to maintain particulate matter control of the plant premises, when applicable. In addition, the facility is subject to the particulate emissions by weight under Table 45-7A, which is based on the lb/hr capacity of the applicable units.

CertainTeed operates a well-designed facility and employs proper work practices at the facility to prevent and minimize PM emissions. In addition, many of the sources are subject to NSPS standards, which are more stringent than the state rules. CertainTeed employs proper measures to minimize fugitive emissions, as most of the PM collected is recycled back into the system. Compliance with this regulation is expected.

4.8.3 Series 13

Series 13, *Permits for Construction, Modification, Relocation and Operation of Stationary Source of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation*, regulates the criteria for obtaining a permit to construct and operate a new minor stationary source within the state of West Virginia.

The Moundsville facility is a major stationary source, operating under a Title V Permit to Operate (R30-05100113-2015), issued on May 27, 2015. This application is also being submitted to include the two new silos into the facility's Title V permit.

4.8.4 Series 14

Series 14, *Permits for Construction and Major Modification of Major Stationary Sources for the Prevention of Significant Deterioration of Air Quality*, regulates the criteria for obtaining a permit to construct and operate a new major stationary source within the state of West Virginia. It also regulates the criteria for a major modification of major stationary source within the state.

As mentioned above, the Moundsville facility is a major stationary source, operating under a Title V Permit to Operate (R30-05100113-2015), issued on May 27, 2015.

CertainTeed is also requesting the addition of two pieces of equipment (see Table 1-1). However, because these emission sources do not result in a significant net emissions increase of any NSR pollutant (described in Section 2.66 and 2.74), the proposed project is not considered a major modification.

4.8.5 Series 17

Series 17, *To Prevent & Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage & Other Sources of Fugitive Particulate Matter*, requires the prevention and control of PM from materials handling, preparation, storage, and other fugitive particulate sources beyond the property boundary through the appropriate use of preventative measures, which include but are not limited to, water or chemicals, enclosure/covering of sources, and installation of hoods/fans/fabric filters. The rule states that no fugitive PM may be discharged beyond the property line.

CertainTeed operates a well-designed facility and takes reasonable measures to reduce fugitive PM that include, but are not limited to, fabric filters, watering of haul roads, and paving the main roads. Compliance with this rule is expected.

4.8.6 Series 19

Series 19, *Permits For Construction And Major Modification of Major Stationary Sources Which Cause Or Contribute To Nonattainment Areas*, requires a preconstruction permit program to satisfy the requirements of the Clean Air Act (CAA) for any new major stationary source or major modification that is major for a pollutant in a nonattainment area under 107(d)(1)(A)(i) of CAA.

CertainTeed will not require a construction permit, since the addition of the proposed equipment does not cause a significant emissions increase, nor a significant net emissions increase of any NSR pollutant described in Section 2.66 and 3.4.

4.8.7 Series 21

Series 21, *Regulation to Prevent and Control Air Pollution From the Emission of Volatile Organic Compounds*, requires the use of reasonably available control technology for sources engaged in the manufacture, mixing, storage, use or application of volatile organic compounds (VOCs).

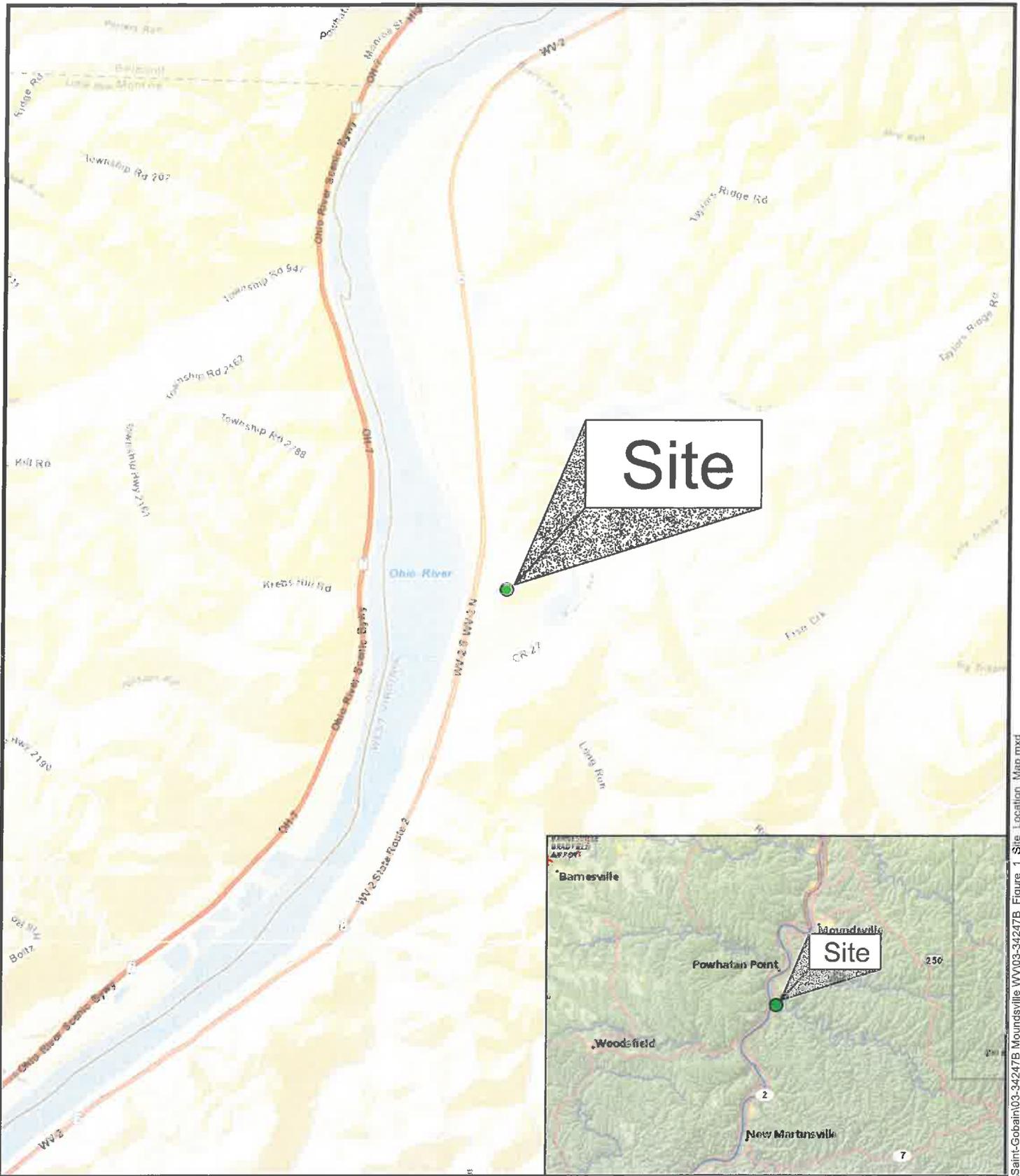
However, because this regulation only applies to sources located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County, this regulation is not applicable to the Moundsville facility, which is located in Marshall County.

4.8.8 Series 27

Series 27, *To Prevent and Control the Emissions of Toxic Air Pollutants*, details how to prevent and control the discharge of toxic air pollutants requiring the application of best available technology (BAT). The Moundsville facility is not subject to this regulation because it does not contain chemical processing units.

No additional regulations were identified that apply to the Moundsville facility.

**APPENDIX A
FACILITY LOCATION MAP**



SOURCE:
 National Geographic World Map
 ESRI ArcGIS Online
 © 2010 National Geographic Society
 Reference Data: National Geographic, Esri,
 DeLorme, HERE, IPC, NRCAN, METI

Map Created with ESRI ArcMap and National Geographic TOPO!™ ©2001 National Geographic Holdings [www.topo.com]



CONTOUR INTERVAL 40 FEET
 NATIONAL GEODETIC VERTICAL DATUM OF 1929
 1:40,000

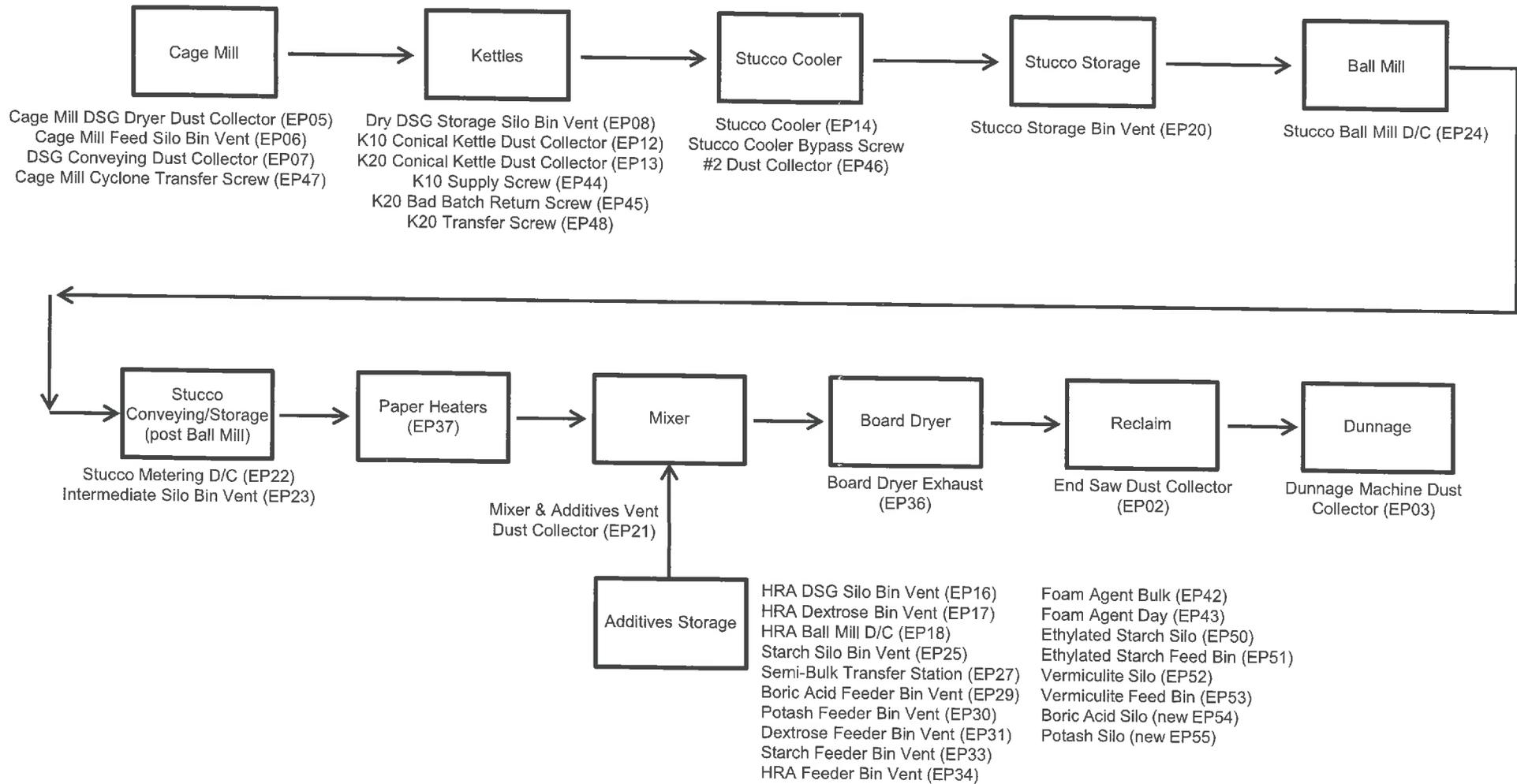


Path: Z:\01_P\Projects\Saint-Gobain\03-34247B Moundsville WV\03-34247B_Figure_1_Site_Location_Map.mxd

		<h2>Site Location Map</h2>	<h2>Figure 1</h2>
DRAFTED BY:	Date:	9622 Energy Road Proctor, West Virginia 26055	PROJECT: 1690011476

**APPENDIX B
FACILITY PLOT PLAN**

**APPENDIX C
PROCESS FLOW DIAGRAM**



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CertainTeed's Moundsville Facility Emission Points Associated With Each Process Area

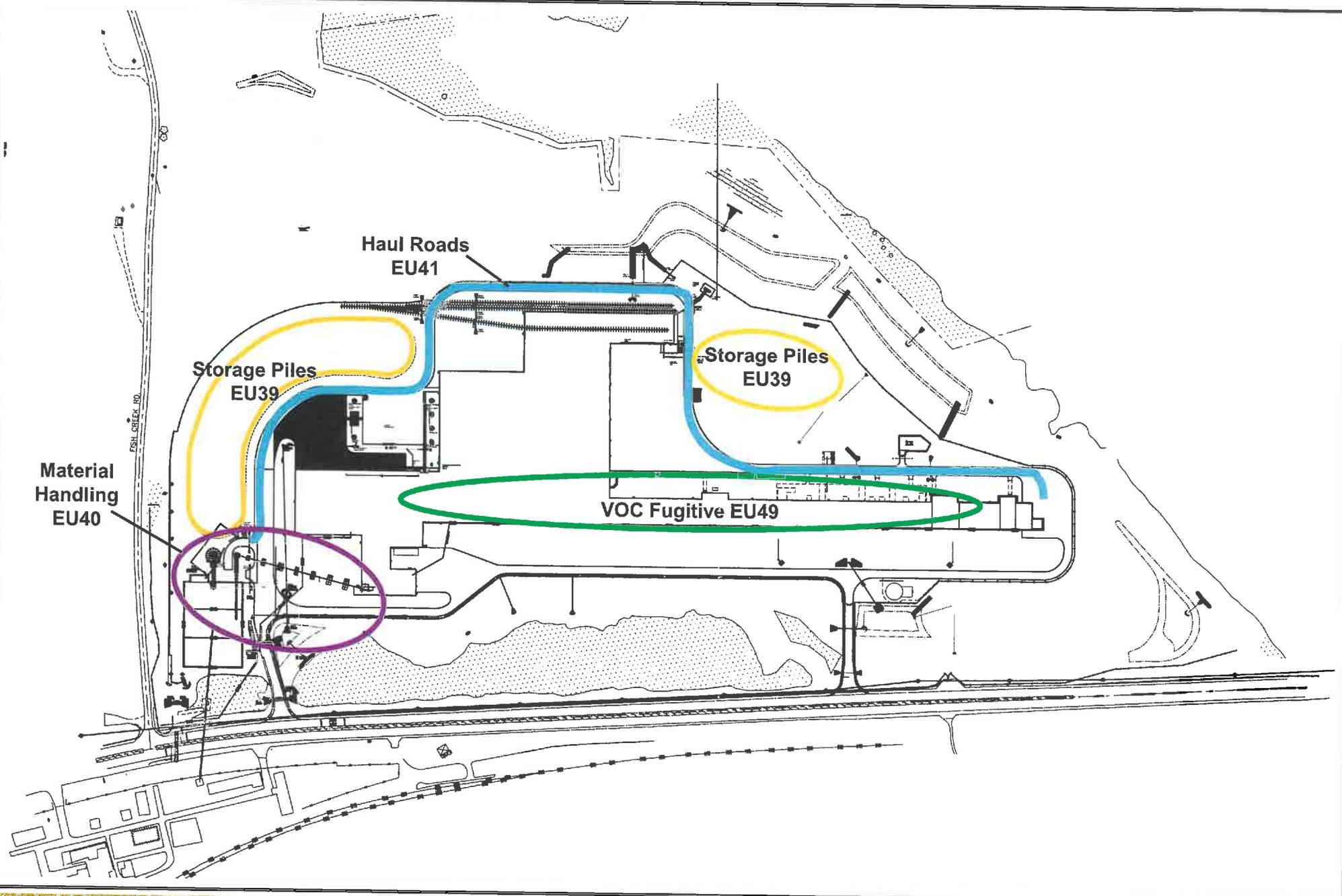
CertainTeed Gypsum WV, Inc.
Moundsville, West Virginia

Figure
1

PROJECT: 1690011476

DRAFTED BY:

DATE:



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CertainTeed's Moundsville Facility
 Emission Points Associated With Each Process Area

CertainTeed Gypsum WV, Inc.
 Moundsville, West Virginia

Figure
 2

DRAFTED BY: _____ DATE: _____

PROJECT: 1690011476

APPENDIX D
WV DAQ FORMS



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475

www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. Name of Applicant (As registered with the WV Secretary of State's Office): CertainTeed Gypsum WV, Inc
2. Facility Name or Location: Moundsville Facility
3. DAQ Plant ID No.: 051 — 00113
4. Federal Employer ID No. (FEIN): 20 - 2411363
5. Permit Application Type: [X] Permit Renewal
6. Type of Business Entity: [X] Corporation
7. Is the Applicant the: [X] Both
8. Number of onsite employees: 90
9. Governmental Code: [X] Privately owned and operated; 0
10. Business Confidentiality Claims: [X] No

11. Mailing Address		
Street or P.O. Box: 9622 Energy Road		
City: Proctor	State: WV	Zip: 26055
Telephone Number: (304) 843-3000		Fax Number: (304) 843-3001

12. Facility Location		
Street: 10 Energy Road	City: Moundsville	County: Marshall
UTM Easting: 516 km	UTM Northing: 4,408 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
Directions: The plant is located approximately 5 miles south of Moundsville on State Highway 2.		
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is facility located within a nonattainment area? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, for what air pollutants? SO ₂	
Is facility located within 50 miles of another state? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the affected state(s). Pennsylvania	
Is facility located within 100 km of a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the area(s).	
If no, do emissions impact a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.		

13. Contact Information		
Responsible Official: Greg Kibert		Title: Plant Manager
Street or P.O. Box: 9622 Energy Road		
City: Proctor	State: WV	Zip: 26055
Telephone Number: (304) 843-3008	Fax Number: (304) 280-6415	
E-mail address: Greg.Kibert@saint-gobain.com		
Environmental Contact: William Stegman		Title: Facilities Engineer
Street or P.O. Box: 9622 Energy Road		
City: Proctor	State: WV	Zip: 26055
Telephone Number: (304) 843-3014	Fax Number: () -	
E-mail address: William.Stegman@saint-gobain.com		
Application Preparer: Avani Panchal		Title: Senior Consultant
Company: Ramboll US Corporation		
Street or P.O. Box: 101 Carnegie Center Suite 200		
City: Princeton	State: NJ	Zip: 08540
Telephone Number: (609) 951-9015	Fax Number: () -	
E-mail address: apanchal@ramboll.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Gypsum Product Manufacturing	Gypsum Wallboard Products	327420	3275

Provide a general description of operations.

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 a slurry. The slurry is placed between two layers of paper to form the wallboard. The wallboard is dried, cut, and stacked for delivery.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

See Appendix A of the application.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

See Appendix B of the application.

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

See Appendix C of the application.

19. Non Applicability Determinations (Continued) - Attach additional pages as necessary.

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

Please refer to Section 4 "Regulatory Analysis" of the application report.

Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements).

Please refer to Section 4 "Regulatory Analysis" of the application report.

Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

CertainTeed will continue to follow monitoring/testing/recordkeeping/reporting requirements in its current Title V permit R30-05100113-2015 to demonstrate compliance.

Are you in compliance with all facility-wide applicable requirements? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

20. Facility-Wide Applicable Requirements (Continued) - Attach additional pages as necessary.

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

Please refer to Section 4 "Regulatory Analysis" of the application report.

Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

CertainTeed will continue to follow monitoring/testing/recordkeeping/reporting requirements in its current Title V permit R30-05100113-2015 to demonstrate compliance.

Are you in compliance with all facility-wide applicable requirements? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

22. Inactive Permits/Obsolete Permit Conditions

Permit Number	Date of Issuance	Permit Condition Number
	MM/DD/YYYY	
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Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	252
Nitrogen Oxides (NO _x)	121
Lead (Pb)	--
Particulate Matter (PM _{2.5}) ¹	129
Particulate Matter (PM ₁₀) ¹	163
Total Particulate Matter (TSP)	214
Sulfur Dioxide (SO ₂)	1
Volatile Organic Compounds (VOC)	19
Hazardous Air Pollutants²	Potential Emissions
Total HAP	2.15
Regulated Pollutants other than Criteria and HAP	Potential Emissions
Carbon Dioxide (CO ₂)	134,502
Nitrous Oxide (N ₂ O)	0.25
Methane (CH ₄)	2.53

¹PM_{2.5} and PM₁₀ are components of TSP.
²For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input checked="" type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input checked="" type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input checked="" type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input type="checkbox"/>	19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO _x , SO ₂ , VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis: _____ _____ _____ _____ _____ _____ _____

24. Insignificant Activities (Check all that apply)	
<input type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input checked="" type="checkbox"/>	26. Fire suppression systems.
<input checked="" type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input checked="" type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.

24. Insignificant Activities (Check all that apply)	
<input type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
<input checked="" type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input checked="" type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input checked="" type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input type="checkbox"/>	51. Steam cleaning operations.
<input type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input type="checkbox"/>	54. Steam vents and safety relief valves.
<input type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
<input type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the Title V Equipment Table and provide it as ATTACHMENT D .
See Attachment D
26. Emission Units
For each emission unit listed in the Title V Equipment Table , fill out and provide an Emission Unit Form as ATTACHMENT E .
See Attachment E
For each emission unit not in compliance with an applicable requirement, fill out a Schedule of Compliance Form as ATTACHMENT F .
N/A
27. Control Devices
For each control device listed in the Title V Equipment Table , fill out and provide an Air Pollution Control Device Form as ATTACHMENT G .
See Attachment G
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the Compliance Assurance Monitoring (CAM) Form(s) for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as ATTACHMENT H .
N/A – The baghouses used at the facility are part of the process and are not subject to CAM.

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. 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.

Responsible official (type or print)

Name: Greg Kibert

Title: Plant Manager

Responsible official's signature:

Signature: _____ Signature Date: _____
(Must be signed and dated in blue ink)

Note: Please check all applicable attachments included with this permit application:

- | | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | ATTACHMENT A: Area Map |
| <input checked="" type="checkbox"/> | ATTACHMENT B: Plot Plan(s) |
| <input checked="" type="checkbox"/> | ATTACHMENT C: Process Flow Diagram(s) |
| <input checked="" type="checkbox"/> | ATTACHMENT D: Equipment Table |
| <input checked="" type="checkbox"/> | ATTACHMENT E: Emission Unit Form(s) |
| <input type="checkbox"/> | ATTACHMENT F: Schedule of Compliance Form(s) |
| <input checked="" type="checkbox"/> | ATTACHMENT G: Air Pollution Control Device Form(s) |
| <input type="checkbox"/> | ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s) |

All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.wv.gov/dag, requested by phone (304) 926-0475, and/or obtained through the mail.

ATTACHMENT D - Title V Equipment Table
(includes all emission units at the facility except those designated as
insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID ¹	Control Device ¹	Emission Unit ID ¹	Emission Unit Description	Design Capacity	Year Installed/ Modified
EP02	FF02	EU02	Waste Recycle System – End Saw	2 tph	2008
EP03	FF03	EU03	Waste Recycle System – Dunnage Machine	2 tph	2008
EP05	FF05	EU05	Cage Mill DSG Dryer	120 tph	2007
				50 MMBtu/hr	
EP06	FF06	EU06	Cage Mill Feed Silo (Wet DSG Silo)	200 tons	2008
EP07	FF07	EU07	DSG Conveying System	120 tph	2008
EP08	FF08	EU08	Dry DSG Storage Silo (Intermediate DSG Silo)	200 tph	2007
EP12	FF12	EU12	K10 Kettle	44 tph	2008
				31.7 MMBtu/hr	
EP13	FF13	EU13	K20 Kettle	44 tph	2008
				31.7 MMBtu/hr	
EP14	FF14	EU14	Stucco Cooler	88 tph	2008
EP16	FF16	EU16	HRA DSG Silo	2.61 tph	2007
EP17	FF17	EU17	HRA Dextrose Silo	0.14 tph	2007
EP18	FF18	EU18	HRA Ball Mill System	1.65 tph	2007
EP20	FF20	EU20	Stucco Silo	600 tph	2007
EP21	FF21	EU21	Mixer and Additive	100 tph	2007
EP22	FF22	EU22	Stucco Metering Equipment	96 tph	2008
EP23	FF23	EU23	Intermediate Stucco Silo	60 tph	2007
EP24	FF24	EU24	Stucco Ball Mill	111 tph	2008
EP25	FF25	EU25	Starch Bulk Silo	24.8 tph	2008
EP27	FF27	EU27	Semi-Bulk Transfer Station Bin	24.8 tph	2007
EP29	FF29	EU29	Boric Acid Feeder	3 tph	2007
EP30	FF30	EU30	Potash Feeder Bin	6 tph	2007
EP31	FF31	EU31	Dextrose Feeder Bin	2.5 tph	2007
EP33	FF33	EU33	Starch Feeder Bin	2 tph	2007

EP34	FF34	EU34	HRA Feeder Bin	4 tph	2007
EP36	N/A	EU36	Board Dryer	Total of 147 MMBtu/hr	2007
EP37	N/A	EU37	Two Paper Heaters	Total of 1.9 MMBtu/hr	2007
Fugitive	N/A	EU39	Storage Piles	6.83 acres	2007
Fugitive	N/A	EU40	Material Handling	330 to 1,100 tph	2007
Fugitive	N/A	EU41	Haul Roads	67,085 mi/yr	2007
EP42	N/A	EU42	Foaming Agent Tank 1	9,500 gal	2007
EP43	N/A	EU43	Foaming Agent Tank 2	100 gal	2007
EP44	FF44	EU44	K10 Kettle Supply Screw	120 tph	2007
EP45	FF45	EU45	K20 Kettle Bad Batch Return Screw	100 tph	2007
EP46	FF46	EU46	Stucco Cooler ByPass Screw #2	100 tph	2007
EP47	FF47	EU47	Cage Mill Cyclone Transfer Screw	120 tph	2007
EP48	FF48	EU48	K20 Kettle Transfer Screw	120 tph	2007
Fugitive	N/A	EU49	Inking Operations	3.3 lb/hr	2007
EP50	FF50	EU50	Ethylated Starch Silo	5,000 ft ³	2013
EP51	FF51	EU51	Ethylated Starch Feeder Bin	1 tph	2013
EP52	FF52	EU52	Vermiculite Silo	3,000 ft ³	2013
EP53	FF53	EU53	Vermiculite Feeder Bin	1 tph	2013
New EP54	New FF54	New EU54	Boric Acid Silo	3,000 ft ³	2007
New EP55	New FF55	New EU55	Potash Silo	3,000 ft ³	2007
			Lift Station Generator 1	37 hp	2006
			Lift Station Generator 2	27 hp	2006
			Lift Station Generator 3	27 hp	2006
			Fire Pump	252 hp	2006

¹For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT E - Emission Unit Form

Emission Unit Description – DSG Handling, Drying/Calcining, Cooling and Stucco Handling Process

Emission unit ID number: See Table 1	Emission unit name: See Table 1	List any control devices associated with this emission unit: See Table 1
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

DSG Handling, Drying/Calcining, Cooling and Stucco Handling Process

Manufacturer: See Table 1	Model number: N/A	Serial number: N/A
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Construction date: See Table 1	Installation date: See Table 1	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
See Table 1

Maximum Hourly Throughput: See Table 1	Maximum Annual Throughput: See Table 1	Maximum Operating Schedule: 8,760 hours/year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: EU05 (Cage Mill Dryer): 50 MMBtu/hr EU12 (Kettle #1): 31.7 MMBtu/hr EU13 (Kettle #2): 31.7 MMBtu/hr	Type and Btu/hr rating of burners: EU05 (Cage Mill Dryer): North American Mfg. EU12 (Kettle #1) & EU13 (Kettle #2): Hamworthy-Peabody Combustion Inc.
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 Pipeline quality natural gas as the only fuel.
 EU05 (Cage Mill Dryer): 0.05 MMscf/hr
 EU12 (Kettle #1): 0.03 MMscf/hr
 EU13 (Kettle #2): 0.03 MMscf/hr
 Natural gas usage for the facility is limited by R13-2656 (4.1.4) to 251.84 Mscf/hr and 2,206.12 MMscf/yr.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	0.5 grains or less of total sulfur per 100 standard cubic feet		1,025 Btu per standard cubic feet

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Table 2	See Table 2
Nitrogen Oxides (NO _x)	See Table 2	See Table 2
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	See Table 2	See Table 2
Particulate Matter (PM ₁₀)	See Table 2	See Table 2
Total Particulate Matter (TSP)	See Table 2	See Table 2
Sulfur Dioxide (SO ₂)	See Table 2	See Table 2
Volatile Organic Compounds (VOC)	See Table 2	See Table 2
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Table 2	See Table 2
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p><u>Fabric Filter emissions were based on:</u></p> <p>0.01 grains of PM/PM₁₀ per dscf of exhaust gases for all fabric filters serving non-combustion sources (except the Dry DSG Silo Bin Vent)</p> <p>0.02 grains of PM/PM₁₀ per dscf for the Dry DSG Silo Bin Vent.</p> <p>With the exception of FF02 and FF05, PM_{2.5} is assumed to be 50% of PM based on the stack test results of a similar source for non-combustion related fabric filters. Filterable PM_{2.5} emissions from FF05 are assumed to be 100% of PM, and filterable PM_{2.5} emissions from FF02 are based on August 2013 stack test data.</p> <p><u>Combustion source emissions were based on:</u></p> <p>PM/PM₁₀ for the Cage Mill – AP-42 Factors</p> <p>PM/PM₁₀ for the Kettles – stack test data</p> <p>NO_x/CO – stack test data</p> <p>SO₂/VOC – AP-42 factors</p> <p>PM_{2.5} assumed to be 100% of PM for Kettles and Cage Mill</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- 45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.1: point source emissions limitation
- 45 CSR 7-5.1: minimize emissions of fugitive particulate matter
- 45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.2: fugitive source emissions limitations
- 45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.3 and 4.1.4: natural gas limitations
- 45 CSR 7-3.1: 20% opacity limitation
- 45 CSR 7-4.1: particulate limitation as specified in Table 45-7A
- 40 CFR Part 60 Subpart OOO: stack emissions limitation
- 40 CFR Part 60 Subpart OOO: Stack 7% opacity limitation
- 40 CFR Part 60 Subpart OOO: Fugitive 10% opacity limitation
- 40 CFR Part 60 Subpart OOO: Material handling operations enclosed in a building limitation
- 40 CFR Part 60 Subpart UUU: kettle particulate limitation
- 40 CFR Part 60 Subpart UUU: Kettle 10% opacity limitation
- 45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.20 and 21: additive VOC and HAP limitations
- 45 CSR 13-5.11: operation and maintenance of control equipment
- 45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.10, 11, 12, and 13: stack emissions limitation and compliance
- 45 CSR 30-12.7: The pressure drop across the baghouses shall be maintained between 0.5 and 6 in. H₂O
- 45 CFR 16: testing methods and reporting requirements

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.1: point source emissions limitation
Permit No R13-2656: 4.2.1 The Permittee shall monitor and record the pressure drop across the fabric filters on a weekly basis.

45 CSR 7-5.1: minimize emissions of fugitive particulate matter

45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.2: fugitive source emissions limitations
Permit No R13-2656: 4.1.7 No person shall cause, suffer, allow, or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.

45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.3 and 4.1.4: natural gas limitations

45 CSR 7-3.1: 20% opacity limitation
Permit No R13-2656: 4.2.5 For the purpose of determining compliance with the opacity limits of 4.1.5, 4.1.11, and 4.1.12 the permittee shall conduct visible emissions checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit, as needed (when visible emissions are observed).

45 CSR 7-4.1: particulate limitation as specified in Table 45-7A
Permit No R13-2656: 4.2.1 The Permittee shall monitor and record the pressure drop across the fabric filters on a

weekly basis.

40 CFR Part 60 Subpart OOO: stack emissions limitation

Permit No R13-2656: 4.2.1 The Permittee shall monitor and record the pressure drop across the fabric filters on a weekly basis.

40 CFR Part 60 Subpart OOO: Stack 7% opacity limitation

Permit No R13-2656: 4.2.5 For the purpose of determining compliance with the opacity limits of 4.1.5, 4.1.11, and 4.1.12 the permittee shall conduct visible emissions checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit, as needed (when visible emissions are observed).

40 CFR Part 60 Subpart OOO: Fugitive 10% opacity limitation

Permit No R13-2656: 4.2.5 For the purpose of determining compliance with the opacity limits of 4.1.5, 4.1.11, and 4.1.12 the permittee shall conduct visible emissions checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit, as needed (when visible emissions are observed).

40 CFR Part 60 Subpart OOO: Material handling operations enclosed in a building limitation

40 CFR Part 60 Subpart UUU: kettle particulate limitation

40 CFR Part 60 Subpart UUU: Kettle 10% opacity limitation

45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.20 and 21: additive VOC and HAP limitations

Permit No R13-2656: 4.2.3 The permittee shall monitor and record the quantity of all inks, wet additives and foaming agents used along with their VOC and HAP content.

45 CSR 13-5.11: operation and maintenance of control equipment

Permit No R13-2656: 4.2.7 For all air 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.

Permit No R13-2656: 4.2.8 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 be 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.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Emission Unit: DSG Handling, Drying/Calcining, Cooling and Stucco Handling Process

Table 1. Emissions Unit Description
CertainTeed Gypsum, Moundsville, WV

Emissions Unit ID	Emission Unit Name	Control Device ID	Emissions Unit Manufacturer	Construction Date	Installation Date	Maximum Capacity (tph)
EU02	Waste/Recycle System	FF02			2008	2
EU03	Waste/Recycle System	FF03			2008	2
EU05	Cage Mill DSG Dryer	FF05	Alstom	2/28/2007	9/20/2007	120
EU06	Cage Mill Feed Silo - Wet DSG Silo	FF06	Donaldson Torit	2/28/2007	9/21/2007	200 tons
EU07	DSG Conveying Equipment	FF07	WTW Americas	9/19/2007	1/11/2008	200
EU47	Cage Mill Cyclone Transfer Screw	FF47	Donaldson Torit	3/26/2007	11/15/2007	120
EU08	Dry DSG Storage Silo (Intermediate DSG Silo)	FF08	Donaldson Torit	8/6/2007	11/9/2007	200
EU12	K-10 Kettle	FF12	Manthrope (SGGE)	4/3/2007	1/11/2008	44
EU13	K-20 Kettle	FF13	Manthrope (SGGE)	4/3/2007	1/12/2008	44
EU48	K-20 Kettle Transfer Screw	FF48	Strongco	6/27/2007	11/16/2007	120
EU44	K-10 Kettle Supply Screw	FF44	Strongco	9/19/2007	11/16/2007	120
EU45	K-20 Kettle Bad Batch Return Screw	FF45	Strongco	1/23/2007	11/17/2007	100
EU46	Stucco Cooler Bypass Screw #2	FF46	Strongco	3/26/2007	1/4/2008	100
EU14	Stucco Cooler Bypass Screw #2	FF14	AVT	9/19/2007	1/4/2008	88
EU16	HRA DSG Silo	FF16	Ven den berg	1/19/2007	10/18/2007	2.61
EU17	HRA Dextrose Silo	FF17	Ven den berg	1/19/2007	10/3/2007	0.1375
EU18	HRA Ball Mill System	FF18	Patterson	9/5/2006	8/10/2007	1.65
EU39	Storage Piles	N/A	N/A	2007	2007	6.83 acres
EU40	Outside Material Handling Equipment	N/A	N/A	2007	2007	1,100

Notes:

tph - tons per hour

EU - emission unit

FF - fabric filter

DSG - desulphogypsum

Emission Unit: DSG Handling, Drying/Calcining, Cooling and Stucco Handling Process

Table 2. Emissions Data

CertainTweed Gypsum, Moundsville, WV

Emissions Unit ID	PM _{2.5}		PM ₁₀		PM		NO _x		CO		SO ₂		VOC		HAP	
	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)
EU02	0.86	3.8	1.97	8.6	1.97	8.6	-	-	-	-	-	-	-	-	-	-
EU03	0.30	1.3	0.60	2.6	0.60	2.6	-	-	-	-	-	-	-	-	-	-
EU05	6.00	26.3	6.00	26.3	6.28	27.5	2.29	10.05	2.65	11.61	0.03	0.13	0.27	1.18	0.09	0.41
EU06	0.01	0.1	0.03	0.1	0.03	0.1	-	-	-	-	-	-	-	-	-	-
EU07	0.01	0.0	0.02	0.1	0.02	0.1	-	-	-	-	-	-	-	-	-	-
EU47	0.01	0.0	0.02	0.1	0.02	0.1	-	-	-	-	-	-	-	-	-	-
EU08	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU12	3.07	13.4	3.07	13.4	3.99	17.5	6.80	29.79	15.58	68.23	0.02	0.08	0.17	0.75	0.06	0.26
EU13	3.07	13.4	3.07	13.4	3.99	17.5	6.80	29.79	15.58	68.23	0.02	0.08	0.17	0.75	0.06	0.26
EU48	0.01	0.0	0.02	0.1	0.02	0.1	-	-	-	-	-	-	-	-	-	-
EU44	0.01	0.0	0.02	0.1	0.02	0.1	-	-	-	-	-	-	-	-	-	-
EU45	0.01	0.0	0.02	0.1	0.02	0.1	-	-	-	-	-	-	-	-	-	-
EU46	0.01	0.0	0.02	0.1	0.02	0.1	-	-	-	-	-	-	-	-	-	-
EU14	0.09	0.4	0.17	0.8	0.17	0.8	-	-	-	-	-	-	-	-	-	-
EU16	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU17	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU18	0.26	1.1	0.52	2.3	0.52	2.3	-	-	-	-	-	-	-	-	-	-
EU39	0.28	1.2	1.89	8.3	3.77	16.5	-	-	-	-	-	-	-	-	-	-
EU40	0.55	2.4	3.45	15.1	7.14	31.3	-	-	-	-	-	-	-	-	-	-

Notes:

PM - particulate matter

PM_{2.5} - particulate matter less than 2.5 microns in diameter

PM₁₀ - particulate matter less than 10 microns in diameter

NO_x - oxides of nitrogen

CO - carbon monoxide

SO₂ - sulfur dioxide

VOC - volatile organic compound

HAP - hazardous air pollutant

lbs/hr - pounds per hour

tpy - tons per year

EU - emission unit

ATTACHMENT E - Emission Unit Form

Emission Unit Description – Mixer/Additives

Emission unit ID number: See Table 1	Emission unit name: See Table 1	List any control devices associated with this emission unit: See Table 1
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Mixer / Additives

Manufacturer: See Table 1	Model number: N/A	Serial number: N/A
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Construction date: See Table 1	Installation date: See Table 1	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
See Table 1

Maximum Hourly Throughput: See Table 1	Maximum Annual Throughput: See Table 1	Maximum Operating Schedule: 8,760 hours/year
--	--	--

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A		N/A

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	See Table 2	See Table 2
Particulate Matter (PM ₁₀)	See Table 2	See Table 2
Total Particulate Matter (TSP)	See Table 2	See Table 2
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p><u>Fabric Filter emissions were based on:</u></p> <p>0.01 grains of PM/PM₁₀ per dscf of exhaust gases</p> <p>PM_{2.5} assumed to be 50% of PM</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.1: point source emissions limitation
45 CSR 7-5.1: minimize emissions of fugitive particulate matter
45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.2: fugitive source emissions limitations
45 CSR 7-3.1: 20% opacity limitation
45 CSR 7-4.1: particulate limitation as specified in Table 45-7A
45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.20 and 21: additive VOC and HAP limitations
45 CSR 13-5.11: operation and maintenance of control equipment

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.1: point source emissions limitation
Permit No R13-2656: 4.2.1 The Permittee shall monitor and record the pressure drop across the fabric filters on a weekly basis.

45 CSR 7-5.1: minimize emissions of fugitive particulate matter

45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.2: fugitive source emissions limitations
Permit No R13-2656: 4.1.7 No person shall cause, suffer, allow, or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.

45 CSR 7-3.1: 20% opacity limitation
Permit No R13-2656: 4.2.5 For the purpose of determining compliance with the opacity limits of 4.1.5, 4.1.11, and 4.1.12 the permittee shall conduct visible emissions checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit, as needed (when visible emissions are observed).

45 CSR 7-4.1: particulate limitation as specified in Table 45-7A
Permit No R13-2656: 4.2.1 The Permittee shall monitor and record the pressure drop across the fabric filters on a weekly basis.

45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.20 and 21: additive VOC and HAP limitations
Permit No R13-2656: 4.2.3 The permittee shall monitor and record the quantity of all inks, wet additives and foaming agents used along with their VOC and HAP content.

45 CSR 13-5.11: operation and maintenance of control equipment
Permit No R13-2656: 4.2.7 For all air 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.

Permit No R13-2656: 4.2.8 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 be 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.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

Emission Unit: Mixer/Additives

Table 1. Emissions Unit Description
 CertainTeed Gypsum, Moundsville, WV

Emissions Unit ID	Emission Unit Name	Control Device ID	Emissions Unit Manufacturer	Construction Date	Installation Date	Maximum Capacity (tph)
EU20	Stucco Silo	FF20	Ven den Berg	2/17/2007	6/27/2007	600
EU22	Stucco Metering Equipment	FF22	Ven den Berg	4/11/2007	1/7/2008	96
EU21	Mixer and Additives	FF21	Ven den Berg	10/26/2007	12/1/2007	100
EU23	Intermediate Stucco Silo	FF23	Ven den Berg	6/6/2007	7/3/2007	60
EU24	Stucco Ball Mill	FF24	Industrial Machine & Welding	10/12/2007	1/12/2008	111
EU25	Starch Bulk Silo	FF25	Ven den Berg	7/4/2008	8/11/2008	24.8
EU27	Semi-Bulk transfer Station Bin	FF27	Ven den Berg	8/6/2007	10/10/2007	24.8
EU29	Boric Acid Feeder Bin	FF29	Ven den Berg	1/19/2007	10/18/2007	3
EU30	Potash Feeder Bin	FF30	Ven den Berg	1/19/2007	9/20/2007	6
EU31	Dextrose Feeder Bin	FF31	Ven den Berg	1/19/2007	10/19/2007	2.5
EU33	Starch Feeder Bin	FF33	Ven den Berg	1/19/2007	10/11/2007	2
EU34	HRA Feeder Bin	FF34	Ven den Berg	1/19/2007	9/20/2007	4
EU50	Ethylated Starch Silo	FF50			2013	5,000 ft ³
EU51	Ethylated Starch Feeder Bin	FF51			2013	1 (ton/hr)
EU52	Vermiculite Silo	FF52			2013	3,000 ft ³
EU53	Vermiculite Feeder Bin	FF53				1 (ton/hr)
new EU54	Boric Acid Silo	FF54		1/19/2007	10/18/2007	3,000 ft ³
new EU55	Potash Silo	FF55		1/19/2007	9/20/2007	3,000 ft ³

Notes:

EU - emission unit

FF - fabric filter

tph - tons per hour

Emission Unit: Mixer/Additives

Table 2. Emissions Data

CertainTeed Gypsum, Moundsville, WV

Emissions Unit ID	PM _{2.5}		PM ₁₀		PM		NO _x		CO		SO ₂		VOC		HAP	
	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)
EU20	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU22	0.11	0.5	0.23	1.0	0.23	1.0	-	-	-	-	-	-	-	-	-	-
EU21	0.05	0.2	0.10	0.4	0.10	0.4	-	-	-	-	-	-	-	-	-	-
EU23	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU24	0.15	0.7	0.30	1.3	0.30	1.3	-	-	-	-	-	-	-	-	-	-
EU25	0.06	0.3	0.12	0.5	0.12	0.5	-	-	-	-	-	-	-	-	-	-
EU27	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU29	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU30	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU31	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU33	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU34	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU50	0.06	0.3	0.12	0.5	0.12	0.5	-	-	-	-	-	-	-	-	-	-
EU51	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
EU52	0.06	0.3	0.12	0.5	0.12	0.5	-	-	-	-	-	-	-	-	-	-
EU53	0.03	0.1	0.05	0.2	0.05	0.2	-	-	-	-	-	-	-	-	-	-
new EU54	0.13	0.6	0.26	1.1	0.26	1.1	-	-	-	-	-	-	-	-	-	-
new EU55	0.13	0.6	0.26	1.1	0.26	1.1	-	-	-	-	-	-	-	-	-	-

Notes:

PM - particulate matter

PM_{2.5} - particulate matter less than 2.5 microns in diameter

PM₁₀ - particulate matter less than 10 microns in diameter

NO_x - oxides of nitrogen

CO - carbon monoxide

SO₂ - sulfur dioxide

VOC - volatile organic compound

HAP - hazardous air pollutant

lbs/hr - pounds per hour

tpy - tons per year

EU - emission unit

ATTACHMENT E - Emission Unit Form

Emission Unit Description – Facility Haul Roads

Emission unit ID number: EU41	Emission unit name: Haul Roads	List any control devices associated with this emission unit: N/A
---	--	--

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Facility Haul Roads (fugitive emissions)

Manufacturer: N/A	Model number: N/A	Serial number: N/A
-----------------------------	-----------------------------	------------------------------

Construction date: 2007	Installation date: See Table 1	Modification date(s): N/A
-----------------------------------	--	-------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Gypsum Supply and Finished Wallboard round trip truck trips limited in R13-2656 to a maximum of 41,000 trips per rolling 12-months.

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: N/A	Maximum Operating Schedule: 8,760 hours/year
--	--	--

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A	N/A	N/A

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	0.05	0.20
Particulate Matter (PM ₁₀)	0.18	0.81
Total Particulate Matter (TSP)	0.92	4.00
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	N/A
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). Potential emissions were calculated using AP-42 Section 13.2.1 (January 2011)		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 7-5.1: minimize emissions of fugitive particulate matter
45 CSR 7-5.2: control of roadway particulate emissions
45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.19: Truck Trips limitation

X Permit Shield

45 CSR 7-5.1: minimize emissions of fugitive particulate matter

Permit No R13-2656: 4.2.4 The permittee shall monitor and record the number of gypsum supply and finished wall board truck trips on a monthly basis.

45 CSR 7-5.2: control of roadway particulate emissions

Permit No R13-2656: 4.2.4 The permittee shall monitor and record the number of gypsum supply and finished wall board truck trips on a monthly basis.

45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.19: Truck Trips limitation

Permit No R13-2656: 4.2.4 The permittee shall monitor and record the number of gypsum supply and finished wall board truck trips on a monthly basis.

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description – Storage/Transfer of Additives and Ink Usage

Emission unit ID number: See Table 1	Emission unit name: See Table 1	List any control devices associated with this emission unit: See Table 1
--	---	--

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Additive storage tanks and associated fill operation

Ink application

Manufacturer: See Table 1	Model number: N/A	Serial number: N/A
-------------------------------------	-----------------------------	------------------------------

Construction date: See Table 1	Installation date: See Table 1	Modification date(s): N/A
--	--	-------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
See Table 1

Maximum Hourly Throughput: See Table 1	Maximum Annual Throughput: See Table 1	Maximum Operating Schedule: 8,760 hours/year
--	--	--

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A	N/A		N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO _x)	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO ₂)	N/A	N/A
Volatile Organic Compounds (VOC)	See Table 2	See Table 2
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	N/A	N/A
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Fugitive VOC emissions from additive storage and bulk loading are considered negligible.</p> <p>Note: VOC emissions from additives are assumed to be emitted from the Board Dryer stack serving zones 1 & 2.</p> <p>Fugitive VOC emissions from ink usage are estimated based on maximum material applied.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.20 and 21: additive VOC and HAP limitations.
45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.1: Inking Operations VOC limitations.

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.20 and 21: additive VOC and HAP limitations
4.2.3 The permittee shall monitor and record the quantity of all inks, wet additives and foaming agents used along with their VOC and HAP content.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

Emission Unit: Storage/Transfer of Additives and Ink Usage

Table 1. Emissions Unit Description
 CertainTeed Gypsum, Moundsville, WV

Emissions Unit ID	Emission Unit Name	Control Device ID	Emissions Unit Manufacturer	Construction Date	Installation Date	Maximum Capacity
EU42	Fugitive VOC emissions due to additive storage and loading	N/A	N/A	2007	2007	9,500 gal
EU43						100 gal
EU49	Fugitive VOC emissions due to Ink Usage	N/A	N/A	2007	2007	3.3 lb/hr

Notes:

EU - emission unit

tph - tons per hour

gal - gallons

lb/hr - pound per hour

Emission Unit: Storage/Transfer of Additives and Ink Usage

Table 2. Emissions Data

CertainTeed Gypsum, Moundsville, WV

Emissions Unit ID	PM _{2.5}		PM ₁₀		PM		NO _x		CO		SO ₂		VOC		HAP	
	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)
EU42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EU43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EU49	-	-	-	-	-	-	-	-	-	-	-	-	2.7	11.83	-	-

Notes:

PM - particulate matter

PM_{2.5} - particulate matter less than 2.5 microns in diameter

PM₁₀ - particulate matter less than 10 microns in diameter

NO_x - oxides of nitrogen

CO - carbon monoxide

SO₂ - sulfur dioxide

VOC - volatile organic compound

HAP - hazardous air pollutant

lbs/hr - pounds per hour

tpy - tons per year

EU - emission unit

ATTACHMENT E - Emission Unit Form

Emission Unit Description – Dryer Section

Emission unit ID number: See Table 1	Emission unit name: See Table 1	List any control devices associated with this emission unit: See Table 1
--	---	--

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Board Dryer and two (2) Paper Heaters

Manufacturer: See Table 1	Model number: N/A	Serial number: N/A
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Construction date: See Table 1	Installation date: See Table 1	Modification date(s): N/A
--	--	-------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): N/A
--

Maximum Hourly Throughput: See Table 1	Maximum Annual Throughput: See Table 1	Maximum Operating Schedule: 8,760 hours/year
--	--	--

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: EU36 (board dryer): Total of 147 MMBtu/hr (Zone 1: 62 MMBtu/hr, Zone 2: 59 MMBtu/hr, Zone 3: 26 MMBtu/hr) EU37 (paper heater): Total of 1.9 MMBtu/hr	Type and Btu/hr rating of burners: EU36 (board dryer): Grenzbach EU37 (paper heaters): Marsden, Inc.
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Pipeline quality natural gas as the only fuel.
 EU36 (board dryer): 0.14 MMscf/hr total
 EU37 (paper heater): 0.00184 MMscf/hr total
 Natural gas usage for the facility is limited by R13-2656 (4.1.4) to 251.84 Mscf per hour and 2,206.12 MMscf per year.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	0.5 grains or less of total sulfur per 100 standard cubic feet		1025 Btu per standard cubic feet

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Table 2	See Table 2
Nitrogen Oxides (NO _x)	See Table 2	See Table 2
Lead (Pb)	N/A	N/A
Particulate Matter (PM _{2.5})	See Table 2	See Table 2
Particulate Matter (PM ₁₀)	See Table 2	See Table 2
Total Particulate Matter (TSP)	See Table 2	See Table 2
Sulfur Dioxide (SO ₂)	See Table 2	See Table 2
Volatile Organic Compounds (VOC)	See Table 2	See Table 2
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Table 1	See Table 2
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Board Dryer emissions were based on: PM/PM10/PM2.5 – stack test data NOx/CO - stack test data SO2 - AP-42 factors VOC - AP-42 factors</p> <p>Paper Heater emissions were based on: AP-42 for all pollutants</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.1: point source emissions limitation
45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.3 and 4.1.4: natural gas limitations
45 CSR 7-3.1: 20% opacity limitation
45 CSR 7-4.1: particulate limitation as specified in Table 45-7A

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

45 CSR 13 Permit No R13-2656 Specific Requirement 4.1.1: point source emissions limitation

45 CSR 13 Permit No R13-2656 Specific Requirements 4.1.3 and 4.1.4: natural gas limitations

45 CSR 7-3.1: 20% opacity limitation

4.2.5 For the purpose of determining compliance with the opacity limits of 4.1.5, 4.1.11, and 4.1.12 the permittee shall conduct visible emissions checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit, as needed (when visible emissions are observed).

45 CSR 7-4.1: particulate limitation as specified in Table 45-7A

Permit No R13-2656: 4.1.3 Use of pipeline quality natural gas only.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Emission Unit: Dryer Section

Table 1. Emissions Unit Description
 CertainTeed Gypsum, Moundsville, WV

Emissions Unit ID	Emission Unit Name	Control Device ID	Emissions Unit Manufacturer	Construction Date	Installation Date	Maximum Capacity (MMBtu/hr)
EU36	Board Dryer (Zones 1, 2)	N/A	Grenzebach Corporation	9/1/2007	3/17/2008	Total 147 (Zone 1: 62, Zone 2: 59, Zone 3: 26)
	Board Dryer (Zone 3)	N/A				
EU37	Two Paper Heaters	N/A	Marsden, Inc.	9/1/2007	3/17/2008	Total 1.9

Notes:

EU - emission unit

MMBtu/hr - million British thermal units per hour

Emission Unit: Dryer Section

Table 2. Emissions Data

CertainTeed Gypsum, Moundsville, WV

Emissions Unit ID	PM _{2.5}		PM ₁₀		PM		NO _x		CO		SO ₂		VOC		HAP	
	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)
EU36	8.08	35.4	8.08	35.4	9.51	41.7	5.29	23.2	13.31	58.3	0.07	0.3	0.87	3.8	0.23	1.0
	5.73	25.1	5.73	25.1	7.16	31.3	6.32	27.7	10.40	45.6	0.02	0.1	0.18	0.8	0.05	0.2
EU37	0.01	0.1	0.01	0.1	0.02	0.1	0.17	0.8	0.07	0.3	0.00	0.0	0.01	0.0	0.00	0.0

Notes:

PM - Particulate matter

PM_{2.5} - Particulate matter less than 2.5 microns in diameter

PM₁₀ - Particulate matter less than 10 microns in diameter

NO_x - Oxides of nitrogen

CO - Carbon monoxide

SO₂ - Sulfur dioxide

VOC - Volatile organic compound

HAP - Hazardous air pollutant

lbs/hr - Pounds per hour

tpy - Tons per year

EU - emission unit

ATTACHMENT E - Emission Unit Form

Emission Unit Description – Stationary Emergency Engines

Emission unit ID number: See Table 1	Emission unit name: See Table 1	List any control devices associated with this emission unit: See Table 1
--	---	--

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Three (3) Lift Station Generators, One (1) Fire Pump

Manufacturer: See Table 1	Model number: N/A	Serial number: N/A
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Construction date: See Table 1	Installation date: See Table 1	Modification date(s): N/A
--	--	-------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
See Table 1

Maximum Hourly Throughput: See Table 1	Maximum Annual Throughput: See Table 1	Maximum Operating Schedule: See Table 1
--	--	---

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: Lift Station Generator #1: 37 hp Lift Station Generator #2: 27 hp Lift Station Generator #3: 27 hp Fire Pump: 252 hp	Type and Btu/hr rating of burners: Lift Station Generators: Diesel fired stationary engines (Cummins) Fire Pump: Diesel – fire pump (John Deere)
---	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Diesel the only fuel. Information available about hours of operation.
Lift Station Generator #1: 100 hours / year
Lift Station Generator #2: 100 hours / year
Lift Station Generator #3: 100 hours / year
Fire Pump: 100 hours / year

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Diesel	Diesel fuel that meets the requirements of 40 CFR 80.510(b) for non-road diesel fuel		

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Table 2	See Table 2
Nitrogen Oxides (NO _x)	See Table 2	See Table 2
Lead (Pb)	See Table 2	See Table 2
Particulate Matter (PM _{2.5})	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	See Table 2	See Table 2
Sulfur Dioxide (SO ₂)	See Table 2	See Table 2
Volatile Organic Compounds (VOC)	See Table 2	See Table 2
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
	See Table 2	See Table 2
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
N/A	N/A	N/A
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p><u>Combustion source emissions were based on:</u> Manufacturer data, where available. Else, AP-42 Chapter 3.3.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

General Permit – G60C

40 CFR Part 60 Subpart IIII: all requirements for owners and operators of stationary engines

X Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

40 CFR 60 (§60.4214): notification, reporting, and recordkeeping requirements

Includes all applicable notification, reporting, and recordkeeping requirements.

Are you in compliance with all applicable requirements for this emission unit? X Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

Emission Unit: Stationary Engines

Table 1. Emissions Unit Description
CertainTeed Gypsum, Moundsville, WV

Emission Unit Name	Emissions Unit Manufacturer	Model Year	Installation Date	Engine Horsepower (hp)	Cylinder Displacement (liters/cylinder)
Lift Station Generator 1 (Office)	Cummins	2004 - 2006	March, 2008	37	2.2
Lift Station Generator 2 (South)	Cummins	2006	March, 2008	27	1.6
Lift Station Generator 3 (North)	Cummins	2006	March, 2008	27	1.6
Fire Pump	John Deere	2006	March, 2008	252	8.1

Notes:

hp - horsepower

Emission Unit: Stationary Engines

Table 2. Emissions Data

CertainTeed Gypsum, Moundsville, WV

Emission Unit Name	PM _{2.5}		PM ₁₀		PM		NO _x		CO		SO ₂		VOC		HAP	
	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)	(lbs/hr)	(tpy)
Lift Station Generator 1 (Office)	--	--	--	--	0.001	0.002	0.002	0.008	0.001	0.005	0.001	0.004	0.000	0.000	1.91E-05	8.36E-05
Lift Station Generator 2 (South)	--	--	--	--	0.000	0.002	0.001	0.006	0.001	0.004	0.001	0.003	0.000	0.000	1.39E-05	6.10E-05
Lift Station Generator 3 (North)	--	--	--	--	0.000	0.002	0.001	0.006	0.001	0.004	0.001	0.003	0.000	0.000	1.39E-05	6.10E-05
Fire Pump	--	--	--	--	0.001	0.005	0.047	0.206	0.006	0.024	0.006	0.026	0.002	0.008	1.30E-04	5.69E-04

Notes:

PM - particulate matter

PM_{2.5} - particulate matter less than 2.5 microns in diameter

PM₁₀ - particulate matter less than 10 microns in diameter

NO_x - oxides of nitrogen

CO - carbon monoxide

SO₂ - sulfur dioxide

VOC - volatile organic compound

HAP - hazardous air pollutant

lbs/hr - pounds per hour

tpy - tons per year

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF02 – End Saws Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLMC 4/8/15

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

192 Polyester bags
 Dia.: 19.5 in, Length: 4.94 ft.
 Total cloth area: 3,901 ft²
 Flow rate: 23,000 scfm at 75°F
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O
 Particulate Loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading
 air to cloth ratio: 7.44 ft/min

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF03 – Dunnage Machine Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLMC 3/6/15

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

90 Polyester bags
 Dia.: 19.5 in, Length: 4.94 ft.
 Total cloth area: 1,449 ft²
 Flow rate: 7,000 scfm at ambient temperature
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O
 Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading
 air to cloth ratio: 4.83 ft/min

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF05 – Cage Mill DSG Dryer Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Scheuch

Model number:
SF-D-W-05/12-D-10

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

750 Polyester bags
 Dia.: 60 mm, Length: 4,500 mm
 Total cloth area: 17,856 ft²
 Flow rate: 70,000 scfm at 185°F
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O
 Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading
 Air to cloth ratio: 3.92 ft/min

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF06 – Cage Mill Feed Silo (Wet DSG Silo) Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLMV 4/7

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

6 Tetratex on Polyester bags
Dia.: 19.5 in., Length: 2.32 ft
Total cloth area: 43 ft²
Air to cloth ratio: 6.98 ft/min
Flow rate: 300 scfm at ambient temperature
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF07 – DSG Conveying Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
SA-F40HF KS1

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

4 Tetratex on Polyester bags
Dia.: 19.5 in., Length: 3.31 ft
Total cloth area: 43 ft²
Air to cloth ratio: 4.65 ft/min
Flow rate: 200 scfm at 185°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF08 – Dry DSG Storage
(Intermediate DSG) Silo Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Cyclonaire

Model number:
84-DC-36

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

36 Polyester bags
Dia.: 5.75 in., Length: 7 ft
Total cloth area: 382 ft²
Air to cloth ratio: 5.50 ft/min
Flow rate: 2,100 scfm at 185°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.02 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF08 – K10 Conical Kettle Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Scheuch

Model number:
S-D-W-05/12-D-06

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

360 P84 550 g bags
 Dia.: 60 mm., Length: 4,267 mm
 Total cloth area: 8,568 ft²
 Air to cloth ratio: 4.08 ft/min
 Flow rate: 35,000 scfm at 300°F
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF08 – K20 Conical Kettle Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Scheuch

Model number:
S-D-W-05/12-D-06

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

360 P84 550 g bags
Dia.: 60 mm., Length: 4,267 mm
Total cloth area: 8,568 ft²
Air to cloth ratio: 4.08 ft/min
Flow rate: 35,000 scfm at 300°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF14 – Stucco Cooler Nuisance Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLMC 1/2/15

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

30 Polyester bags
Dia.: 19.5 in., Length: 4.94 ft.
Total cloth area: 485 ft²
Air to cloth ratio: 4.12 ft/min
Flow rate: 2,000 scfm at 170°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF16 – HRA Landplaster Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | <input type="checkbox"/> Dry Plate Electrostatic Precipitator | |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags
 Dia.: 19.5 in., Length: 3.31 ft.
 Total cloth area: 108 ft²
 Air to cloth ratio: 5.45 ft/min
 Flow rate: 589 scfm at 185°F
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF17 – HRA Dextrose Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | <input type="checkbox"/> Dry Plate Electrostatic Precipitator | |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags
 Dia.: 19.5 in., Length: 3.31 ft.
 Total cloth area: 108 ft²
 Air to cloth ratio: 5.45 ft/min
 Flow rate: 589 scfm at 185°F
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF18 – HRA Ball Mill Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V25/12 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

20 Polyester bags
 Dia.: 19.5 in., Length: 3.31 ft.
 Total cloth area: 269 ft²
 Air to cloth ratio: 4.38 ft/min
 Flow rate: 1,177 scfm at 150°F
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF20 – Stucco Silo Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V20/10 F K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | <input type="checkbox"/> Dry Plate Electrostatic Precipitator | |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

20 Polyester bags
Dia.: 19.5 in., Length: 4.94 ft.
Total cloth area: 215 ft²
Air to cloth ratio: 2.74 ft/min
Flow rate: 589 scfm at 170°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF21 – Mixer & Additives Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V30/15 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

20 Polyester bags
 Dia.: 19.5 in., Length: 4.94 ft.
 Total cloth area: 323 ft²
 Air to cloth ratio: 3.65 ft/min
 Flow rate: 1,177 scfm at 150°F
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF22 – Stucco Metering Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V45/15 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

30 Polyester bags
Dia.: 19.5 in., Length: 4.94 ft.
Total cloth area: 484 ft²
Air to cloth ratio: 5.47 ft/min
Flow rate: 2,649 scfm at 170°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF23 – Intermediate Stucco Silo Bin
Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V20/10 F K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | <input type="checkbox"/> Dry Plate Electrostatic Precipitator | |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

20 Polyester bags
Dia.: 19.5 in., Length: 4.94 ft.
Total cloth area: 215 ft²
Air to cloth ratio: 2.74 ft/min
Flow rate: 589 scfm at 150°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF24 – Stucco Ball Mill Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V60/15 K11

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

60 Polyester bags
Dia.: 19.5 in., Length: 4.94 ft.
Total cloth area: 646 ft²
Air to cloth ratio: 5.47 ft/min
Flow rate: 3,531 scfm at 150°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: FF25 – Starch Bulk Silo Bin Vent	List all emission units associated with this control device. PM/PM ₁₀ (grains/dscf)
--	--

Manufacturer: Donaldson	Model number: DLM V 20/10 FAD K3	Installation date: MM/DD/YYYY
-----------------------------------	--	---

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags Dia.: 19.5 in., Length: 3.31 ft. Total cloth area: 215 ft ² Air to cloth ratio: 6.57 ft/min Flow rate: 1,413 scfm at ambient temperature Pressure Drop: High: 6 in. H ₂ O, Low: 0.5 in. H ₂ O	Particulate loading: 0.01 grain/dscf at outlet Capture/Control efficiency based on particulate loading
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Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF27 – Semi-Bulk Transfer Station
Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V 10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

12 Polyester bags
Dia.: 19.5 in., Length: 3.31 ft.
Total cloth area: 108 ft²
Air to cloth ratio: 5.47 ft/min
Flow rate: 589 scfm at ambient temperature
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF29 – Boric Acid Feeder Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V 10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | <input type="checkbox"/> Dry Plate Electrostatic Precipitator | |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags
 Dia.: 19.5 in., Length: 3.31 ft.
 Total cloth area: 108 ft²
 Air to cloth ratio: 5.47 ft/min
 Flow rate: 589 scfm at ambient temperature
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF30 – Potash Feeder Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V 10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | <input type="checkbox"/> Dry Plate Electrostatic Precipitator | |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags Dia.: 19.5 in., Length: 3.31 ft. Total cloth area: 108 ft ² Air to cloth ratio: 5.47 ft/min Flow rate: 589 scfm at ambient temperature Pressure Drop: High: 6 in. H ₂ O, Low: 0.5 in. H ₂ O	Particulate loading: 0.01 grain/dscf at outlet Capture/Control efficiency based on particulate loading
---	---

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF31 – Dextrose Feeder Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V 10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags
 Dia.: 19.5 in., Length: 3.31 ft.
 Total cloth area: 108 ft²
 Air to cloth ratio: 5.47 ft/min
 Flow rate: 589 scfm at ambient temperature
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF33 – Starch Feeder Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V 10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags
 Dia.: 19.5 in., Length: 3.31 ft.
 Total cloth area: 108 ft²
 Air to cloth ratio: 5.47 ft/min
 Flow rate: 589 scfm at ambient temperature
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF34 – HRA Feeder Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V 10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags
 Dia.: 19.5 in., Length: 3.31 ft.
 Total cloth area: 108 ft²
 Air to cloth ratio: 5.47 ft/min
 Flow rate: 589 scfm at ambient temperature
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification.

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF44 – K10 Kettle Supply Screw Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
SA-F40HF KS1

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

4 Tetratex on Polyester bags
Dia.: 19.5 in., Length: 3.31 ft.
Total cloth area: 43 ft²
Air to cloth ratio: 4.65 ft/min
Flow rate: 200 scfm at 185°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF45 – K20 Kettle Bad Batch Return
Screw Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
SA-F40HB

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

4 Tetratex on Nomex bags
Dia.: 19.5 in., Length: 3.31 ft.
Total cloth area: 43 ft²
Air to cloth ratio: 4.65 ft/min
Flow rate: 200 scfm at 300°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF46 – Stucco Cooler Bypass Screw
#2 Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
SA-F40HB

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

4 Tetratex on Nomex bags
Dia.: 19.5 in., Length: 3.31 ft.
Total cloth area: 43 ft²
Air to cloth ratio: 4.65 ft/min
Flow rate: 200 scfm at 300°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF47 – Cage Mill Cyclone Transfer
Screw Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
SA-F40HF KS1

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

4 Tetratex on Polyester bags
Dia.: 19.5 in., Length: 3.31 ft.
Total cloth area: 43 ft²
Air to cloth ratio: 4.65 ft/min
Flow rate: 200 scfm at 300°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF48 – K20 Kettle Transfer Screw
Dust Collector

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
SA-F40HF KS1

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

4 Tetratex on Polyester bags
Dia.: 19.5 in., Length: 3.31 ft.
Total cloth area: 43 ft²
Air to cloth ratio: 4.65 ft/min
Flow rate: 200 scfm at 185°F
Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF54 – Boric Acid Silo Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V 10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags
 Dia.: 19.5 in., Length: 3.31 ft.
 Total cloth area: 108 ft²
 Air to cloth ratio: 5.47 ft/min
 Flow rate: 589 scfm at ambient temperature
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
FF55 – Potash Silo Bin Vent

List all emission units associated with this control device.
PM/PM₁₀ (grains/dscf)

Manufacturer:
Donaldson

Model number:
DLM V 10/10 FAD K3

Installation date:
MM/DD/YYYY

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀	N/A	N/A

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

10 Polyester bags
 Dia.: 19.5 in., Length: 3.31 ft.
 Total cloth area: 108 ft²
 Air to cloth ratio: 5.47 ft/min
 Flow rate: 589 scfm at ambient temperature
 Pressure Drop: High: 6 in. H₂O, Low: 0.5 in. H₂O

Particulate loading: 0.01 grain/dscf at outlet
 Capture/Control efficiency based on particulate loading

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The baghouses/filters utilized at the facility are part of the process for material transfer and separation and not subject to CAM.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Pressure drop of baghouses will be monitored electronically for indication of deterioration.

CertainTeed proposes the monitoring, recordkeeping, reporting, and testing requirements as specified in the existing R13 permit. These requirements will be adequate to demonstrate compliance with emissions limits and operating parameters.

APPENDIX E
SUPPORTING EMISSIONS CALCULATION

**Table 1. PTE Annual Fabric Filter Emissions
CertainTeed Gypsum, Moundsville, WV**

Emission Unit ID	Fabric Filter System Name	ID	Vent Inside (I)/ Outside(O)	Flowrate (cfm)	NSPS Subpart	Exit Grain Loading (gr/dscf)	Potential Annual Operation (hrs/yr)	PM/PM ₁₀ Potential Emissions		PM _{2.5} Potential Emissions ¹	
								(lb/hr)	(tpy)	(lb/hr)	(tpy)
New EU54	Boric Acid Silo Bin Vent	New FF54	O	3,000	N/A	0.01	8,760	0.26	1.13	0.13	0.56
New EU55	Potash Silo Bin Vent	New FF55	O	3,000	N/A	0.01	8,760	0.26	1.13	0.13	0.56
Total								0.51	2.25	0.26	1.13

Notes:

1. PM_{2.5} is assumed to be 50% of PM based on stack test results of a similar source for non-combustion related fabric filters.