

West Virginia Department of Environmental Protection

*Harold D. Ward
Cabinet Secretary*

Modification Permit



R14-0037A

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.), 45 C.S.R. 13 — Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation, and 45 C.S.R. 14 - Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration.

The permittee identified at the facility listed below is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:
ROXUL USA, Inc.
RAN Facility
037-00108

*Laura M. Crowder
Director, Division of Air Quality*

Issued: DRAFT, 2023

This permit will supercede and replace permit R14-0037 issued on April 30, 2018

Facility Location: Ranson, Jefferson County, West Virginia
Mailing Address: 665 Northport Ave.
Ranson, WV 25430
Facility Description: Mineral Wool Manufacturing Facility
SIC/NAICS Code: 3296/327993
UTM Coordinates: Easting: 252.06 km Northing: 4,362.62 km Zone: 18
Latitude/Longitude: 39.37754, -77.87844
Permit Type: Modification
Desc. of Change: Modification to make several changes to the process, including removal of coal as a fuel source, reallocation of CO emissions from IMF01 to HE01, removal of the Rockfon line, removal of cooling towers, modifications to the sizing of combustion sources, removal of product marking and a slight reduction in hours of operation of the mineral wool production facility and fleece application vents.

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

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

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1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity ⁽¹⁾	Control Device ⁽²⁾
Raw Material Handling					
IMF11	IMF11	Conveyor Transfer Point	2021	1,137 scfm (1,800 Nm ³ /hr)	IMF11-FF
B215	B215	Raw Material Loading Hopper	2021	562 ton/day	PE
IMF12	IMF12	Conveyor Transfer Point	2021	716 ton/day	FE
IMF14	IMF14	Raw Material Reject Stockpile	2021	10m ²	PE
IMF15	IMF15	Conveyor Transfer Point	2021	716 ton/day	PE
IMF16	IMF16	Conveyor Transfer Point	2021	716 ton/day	FE
IMF21	IMF21	Charging Building Vacuum Cleaning Filter	2021	316 scfm (500 Nm ³ /hr)	IMF21-FF
RM_REJ	RM_REJ	Raw Material Reject Bin	2021	6 ton/day	PE
B170	B170	Melting Furnace Portable Crusher & Storage	2021	1,800 ton/day	PE
B210/211	B210/211	Raw Material Storage - Loading	2021	716 ton/day	PE
RMS	RMS	Raw Material Open Storage & Delivery	2021	5,382 ft ² (500m ²)	PE
IMF17	IMF17	B220 Material Handling	2021	716 ton/day	FE
Mineral Wool Line					
IMF01	IMF01	Melting Furnace	2021	21,414 scfm	IMF01-BH De-NO _x De-SO _x
IMF07	IMF07	Filter Fines Day Silo	2021	790 scfm (1,250 Nm ³ /hr)	IMF07A-FF
IMF08	IMF08	Sorbent Silo	2021	758 scfm (1,200 Nm ³ /hr)	IMF08-FF
IMF09	IMF09	Spent Sorbent Silo	2021	758 scfm (1,200 Nm ³ /hr)	IMF09-FF
IMF10	IMF10	Filter Fines Receiving Silo	2021	758 scfm (1,200 Nm ³ /hr)	IMF10-FF
IMF24	IMF24	Preheat Burner	2021	5.12 mmBtu/hr (1,500 kW)	None
CO	HE01	Curing Oven	2021	18,950 scfm	(HE01) CO-AB

1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity ⁽¹⁾	Control Device ⁽²⁾
CO-HD	HE01	Curing Oven Hoods	2021	25,267 scfm (40,000 Nm ³ /hr)	WESP (HE01)
GUT-EX	HE01	Gutter Exhaust	2021	15,792 scfm (25,000 Nm ³ /hr)	WESP (HE01)
SPN	HE01	Spinning Chamber	2021	258,986 scfm (410,000 Nm ³ /hr)	WESP (HE01)
CS	HE01	Cooling Section	2021	50,534 scfm	WESP (HE01)
CM12	CM12	Fleece Application Vent 1	2021	388,500 kg/yr	None
CM13	CM13	Fleece Application Vent 2	2021	388,500 kg/yr	None
CE01	CE01	De-dusting Baghouse	2021	44,217 scfm (70,000 Nm ³ /hr)	CE01-BH
CE02	CE02	Vacuum Cleaning Baghouse	2021	12,633 scfm (20,000 Nm ³ /hr)	CE02-BH
DI	DI	Dry Ice Cleaning	2021	630,000 kg/yr	None
Recycling					
CM08	CM08	Recycle Plant Building Vent 3	2021	1,579 scfm (2,500 Nm ³ /hr)	CM08-FF
CM09	CM09	Recycle Plant Building Vent 4	2021	1,579 scfm (2,500 Nm ³ /hr)	CM09-FF
CM10	CM10	Recycle Plant Building Vent 1	2021	18,950 scfm (30,000 Nm ³ /hr)	CM10-FF
CM11	CM11	Recycle Plant Building Vent 2	2021	18,950 scfm (30,000 Nm ³ /hr)	CM11-FF
Miscellaneous Emission Units					
CM03	CM03	Natural Gas Boiler 1	2021	4.9 mmBtu/hr (1,462 kW)	None
CM04	CM04	Natural Gas Boiler 2	2021	4.9 mmBtu/hr (1,462 kW)	None
EFP1	EFP1	Emergency Fire Pump Engine	2021	316 hp (236 kw)	None
Storage Tanks					
TK-DF	TK-DF	Diesel Fuel Tank	2021	1,242 gallons (4.7 m ³)	None
TK-TO3	TK-TO3	Thermal Oil Tank - IMF	2021	5,283 gallons (20 m ³)	None

1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity ⁽¹⁾	Control Device ⁽²⁾
TK-TO4	TK-TO4	Thermal Oil Expansion Tank - IMF	2021	1,928 gallons (7.3 m ³)	None
TK-RS1	TK-RS1	Resin Storage Tank	2021	13,209 gallons (50 m ³)	None
TK-RS2	TK-RS2	Resin Storage Tank	2021	13,209 gallons (50 m ³)	None
TK-RS3	TK-RS3	Resin Storage Tank	2021	13,209 gallons (50 m ³)	None
TK-RS4	TK-RS4	Resin Storage Tank	2021	13,209 gallons (50 m ³)	None
TK-RS5	TK-RS5	Resin Storage Tank	2021	13,209 gallons (50 m ³)	None
TK-RS6	TK-RS6	Resin Storage Tank	2021	13,209 gallons (50 m ³)	None
TK-CA	TK-CA	Coupling Agent Storage Tank	2021	396 gallons (1.5 m ³)	None
TK-AD	TK-AD	Additive Storage Tank	2021	396 gallons (1.5 m ³)	None
TK-BS1	TK-BS1	Binder Storage Container	2021	264 gallons (1 m ³)	None
TK-BS2	TK-BS2	Binder Storage Container	2021	264 gallons (1 m ³)	None
TK-BS3	TK-BS3	Binder Storage Container	2021	264 gallons (1 m ³)	None
TK-DOD	TK-DOD	De-dust Oil Day Tank	2021	264 gallons (1 m ³)	None
TK-ADB1	TK-ADB1	Additive Buffer Tank	2021	396 gallons (1.5 m ³)	None
TK-ADB2	TK-ADB2	Additive Buffer Tank	2021	132 gallons (0.5 m ³)	None
TK-GLY	TK-GLY	Glycol Tank	2021	396 gallons (1.5 m ³)	None

- (1) Where air flow rates are listed, it represents the maximum design capacity of the mechanical flow - if applicable - through the listed particulate matter control device or uncontrolled vent .
- (2) AB = Afterburner; BH = Baghouse; FF = Fabric Filter; PE = Partial Enclosure; WESP = Wet Electrostatic Precipitator; FE = Full Enclosure.

2.0. General Conditions

2.1. Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45 CSR § 30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM_{2.5}	Particulate Matter less than 2.5µm in diameter
CES	Certified Emission Statement	PM₁₀	Particulate Matter less than 10µm in diameter
C.F.R. or CFR	Code of Federal Regulations	Ppb	Pounds per Batch
CO	Carbon Monoxide	pph	Pounds per Hour
C.S.R. or CSR	Codes of State Rules	ppm	Parts per Million
DAQ	Division of Air Quality	Ppmv or ppmv	Parts per million by volume
DEP	Department of Environmental Protection	PSD	Prevention of Significant Deterioration
dscm	Dry Standard Cubic Meter	psi	Pounds per Square Inch
FOIA	Freedom of Information Act	SIC	Standard Industrial Classification
HAP	Hazardous Air Pollutant	SIP	State Implementation Plan
HON	Hazardous Organic NESHAP	SO₂	Sulfur Dioxide
HP	Horsepower	TAP	Toxic Air Pollutant
lbs/hr	Pounds per Hour	TPY	Tons per Year
LDAR	Leak Detection and Repair	TRS	Total Reduced Sulfur
M	Thousand	TSP	Total Suspended Particulate
MACT	Maximum Achievable Control Technology	USEPA	United States Environmental Protection Agency
MDHI	Maximum Design Heat Input	UTM	Universal Transverse Mercator
MM	Million	VEE	Visual Emissions Evaluation
MMBtu/hr or mmbtu/hr	Million British Thermal Units per Hour	VOC	Volatile Organic Compounds
MMCF/hr or mmcf/hr	Million Cubic Feet per Hour	VOL	Volatile Organic Liquids
NA	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Law W.Va. Code §§22-5-1 et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation; and*
- 2.3.2. 45CSR14 – *Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration.*

2.4. Term and Renewal

- 2.4.1. This permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any applicable legislative rule.

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R14-0037 and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 13-10.3]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses and/or approvals from other agencies; i.e., local, state and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

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

2.8. Administrative Update

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

[45CSR§13-4]

2.9. Permit Modification

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

[45CSR§13-5.4.]

2.10. Major Permit Modification

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

[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

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

[WV Code § 22-5-4(a)(9)]

2.12. [Reserved]

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

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

2.15. Property Rights

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

2.16. Severability

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

2.17. Transferability

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

2.18. Notification Requirements

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

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45 C.S.R. 11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

- 3.2.1. **Emission Limit Averaging Time.** Unless otherwise specified, compliance with all annual limits shall be based on a rolling twelve month total. A rolling twelve month total shall be the sum of the measured parameter of the previous twelve calendar months. Unless otherwise specified, compliance with all hourly emission limits shall be based on the applicable NAAQS averaging times or, where applicable, as given in any approved performance test method. However, nothing under 3.2.1. requires that continuous performance testing take place for the entire averaging period time frame (e.g., performance testing to show compliance with a PM₁₀ emission limit is not necessarily required for 24 consecutive hours). The required length of time of a performance test will be determined by the appropriate test method and compliance procedures as approved under a protocol submitted pursuant to 3.3.1(c).

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:
- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or 45CSR§13-5.4 as applicable.
 - b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or -5.4 as applicable.
 - c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
 - d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language;
 2. The result of the test for each permit or rule condition; and,
 3. A statement of compliance or noncompliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.
- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. State-Enforceable only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by email as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

Table 3.5.3.: Correspondence Addresses

If to the DAQ:	If to the US EPA:
Director WVDEP Division of Air Quality 601 57th Street, SE Charleston, WV 25304-2345 DAQ Compliance and Enforcement¹: <u>DEPAirQualityReports@wv.gov</u>	Section Chief, USEPA Region III Enforcement and Compliance Assistance Division Air Section (3ED21) Four Penn Center 1600 John F. Kennedy Blvd. Philadelphia, PA 19103-2852

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

3.5.4. **Operating Fee.**

- 3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, the permittee shall submit a Certified Emissions Statement (CES) and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.
- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. Only those emission units/sources as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized at the permitted facility by this permit. In accordance with the information filed in Permit Applications R14-0037 and R14-0037A, the emission units/sources identified under Table 1.0 of this permit shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants, shall not exceed the listed maximum design capacities, shall use the specified control devices, and comply with any other information provided under Table 1.0.

4.1.2. Material Handling Operations

The handling of raw materials used in the production of mineral wool (including but not limited to igneous rocks, slags, dolomite/limestone, and mineral additives), recycling operations, and all other operations involved in the handling or processing of friable materials with a potential of producing particulate matter emissions, shall be in accordance with the following requirements:

a. The permittee shall not exceed the specified maximum design capacities of the following operations:

Table 4.1.2(a): Maximum Design Capacities

Parameter	Limit	Units
Raw Materials ⁽¹⁾	716 ⁽²⁾ (650)	Ton/Day (Tonne/Day)
Portable Melt Crushing	<150 (<136)	TPH (Tonne/Hour)

(1) Rock, Slag, and Minerals

(2) As based on the Charging Building (B220) Conveyer Belt.

b. The permittee shall not exceed the specified maximum annual throughputs or hours of operation of the following operations:

Table 4.1.2(b): Maximum Annual Throughputs

Parameter	Limit	Units
Portable Melt Crushing	540	Hours of Operation

c. The permittee shall not exceed the maximum emission limits for the specified emission points given in the following tables:

(1) British Units

Table 4.1.2(c)(1): Material Handling Operations Stack Emission Limits in British Units

Emission Point ID	Source Description	Filter Outlet (gr/dscf) ⁽¹⁾	Pollutant ⁽²⁾	PPH ⁽³⁾	TPY
IMF07	Filter Fines Day Silo	0.001	PM _{2.5}	0.01	0.01
		0.002	PM/PM ₁₀	0.01	0.01
IMF08	Sorbent Silo	0.001	PM _{2.5}	0.01	0.03
		0.002	PM/PM ₁₀	0.01	0.06
IMF09	Spent Sorbent Silo	0.001	PM _{2.5}	0.01	0.03
		0.002	PM/PM ₁₀	0.01	0.06
IMF10	Filter Fines Receiving Silo	0.001	PM _{2.5}	0.01	0.03
		0.002	PM/PM ₁₀	0.01	0.06
IMF11	Conveyer TP (B215 to B220)	0.001	PM _{2.5}	0.01	0.01
		0.002	PM/PM ₁₀	0.01	0.02
IMF12	Conveyer TP (B210 to B220)	0.001	PM _{2.5} /PM ₁₀	0.01	0.02
		0.002	PM	0.02	0.06
IMF14	Raw Material Reject Stockpile	0.001	PM _{2.5}	0.01	0.01
		0.002	PM/PM ₁₀	0.01	0.01
IMF15	Conveyer TP (B220 No. 2)	0.001	PM _{2.5} /PM ₁₀	0.01	0.03
		0.002	PM	0.02	0.08
IMF16	Conveyer TP (B220 to B300)	0.001	PM _{2.5} /PM ₁₀	0.01	0.02
		0.002	PM	0.02	0.06
IMF17	B220 Material Handling	n/a ⁽⁵⁾	PM _{2.5}	0.13	0.56
			PM ₁₀	0.14	0.61
			PM	0.34	1.49
IMF21	Charging Building Vacuum Cleaning	0.001	PM _{2.5}	0.00	0.01
		0.002	PM/PM ₁₀	0.01	0.01
CE01	De-Dusting Baghouse	0.0020	PM ₁₀ /PM _{2.5}	0.21	0.94
		0.0041	PM	0.21	0.94
		n/a	Mineral Fiber	0.21	0.94
CE02	Vacuum Cleaning Baghouse	0.0020	PM ₁₀ /PM _{2.5}	0.22	0.93
		0.0041	PM	0.44	1.85
		n/a	Mineral Fiber	0.22	0.93

CM08	Recycle Building Vent 3	0.002	PM _{2.5}	0.03	0.12
		0.004	PM/PM ₁₀	0.06	0.24
CM09	Recycle Building Vent 4	0.002	PM _{2.5}	0.03	0.12
		0.004	PM/PM ₁₀	0.06	0.24
CM10	Recycle Building Vent 1	0.002	PM _{2.5}	0.33	1.45
		0.004	PM/PM ₁₀	0.66	2.90
CM11	Recycle Building Vent 2	0.002	PM _{2.5}	0.33	1.45
		0.004	PM/PM ₁₀	0.66	2.90

- (1) gr/dscf = grains/dry standard cubic feet.
- (2) Particulate Matter limits are filterable only. With the exception of CE01 and CE02, PM/PM₁₀ limits are the same.
- (3) Hourly emission limits are based on a 24-hour average.
- (5) This is an uncontrolled building opening.

(2) **Metric Units**

Table 4.1.2(c)(2): Material Handling Operations Stack Emission Limits in Metric Units

Emission Point ID	Source Description	Filter Outlet (mg/Nm ³) ⁽¹⁾	Pollutant ⁽²⁾	kg/hr ⁽³⁾	tonne/yr
IMF07	Filter Fines Day Silo	2.5	PM _{2.5}	0.01	0.01
		5	PM/PM ₁₀	0.01	0.01
IMF08	Sorbent Silo	2.5	PM _{2.5}	0.01	0.03
		5	PM/PM ₁₀	0.01	0.05
IMF09	Spent Sorbent Silo	2.5	PM _{2.5}	0.01	0.03
		5	PM/PM ₁₀	0.01	0.05
IMF10	Filter Fines Receiving Silo	2.5	PM _{2.5}	0.01	0.03
		5	PM/PM ₁₀	0.01	0.05
IMF11	Conveyer TP (B215 to B220)	2.5	PM _{2.5}	0.01	0.01
		5	PM/PM ₁₀	0.01	0.05
IMF12	Conveyer TP (B210 to B220)	2.5	PM _{2.5} /PM ₁₀	0.01	0.02
		5	PM	0.01	0.06
IMF14	Raw Material Reject Stockpile	2.5	PM _{2.5}	0.01	0.01
		5	PM/PM ₁₀	0.01	0.01
IMF15	Conveyer TP	2.5	PM _{2.5} /PM ₁₀	0.01	0.03

(B220 No. 2)

		5	PM	0.01	0.07
IMF16	Conveyer TP (B220 to B300)	2.5	PM _{2.5} /PM ₁₀	0.01	0.02
		5	PM	0.01	0.06
IMF17	B220 Material Handling	n/a ⁽⁵⁾	PM _{2.5}	0.12	0.51
			PM ₁₀	0.13	0.55
			PM	0.31	1.35
IMF21	Charging Building Vacuum Cleaning	2.5	PM _{2.5}	0.01	0.01
		5	PM/PM ₁₀	0.01	0.02
CE01	De-Dusting Baghouse	5	PM ₁₀ /PM _{2.5}	0.10	0.85
		10	PM	0.10	0.85
		n/a	Mineral Fiber	0.10	0.85
CE02	Vacuum Cleaning Baghouse	5	PM ₁₀ /PM _{2.5}	0.10	0.84
		10	PM	0.20	1.68
		n/a	Mineral Fiber	0.10	0.84
CM08	Recycle Building Vent 3	5	PM _{2.5}	0.01	0.11
		10	PM/PM ₁₀	0.03	0.22
CM09	Recycle Building Vent 4	5	PM _{2.5}	0.01	0.11
		10	PM/PM ₁₀	0.03	0.22
CM10	Recycle Building Vent 1	5	PM _{2.5}	0.15	1.31
		10	PM/PM ₁₀	0.30	2.63
CM11	Recycle Building Vent 2	5	PM _{2.5}	0.15	1.31
		10	PM/PM ₁₀	0.30	2.63

- (1) mg/Nm³ = milligrams/cubic meter.
- (2) Particulate Matter limits are filterable only. With the exception of CE01 and CE02, PM/PM₁₀ limits are the same.
- (3) Hourly emission limits are based on a 24-hour average.
- (5) This is an uncontrolled building opening.

- d. The permittee shall not exceed the maximum emission limits and shall utilize the control methods for the specified fugitive emission sources given in the following tables:

(1) **British Units**

Table 4.1.2(d)(1): Material Handling Operations Fugitive Emission Limits in British Units

Emission Unit ID	Source Description	Control Technology	Pollutant⁽¹⁾	PPH⁽²⁾	TPY
B215	Drop into Raw Material Loading Hopper	3-sided enclosure w/cover	PM _{2.5}	0.01	0.01
			PM ₁₀	0.01	0.03
			PM	0.01	0.06
RMS	Raw Material Outdoor Storage	3-sided enclosure	PM _{2.5}	0.01	0.01
			PM ₁₀	0.01	0.05
			PM	0.03	0.11
RM_REJ	Drop into Raw Material Reject Collection Bin	4-sided rubber drop guard	PM _{2.5}	0.01	0.01
			PM ₁₀	0.01	0.01
			PM	0.01	0.01
B170	Portable Crusher	3-sided enclosure	PM _{2.5}	0.01	0.01
			PM ₁₀	0.01	0.02
			PM	0.01	0.04
B210/211	RMS Loading	3-sided enclosure w/cover	PM _{2.5}	0.07	0.02
			PM ₁₀	0.48	0.13
			PM	1.04	0.28

(1) Particulate Matter limits are filterable only.

(2) Hourly emission limits are based on a 24-hour average

(2) Metric Units

Table 4.1.2(d)(2): Material Handling Operations Fugitive Emission Limits in Metric Units

Emission Unit ID	Source Description	Control Technology	Pollutant ⁽¹⁾	kg/hr ⁽²⁾	tonne/yr
B215	Drop into Raw Material Loading Hopper	3-sided enclosure w/cover	PM _{2.5}	0.01	0.09
			PM ₁₀	0.01	0.09
			PM	0.01	0.09
RMS	Raw Material Outdoor Storage	3-sided enclosure	PM _{2.5}	0.01	0.09
			PM ₁₀	0.01	0.09
			PM	0.02	0.18
RM_REJ	Drop into Raw Material Reject Collection Bin	4-sided rubber drop guard	PM _{2.5}	0.01	0.09
			PM ₁₀	0.01	0.09
			PM	0.01	0.09
B170	Portable Crusher (Drop to pit waste)	3-sided enclosure	PM _{2.5}	0.01	0.09
			PM ₁₀	0.01	0.09
			PM	0.01	0.09
B210/B211	RMS Loading	3-sided enclosure w/cover	PM _{2.5}	0.01	0.09
			PM ₁₀	0.03	0.26
			PM	0.06	0.53

(1) Particulate Matter limits are filterable only.

(2) Hourly emission limits are based on a 24-hour average

e. **Melting Furnace Portable Crusher**

Emissions from the Melting Furnace Portable Crusher (not including associated storage pile or pit waste drop) shall not exceed the limits given in the following table:

Table 4.1.2(e): Melting Furnace Portable Crusher Emission Limits

Pollutant⁽¹⁾	PPH⁽²⁾ (kg/hr)	TPY (tonne/yr)
PM_{2.5}	0.12 (0.05)	0.03 (0.03)
PM₁₀	0.36 (0.16)	0.10 (0.09)
PM	0.81 (0.37)	0.22 (0.20)

(1) Particulate Matter limits are filterable only.

(2) *[Reserved]*

f. In addition to the particulate matter controls as required in the Emission Units Table 1.0, the raw material mixer and crusher located in the Charging Building (B220) shall be equipped with fabric filters to control particulate matter emissions from these sources. The maximum outlet grain loading concentration for each of these fabric filters shall not exceed 0.002 gr/dscf (5 mg/Nm³) of filterable PM/PM₁₀ and 0.001 gr/dscf (2.5 mg/Nm³) filterable PM_{2.5};

g. **Outdoor Material Storage Areas**

All outdoor raw material, pit waste, or recycled material storage shall be in accordance with the following:

- (1) The permittee is authorized to operate one (1) raw material stockpile (RMS) that shall not exceed a base of 5,382 ft² (500 m²) and shall utilize 3-sided enclosures to minimize the potential fugitive emissions of particulate matter from wind erosion and pile activity;
- (2) The permittee is authorized to operate Building 210 and 211 for raw material storage. These buildings shall utilize 3-sided enclosures and a roof to minimize the potential fugitive emissions of particulate matter from wind erosion and pile activity;
- (3) *[Reserved]*
- (4) The permittee is authorized to operate one (1) recycled material stockpile. The material in this storage area is limited to the slag-like material tapped from the Melting Furnace that is of such a physical nature so as to limit any significant generation of fugitive matter from wind erosion and pile activity;
- (5) The permittee is authorized to operate one (1) pit waste (crushed recycled material) storage area (B170) that shall not exceed a base of 19,375 ft² (1,800 m²) and shall utilize a 3-sided enclosure to minimize the potential fugitive emissions of particulate matter from wind erosion and pile activity;

- (6) For all storage piles, the permittee shall manage on-pile activity so as to minimize the release of emissions; and
- (7) All storage area enclosures shall be reasonably maintained and any significant holes shall be repaired immediately.

h. Haulroads and Mobile Work Areas

Fugitive particulate emissions resulting from use of haulroads and mobile work areas shall be minimized by the following:

- (1) The permittee shall pave, and maintain such pavement, on all haulroads and mobile work areas (including a reasonable shoulder area) within the plant boundary;
- (2) The permittee shall maintain access to a vacuum sweeper truck in good operating condition, and shall utilize same as needed to remove excess dirt and dust from all haulroads and mobile work areas. The haulroads and mobile work areas shall be flushed with water immediately prior to each vacuum sweeping (flushing may be part of vacuum sweeper truck); and
- (3) The permittee shall collect, in a timely fashion, material spilled on haulroads that could become airborne if it dried or were subject to vehicle traffic.

i. 45CSR7

The handling of raw materials used in the production of mineral wool shall comply with all applicable requirements of 45CSR7 including, but not limited to, the following:

- (1) No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7.
[45CSR§7-3.1]
- (2) The provisions of subsection 3.1 shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.
[45CSR§7-3.2]
- (3) No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A found at the end of this rule.
[45CSR§7-4.1]
- (4) 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.
[45CSR§7-5.1]

j. **40 CFR 60, Subpart OOO**

The non-metallic mineral handling operations (see Permit Applications R14-0037 and R14-0037A for a complete list of affected sources) prior to the furnace building (B300) are subject to the applicable limitations and standards under 40 CFR 60, Subpart OOO including, but not limited to, the following:

(1) Affected facilities must meet the stack emission limits and compliance requirements in Table 2 of Subpart OOO within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.8. The requirements in Table 2 of Subpart OOO apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.

[40 CFR §60.672(a)]

(2) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of Subpart OOO within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11. The requirements in Table 3 of Subpart OOO apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

[40 CFR §60.672(b)]

(3) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

[40 CFR §60.672(d)]

(4) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in 40 CFR §60.672(a) and (b), or the building enclosing the affected facility or facilities must comply with the following emission limits:

(1) Fugitive emissions from the building openings (except for vents as defined in §60.671) must not exceed 7 percent opacity; and

(2) Vents (as defined in §60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of Subpart OOO.

[40 CFR §60.672(e)]

(5) Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of Subpart OOO but must meet the applicable stack opacity limit and compliance requirements in Table 2 of Subpart OOO. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

[40 CFR §60.672(f)]

4.1.3. *[Reserved]*

4.1.4. **Melting Furnace**

The Melting Furnace, identified as IMF01, shall meet the following requirements:

- a. The Melting Furnace shall not exceed the emission limits, and shall utilize the specified Technology, as given in the following table:

Table 4.1.4(a): Melting Furnace Emission Limits

Pollutant	Limit	Technology	PPH (kg/hr)	TPY (tonne/yr)
CO	n/a	n/a	3.21 ⁽¹⁾ (1.46)	13.48 (12.23)
NO_x	PPH	Integrated SNCR, Oxy-Fired Burners ⁽²⁾	37.37 ⁽¹⁾ (16.95)	156.95 (142.38)
PM_{2.5(3)}		Baghouse	2.32 (1.05)	9.73 (8.83)
PM₁₀₍₃₎			2.32 (1.05)	9.73 (8.83)
PM⁽⁴⁾			0.013 gr/dscf 31 mg/Nm ³	2.32 (1.05)
SO₂	PPH	Sorbent Injection in the Baghouse	33.63 ⁽¹⁾ (15.26)	141.25 (128.14)
VOCs		Good Combustion Practices ⁽⁵⁾	0.31 (0.14)	1.29 (1.17)
H₂SO₄		Sorbent Injection in the Baghouse	1.87 (0.85)	7.85 (7.12)
Mineral Fiber	n/a	n/a	2.32 (1.05)	9.73 (8.83)
HF			0.37 (0.17)	1.55 (1.41)
HCl			0.29 (0.13)	1.24 (1.12)
COS			0.37 (0.17)	1.57 (1.42)
Total HAPs			3.43 (1.56)	14.42 (13.08)

- (1) Compliance based on a 30-day rolling average.
- (2) Integrated SNCR system utilizes ammonia injection to promote a de-NOx reaction to occur. The oxy-fuel burners are specially designed to fire with O₂ instead of ambient air.
- (3) Includes condensables.
- (4) Filterable only.
- (5) Good combustion practices include, but are not limited to the following: (1) maintaining a proper

oxidizing atmosphere to control VOC emissions through proper combustion tuning, temperature, and air/fuel mixing and (2) activities such as maintaining operating logs and record-keeping, conducting training, ensuring maintenance knowledge, performing routine and preventive maintenance, conducting burner and control adjustments, monitoring fuel quality, etc.

b. **45CSR7**

The Melting Furnace shall comply with all applicable requirements of 45CSR7 including, but not limited to, the following:

- (1) No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7.

[45CSR§7-3.1]

- (2) The provisions of subsection 3.1 shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.

[45CSR§7-3.2]

- (3) No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A found at the end of this rule.

[45CSR§7-4.1]

- (4) Mineral acids shall not be released from any type source operation or duplicate source operation or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity given in Table 45-7B found at the end of this rule.

[45CSR§7-4.2]

c. **45CSR10**

The Melting Furnace shall comply with all applicable requirements of 45CSR10 including, but not limited to, the following:

- (1) No person shall cause, suffer, allow or permit the emission into the open air from any source operation an in-stack sulfur dioxide concentration exceeding 2,000 parts per million by volume from existing source operations, except as provided in subdivisions 4.1.a through 4.1.e.

[45CSR§10-3.1]

d. **40 CFR 63, Subpart DDD**

The Melting Furnace shall comply with all applicable requirements of 40 CFR 63, Subpart DDD including, but not limited to, the following:

- (1) **§63.1178 For cupolas, what standards must I meet?**

- (i) You must control emissions from each cupola as specified in Table 2 to this subpart.

[40 CFR§63.1178(a)]

Table 2 to Subpart DDD of Part 63—Emissions Limits and Compliance Dates

If your source is a:	And you commenced construction:	Your emission limits are:¹	And you must comply by:²
2. Cupola	After May 8, 1997	0.10 lb PM per ton of melt	June 1, 1999
8. Open-top cupola	After November 25, 2011	3.2 lb of COS per ton melt	July 29, 2015 ⁴
10. Cupola using slag as a raw material	After November 25, 2011	0.015 lb of HF per ton melt 0.012 lb of HCl per ton melt.	July 29, 2015 ⁴

- (1) The numeric emissions limits do not apply during startup and shutdown.
- (2) Existing sources must demonstrate compliance by the compliance dates specified in this table. New sources have 180 days after the applicable compliance date to demonstrate compliance.
- (4) Or upon initial startup, whichever is later.

(ii) You must meet the following operating limits for each cupola:

[40 CFR§63.1178(b)]

(A) Begin within one hour after the alarm on a bag leak detection system sounds, and complete in a timely manner, corrective actions as specified in your operations, maintenance, and monitoring plan required by §63.1187 of this subpart.

[40 CFR§63.1178(b)(1)]

(B) When the alarm on a bag leak detection system sounds for more than five percent of the total operating time in a six-month reporting period, develop and implement a written quality improvement plan (QIP) consistent with the compliance assurance monitoring requirements of §64.8(b)-(d) of 40 CFR part 64.

[40 CFR§63.1178(b)(2)]

(C) Additionally, on or after the applicable compliance date for each new or reconstructed cupola, you must either:

[40 CFR§63.1178(b)(3)]

(I) Maintain the operating temperature of the incinerator so that the average operating temperature for each three-hour block period never falls below the average temperature established during the performance test, or

[40 CFR§63.1178(b)(3)(I)]

(II) Maintain the percent excess oxygen in the cupola at or above the level established during the performance test. You must determine the percent excess oxygen using the following equation:

[40 CFR§63.1178(b)(3)(II)]

$$\text{Percent excess oxygen} = ((\text{Oxygen available}/\text{Fuel demand for oxygen}) - 1) * 100$$

Where:

Percent excess oxygen = Percentage of excess oxygen present above the stoichiometric balance of 1.00, (%).

1.00 = Ratio of oxygen in a cupola combustion chamber divided by the stoichiometric quantity of oxygen required to obtain complete combustion of fuel.

Oxygen available = Quantity of oxygen introduced into the cupola combustion zone.

Fuel demand for oxygen = Required quantity of oxygen for stoichiometric combustion of the quantity of fuel present.

4.1.5. Gutter Exhaust, Spinning Chamber, Curing Oven Hoods, Curing Oven, and Cooling Section

The Gutter Exhaust (GUT-EX), Spinning Chamber (SPN), Curing Oven Hoods (CO-HD), Curing Oven (CO), and Cooling Section (CS) shall meet the following requirements:

- a. The Gutter Exhaust, Spinning Chamber, Curing Oven Hoods, Curing Oven, and Cooling Section shall not exceed the aggregate emission limits (as emitted from the Wet Electrostatic Precipitator (WESP) stack (HE01)), and each shall utilize the specified Technology as given in the following table:

Table 4.1.5(a): Gutter Exhaust, Spinning Chamber, Curing Oven Hoods, Curing Oven, and Cooling Section Emission Limits

Pollutant	Limit	Technology	PPH (kg/hr)	TPY (tonne/yr)
CO	n/a	n/a	9.82 (4.46)	41.24 (37.41)
NO _x	PPH	LNB, Good Combustion Practices ⁽¹⁾	1.57 (0.71)	6.60 (5.99)
PM _{2.5(2)}		WESP	8.00 (3.64)	33.60 (30.48)
PM ₁₀₍₂₎			8.00 (3.64)	33.60 (30.48)
PM ⁽³⁾			8.00 (3.64)	33.60 (30.48)
SO ₂		Use of Natural Gas	0.01 (4.89e-03)	0.05 (0.04)
VOCs		Afterburner Good Combustion Practices Subpart DDD Compliance ⁽⁴⁾	44.66 (20.30)	187.55 (170.14)
Phenol		n/a	Afterburner ⁽⁵⁾	17.05 (7.73)
Formaldehyde	3.27 (1.48)			13.74 (12.46)
Methanol	24.34 (11.04)			102.21 (92.72)
Mineral Fiber	12.00 (5.44)			50.39 (45.72)
Total HAPs	56.65 (25.70)			237.95 (215.86)

- (1) Good combustion practices include, but are not limited to the following: Proper combustion tuning, temperature, and air/fuel mixing and activities such as maintaining operating logs and record-keeping, conducting training, ensuring maintenance knowledge, performing routine and preventive maintenance, conducting burner and control adjustments, monitoring fuel quality, etc.
- (2) Includes condensables.
- (3) Filterable only.
- (4) Technology: Gutter Exhaust - Subpart DDD Compliance, Curing Oven - Afterburner/Good Combustion Practices, Spinning Chamber - Subpart DDD Compliance, Curing Oven Hoods - Subpart DDD Compliance.
- (5) Afterburner is not a control device for Mineral Fibers

b. **45CSR7**

The Gutter Exhaust, Curing Oven Hoods, Curing Oven, and Spinning Chamber shall comply with all applicable requirements of 45CSR7 including, but not limited to, the following:

- (1) No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7.

[45CSR§7-3.1]

- (2) The provisions of subsection 3.1 shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.

[45CSR§7-3.2]

- (3) No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A found at the end of this rule.

[45CSR§7-4.1]

- (4) Mineral acids shall not be released from any type source operation or duplicate source operation or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity given in Table 45-7B found at the end of this rule.

[45CSR§7-4.2]

c. **40 CFR 63, Subpart DDD**

The Gutter Exhaust, Curing Oven Hoods, Curing Oven, and Spinning Chamber shall comply with all applicable requirements of 40 CFR 63, Subpart DDD including, but not limited to, the following:

- (1) **§63.1179 For curing ovens or combined collection/curing operations, what standards must I meet?**

- (i) You must control emissions from each curing oven or combined collection/curing operations as specified in Table 2 to this subpart.

[43 CFR§60.1179(a)]

Table 2 to Subpart DDD of Part 63—Emissions Limits and Compliance Dates

If your source is a:	And you commenced construction:	Your emission limits are: ¹	And you must comply by: ²
24. Combined vertical collection/curing operation	After November 25, 2011	2.4 lb of formaldehyde per ton melt 0.92 lb of methanol per ton melt. 0.71 lb of phenol per ton melt.	July 29, 2015 ⁴

- (1) The numeric emissions limits do not apply during startup and shutdown.
- (2) Existing sources must demonstrate compliance by the compliance dates specified in this table. New sources have 180 days after the applicable compliance date to demonstrate compliance.
- (4) Or upon initial startup, whichever is later.

4.1.6. Fleece Application

The Fleece Application operations shall meet the following requirements:

- a. The maximum emissions of VOCs and HAPs from the Fleece Application operations each shall not exceed of 3.26 pounds per hour (1.48 kg/hr) and 6.85 TPY (6.22 tonnes/year);
- b. The control technology for the Fleece Application operations is the use of low-VOC coatings and the utilization of Good Work Practices. “Low-VOC coatings” shall mean the monthly average of all coating materials used during fleece application operations shall not exceed 0.016 lb-VOC/lb-coating (0.016 kg-VOC/kg-coating) material as-applied on a monthly average basis. “Good Work Practices” shall mean storing VOC-containing materials in closed tanks or containers, cleaning up spills, and minimizing cleaning with VOC-containing cleaners; and
- c. **40 CFR 63, Subpart JJJJ**
 The fleece application operations shall comply with all applicable requirements of 40 CFR 63, Subpart JJJJ including, but not limited to, the following:

What emission standards must I meet?

- (1) If you own or operate any affected source that is subject to the requirements of this subpart, you must comply with these requirements on and after the compliance dates as specified in §63.3330.
[40 CFR§63.3320(a)]
- (2) You must limit organic HAP emissions to the level specified in paragraph (b)(1), (2), (3), or (4) of this section.
[40 CFR§63.3320(b)]
 - (i) No more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources, and no more than 2 percent of the organic HAP applied for each month (98 percent reduction) at new affected sources; or
[40 CFR§63.3320(b)(1)]
 - (ii) No more than 4 percent of the mass of coating materials applied for each month at existing affected sources, and no more than 1.6 percent of the mass of coating materials applied for each month at new affected sources; or
[40 CFR§63.3320(b)(2)]

(iii) No more than 20 percent of the mass of coating solids applied for each month at existing affected sources, and no more than 8 percent of the coating solids applied for each month at new affected sources.

[40 CFR§63.3320(b)(3)]

(iv) If you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) by compound on a dry basis is achieved and the efficiency of the capture system is 100 percent.

[40 CFR§63.3320(b)(4)]

(3) You must demonstrate compliance with this subpart by following the procedures in §63.3370.

[40 CFR§63.3320(c)]

4.1.7. [Reserved]

4.1.8. **Fuel Burning Units**

The Fuel Burning Units, identified as IMF24, CM03, and CM04, shall meet the following requirements:

- a. The MDHI of IMF24 shall not exceed 5.12 mmBtu/hr (1,500 kW), while the MDHI for CM03 and CM04 shall not exceed 4.9 mmbtu/hr each. Additionally, each unit shall not operate for more than 8,400 hours per year. Compliance with this condition shall be determined on a rolling 12 month basis.
- b. IMF 24 shall not exceed the emission limits given in the following table:

Pollutant	Limit	Control Technology	PPH (kg/hr)	TPY (tonne/yr)
CO	n/a	n/a	0.42 (0.19)	1.76 (1.60)
NO _x	60 ppm _{v,d} @ 3% O ₂	LNB, Good Combustion Practices ⁽¹⁾	0.36 (0.16)	1.52 (1.38)
PM _{2.5(2)}	PPH	Use of Natural Gas, Good Combustion Practices ⁽¹⁾	0.04 (0.02)	0.16 (0.14)
PM ₁₀₍₂₎				
PM ⁽³⁾				
SO ₂		Use of Natural Gas	0.01 (0.01)	0.01 (0.01)
VOCs		Good Combustion Practices ⁽¹⁾	0.03 (0.01)	0.12 (0.10)

Boilers CM03 and CM04 shall each not exceed the emission limits given in the following table:

Pollutant	Limit	Control Technology	PPH (kg/hr)	TPY (tonne/yr)
CO	n/a	n/a	0.42 (0.19)	1.76 (1.60)
NO _x	30 ppm _v d @ 3% O ₂	LNB, Good Combustion Practices ⁽¹⁾	0.36 (0.16)	1.52 (1.38)
PM _{2.5(2)}	PPH	Use of Natural Gas, Good Combustion Practices ⁽¹⁾	0.04 (0.02)	0.16 (0.14)
PM ₁₀₍₂₎				
PM ⁽³⁾				
SO ₂		Use of Natural Gas	0.01 (0.01)	0.01 (0.01)
VOCs		Good Combustion Practices ⁽¹⁾	0.03 (0.01)	0.12 (0.10)

(1) LNB = Low-NO_x Burning Technology. Good Combustion Practices shall mean activities such as maintaining operating logs and record-keeping, conducting training, ensuring maintenance knowledge, performing routine and preventive maintenance, conducting burner and control adjustments, monitoring fuel quality, etc.

(2) Includes Condensables.

(3) Filterable Only.

c. Annual emissions of the units listed under Table 4.1.8(b) are based on 8,400 hours of operation, and;

d. **45CSR2**

No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

[40CSR§2-3.1]

4.1.9. **Storage Tanks**

Use of the volatile organic liquid (VOL) storage tanks shall be in accordance with the following:

a. Tank size shall be limited as specified under Table 1.0 of this permit;

b. The aggregate emissions of VOCs from all storage shall not exceed 0.12 tons/year (0.11 tonnes/yr); and

c. Material stored shall be as specified and the aggregate annual storage tank throughputs shall not exceed those given in the following table:

Table 4.1.9(c): Storage Tanks Throughput Limits

Tank ID	Material Stored	Gallons
TK-DF	Diesel	1,242
TK-TO3	Thermal Oil	5,283
TK-TO4	Thermal Oil	1,928
TK-RS1 through TK-RS6	Resin	79,254 ⁽¹⁾
TK-CA	Coupling Agent Solution	396
TK-AD	Binder Additive	396
TK-BS1 through TK-BS3	Binder Storage	792 ⁽¹⁾
TK-DOD	De-Dust Oil	264
TK-ADB1	Additive Buffer	396
TK-ADB2	Additive Buffer	132
TK-GLY	Glycol	396

(1) This number represents the aggregate limit for all specified storage tanks.

- d. The permittee shall utilize good operating practices in the operation of the storage tanks. Good operating practices shall mean maintaining and operating the storage tanks according to manufacturers recommendations and regularly inspecting the tanks for areas of disrepair or failure that would allow the escape of VOC-containing vapors.

4.1.10. Emergency Fire Pump Engine

The Emergency Fire Pump Engine, identified as EFP1, shall meet the following requirements:

- a. The unit shall not exceed 316 horsepower (236 kW), shall be fired only with Ultra-Low Sulfur Diesel (with a maximum sulfur content not to exceed 0.0015%), and shall not operate in excess of 100 hours per year nor 0.5 hours in any 24-hour period during times not defined as emergencies;
- b. The maximum emissions from the Emergency Fire Pump Engine shall not exceed the limits given in the following table:

Table 4.1.10(b): Emergency Fire Pump Engine Emission Limits

Pollutant	Limit	Control Technology	PPH (kg/hr)	TPY (tonne/yr)
CO	n/a	n/a	0.42 (0.19)	0.10 (0.09)
NO _x	4.0 g/kw-hr	Subpart IIII Certification, Annual Hrs of Op Limit	1.78 (0.81)	0.45 (0.41)
PM _{2.5(1)}	PPH		0.07 (0.03)	0.02 (0.02)
PM ₁₀₍₁₎				
PM ⁽²⁾	0.20 g/kw-hr		0.07 (0.03)	0.02 (0.01)
SO ₂	PPH	ULSD Fuel Annual Hrs of Op ⁽³⁾ Limit	0.01 (0.01)	0.01 (0.01)
VOCs		Subpart IIII Certification, Annual Hrs of Op ⁽³⁾ Limit	0.06 (0.03)	0.01 (0.01)

- (1) Includes Condensables.
- (2) Filterable Only.
- (3) Non-emergency hours of operation.

c. 40 CFR 60, Subpart IIII

The Emergency Fire Pump Engine shall meet all applicable requirements under 40 CFR 60, Subpart IIII including the following:

- (1) 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. **[40 CFR §60.4205(c)]**
- (2) As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines:

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

Maximum Engine Power	Model year(s)	NMHC + NOX	CO	PM
225 ≤ KW < 450 (300 ≤ HP < 600)	2009+	4.0(3.0)		0.20(0.15)

d. 40 CFR 63, Subpart ZZZZ

An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. **[40 CFR §63.6590(c)]**

4.1.11. [Reserved]

4.1.12. **Control Devices**

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

[45CSR§13-5.10]

- b. **Inherent SNCR De-NO_x System**

The permittee shall design and operate the Melting Furnace so as to promote the inherent removal of NO_x from the exhaust gas stream. The permittee shall maintain a proper temperature profile for NO_x removal and inject aqueous ammonia as necessary to facilitate the SNCR process. Compliance with 4.1.12(b) shall be determined by showing compliance with the NO_x emission limits given under Table 4.1.4(a) using the CEMS as required under 4.2.6.

- c. **Sorbent Injection**

The permittee shall utilize sorbent injection in conjunction with Baghouse IMF-01 so as to reduce the emissions of SO₂, H₂SO₄, HF, and HCl from the Melting Furnace. Compliance with 4.1.12(c) shall be determined by showing compliance with the SO₂ emission limits given under Table 4.1.4(a) using the CEMS as required under 4.2.6.

- d. **Baghouse IMF01-BH**

Use of Baghouse IMF01-BH shall be in accordance with the following requirements:

- (1) The permittee shall monitor the differential pressure drop of IMF01-BH so as to ensure proper continuous operation of the baghouse. The monitoring system shall include an alarm to notify the control room if the differential pressure drop indicates abnormal performance of the unit. The appropriate alarm set-point(s) shall be determined as given under 4.1.12(g).

- (2) **40 CFR 63, Subpart DDD**

How do I comply with the particulate matter standards for existing, new, and reconstructed cupolas? To comply with the PM standards, you must meet all of the following:

[40 CFR §63.1181]

- (i) Install, adjust, maintain, and continuously operate a bag leak detection system for each fabric filter.

[40 CFR §63.1181(a)]

- (ii) Do a performance test as specified in §63.1188 of this subpart and show compliance with the PM emission limits while the bag leak detection system is installed, operational, and properly adjusted.

[40 CFR §63.1181(b)]

- (iii) Begin corrective actions specified in your operations, maintenance, and monitoring plan required by §63.1187 of this subpart within one hour after the alarm on a bag leak detection system sounds. Complete the corrective actions in a timely manner.

[40 CFR §63.1181(c)]

- (iv) Develop and implement a written QIP consistent with compliance assurance monitoring requirements of 40 CFR 64.8(b) through (d) when the alarm on a bag leak detection system sounds for more than five percent of the total operating time in a six-month reporting period.

[40 CFR §63.1181(d)]

e. Wet Electrostatic Precipitator (WESP)

The operation of the WESP shall be in accordance with the following requirements:

- (1) The permittee shall utilize a WESP, identified as HE01, so as to reduce the particulate matter emissions from the Gutter Exhaust, Spinning Chamber, Curing Oven Hoods, the Afterburner, and the Cooling Section at all times Melting, Spinning, Curing and Cooling operations are ongoing; and
- (2) The permittee shall monitor the secondary voltage and secondary amperage range of the WESP for optimum mitigation of particulate matter emissions from the sources listed under 4.1.12(e)(1). The monitoring system shall include an alarm to notify the control room if the secondary voltage or amperage indicates abnormal performance of the unit. The appropriate alarm set-point(s) shall be determined as given under 4.1.12(g).

f. Curing Oven Afterburner

The Curing Oven Afterburner, CO-AB, shall operate according to the following requirements:

- (1) The Curing Oven Afterburner shall not exceed a burner capacity of 6.83 mmBtu/hr (2,000 kW) and shall be in operation at all times when the Curing Oven is in operation and is venting VOC-containing vapors;
- (2) **45CSR6**
The Curing Oven Afterburner is subject to 45CSR6. The requirements of 45CSR6 include but are not limited to the following:

- (i) The permittee shall not cause, suffer, allow or permit particulate matter to be discharged from the flares into the open air in excess of the quantity determined by use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is as indicated in Table I below:

Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions

<u>Incinerator Capacity</u>	<u>Factor F</u>
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

[45CSR§6-4.1]

- (ii) No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater.

[45CSR6 §4.3]

- (iii) The provisions of paragraph (i) shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up.

[45CSR6 §4.4]

- (iv) No person shall cause or allow the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.

[45CSR6 §4.5]

- (v) Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.

[45CSR6 §4.6]

- (vi) Due to unavoidable malfunction of equipment, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed five (5) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.

[45CSR6 §8.2]

(3) 40 CFR 63, Subpart DDD

- (i) How do I comply with the formaldehyde, phenol, and methanol standards for existing, new, and reconstructed combined collection/curing operations? To comply with the formaldehyde, phenol, and methanol standards, you must meet all of the following:

[40 CFR §63.1183]

- (A) Install, calibrate, maintain, and operate a device that continuously measures the operating temperature in the firebox of each thermal incinerator.

[40 CFR §63.1183(a)]

- (B) Conduct a performance test as specified in §63.1188 while manufacturing the product that requires a binder formulation made with the resin containing the highest free-formaldehyde content specification range. Show compliance with the formaldehyde, phenol, and methanol emissions limits, specified in Table 2 to this subpart, while the device for measuring the control device operating parameter is installed, operational, and properly calibrated. Establish the average operating parameter based on the performance test as specified in §63.1185(a).

[40 CFR §63.1183(b)]

- (C) During the performance test that uses the binder formulation made with the resin containing the highest free-formaldehyde content specification range, record the free-formaldehyde content specification range of the resin used, and the formulation of the binder used, including the formaldehyde content and binder specification.

[40 CFR §63.1183(c)]

- (D) Following the performance test, monitor and record the free-formaldehyde content of each resin lot and the formulation of each batch of binder used, including the

formaldehyde, phenol, and methanol content.

[40 CFR §63.1183(d)]

- (E) Maintain the free-formaldehyde content of each resin lot and the formaldehyde content of each binder formulation at or below the specification ranges established during the performance test.

[40 CFR §63.1183(e)]

- (F) Following the performance test, measure and record the average operating temperature of the incinerator as specified in §63.1185(b) of this subpart.

[40 CFR §63.1183(f)]

- (G) Maintain the operating temperature of the incinerator so that the average operating temperature for each three-hour block period never falls below the average temperature established during the performance test.

[40 CFR §63.1183(g)]

- (H) Operate and maintain the incinerator as specified in your operations, maintenance, and monitoring plan required by §63.1187 of this subpart.

[40 CFR §63.1183(h)]

- g. Where statutory requirements (MACT, NSPS) do not specify such points, the determination of appropriate alarm set-points under this section shall be based on data obtained from performance testing, manufacturing recommendations, or operational experience. The permittee shall maintain on-site, and update as necessary, a certified report listing the set-points and the basis for their selection. Any changes to the set-points shall be accompanied by the date of the change and reason for the change. The permittee shall, to the extent reasonably possible, operate the control devices within the operating ranges at all times the associated emission units are in operation and venting emissions. If an alarm occurs, the permittee shall attempt to immediately correct the problem and follow the record-keeping procedures under 4.4.3.

4.1.13. Stack Parameters

The emission point stack parameters (Inner Diameter, Emission Point Elevation, and UTM Coordinates) of each source identified under the Emission Units Table 1.0 shall be in accordance with the specifications as given on the Emission Points Data Sheet in the most updated version of Permit Applications R14-0037 and R14-0037A.

4.1.14. General Rule Applicability

The permittee shall meet all applicable requirements, including those not specified above, as given under 45CSR2, 45CSR6, 45CSR7, 45CSR10, 40 CFR 60, Subparts OOO and IIII, and 40 CFR 63, Subparts DDD, JJJJ, ZZZZ, and DDDDD. Any final revisions made to the above rules will, where applicable, supersede those specifically cited in this permit.

4.2. Monitoring, Compliance Demonstration, Recording and Reporting Requirements

4.2.1. Maximum Design Capacity Compliance

Compliance with the maximum design capacity limitations as given under 4.1. shall be based on a clear and visible boilerplate rating or on product literature, manufacturer’s data, or equivalent documentation that shows that the specific emission unit(s) or processing line in question is limited by design to a throughput or production rate that does not exceed the specified value under 4.1.

4.2.2. Maximum Design Heat Input Compliance

Compliance with the various combustion unit MDHI limitations as given under 4.1. shall be based on a clear and visible boilerplate rating or on product literature, manufacturer’s data, or equivalent documentation that shows that the specific emission unit(s) in question is limited by design to an MDHI that does not exceed the specified value under 4.1.

4.2.3. Material/Production Throughputs

To determine continuous compliance with maximum production, throughputs, and combustion limits given under in 4.1 of the permit, the permittee shall monitor and record the following:

Table 4.2.3: Facility Quantities Monitored/Recorded

Quantity Monitored/Recorded	Emission Unit(s)	Measured Units
Portable Melt Crushing	Portable Melt Crusher	Hours of Operation/year
Emergency Fire Pump Hours of Operation ⁽¹⁾	EFP1	Hours of Operation/Year
Storage Tank Throughputs	Various	Gallons/year

(1) Strictly for the purposes of compliance with 4.1.10(a), only non-emergency hours of operation are required to be monitored. Subpart III, however, requires monitoring of all hours of operation.

4.2.4. Baghouse/Filter Vents

To determine continuous compliance with the filter/baghouse emission limits given under Section 4.1 of the permit, the permittee shall maintain and operate the control devices according to the requirements given under 4.1.12(a). The permittee shall keep a record of all significant maintenance or repair performed on these control devices (changing out bags, replacing filter material, etc.).

4.2.5. [Reserved]

4.2.6. Melting Furnace CEMS (IMF01)

In order to show continuous compliance with the CO, NO_x, and SO₂ emission limits as given under Table 4.1.4(a), the permittee install and operate a Continuous Emissions Monitoring System (CEMS) for monitoring the emissions of CO, NO_x, and SO₂ from IMF01. The CEMS shall be installed, maintained and operated according to the manufacturers design, specifications, and recommendations, of which a protocol shall be developed by the permittee and approved by the Director prior to operation. The CEMS shall meet the applicable performance specifications required by 40 Part 60, Appendix B, the applicable quality assurance procedures required in 40 CFR Part 60, Appendix F, and the requirements of 40 CFR 60.13. In lieu of the requirements of 40 CFR Part 60, Appendix F, 5.1.1, 5.1.3, and 5.1.4, the permittee may conduct either a Relative Accuracy Audit (RAA) or a Relative

Accuracy Test Audit (RATA) on the CEMS at least once every three (3) years. The permittee shall conduct Cylinder Gas Audits (CGA) each calendar quarter during which a RAA or a RATA is not performed. Data recorded by the CEMS shall be kept for a period not less than three (3) years and shall be made available to the Director or his/her representative upon request.

4.2.7. Fleece Application Station

To determine continuous compliance with the VOC/HAP emission limits and the low-VOC requirement given under 4.1.6(a) and (b), the permittee shall monitor and record the following:

- a. The monthly and twelve-month rolling total of the amount (in tons) of VOCs/HAPs used in the fleece application process. The amount shall be based on actual material properties (VOC/HAP contents and material densities) and the amount of material used during the applicable time period. The permittee shall assume a 100% volatilization of all VOCs/HAPs used in the fleece application process with no control percentage applied unless granted approval in writing by the Director to use an alternative calculation methodology. The material properties shall be based on applicable vendor data, MSDS, or Certified Product Data Sheets; and
- b. The average monthly as-applied VOC/HAP content (in lb-VOC/lb-coating and lb-HAP/lb-coating) as based on the procedures under 40 CFR 63, Subpart JJJJ, Section §63.3370(a).

4.2.8. *[Reserved]*

4.2.9. Ultra Low Sulfur Fuel

For the purposes of demonstrating continuing compliance with the maximum sulfur content limit under 4.1.10(a), the permittee shall, at a minimum of once per calendar year, obtain from the fuel oil supplier a certification of the sulfur content of the fuel combusted in the Emergency Fire Pump Engine. An alternative means of determining compliance with 4.2.10. will be subject to prior approval from the Director.

4.2.10. *[Reserved]*

4.2.11. *[Reserved]*

4.2.12. Control Device Monitoring

The permittee shall install, maintain, and operate instrumentation to continuously monitor and record the control device parameters as required under 4.1.12 of this permit including, at a minimum, the following:

Table 4.2.12: Control Device Parameters Monitored/Recorded

Control Device	Control Device ID	Parameter(s)
Melting Furnace Baghouse	IMF01-BH	Pressure Drop
WESP	WESP	Secondary Voltage Secondary Amperage
Curing Oven Afterburner	CO-AB	Firebox Temperature ⁽¹⁾

(1) Pursuant to 40 CFR 63, Subpart DDD, §63.1182.

4.2.13. Visible Emissions Compliance Demonstrations

Visible emissions Monitoring, Compliance Demonstration, Recording and Reporting shall be in accordance with the following requirements:

a. **45CSR2**

Upon request by the Secretary, compliance with the visible emission requirements of 3.1 [of 45CSR2] shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Secretary. The Secretary may require the installation, calibration, maintenance and operation of continuous opacity monitoring systems and may establish policies for the evaluation of continuous opacity monitoring results and the determination of compliance with the visible emission requirements of 3.1 [of 45CSR2]. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control;
[40CSR§2-3.2]

b. **45CSR6**

Compliance with the afterburner opacity requirements given under 4.1.12(f)(2)(i) and (ii) shall be based on the compliance demonstrations required for emission point HE01 as given under 4.2.14(c) and (e);

c. **45CSR7**

At such reasonable time(s) as the Secretary may designate, compliance with the visible emission requirements of 4.1.2(i), 4.1.3(e), 4.1.4(b), 4.1.5(b), and 4.1.7(f) shall be determined in accordance with the procedures outlined under 45CSR7A;

d. **40 CFR 60, Subpart OOO**

The permittee shall meet all applicable visible emissions Monitoring, Compliance Demonstration, Recording and Reporting requirements as given under 40 CFR 60, Subpart OOO, Sections §60.674 through §60.676;

e. **IMF01, HE01, and CE01.**

Emission Points IMF01, HE01, and CE01 are subject to the following visible emissions monitoring and compliance demonstration requirements:

- (1) In order to determine compliance with the opacity limits of 4.1.3(e), 4.1.4(b), 4.1.5(b), and 4.1.7(f) of this permit, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for Emission Points IMF01, HE01, and CE01 in accordance with the following:
 - (i) The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40CFR Part 60, Appendix A, Method 9 certification course;
 - (ii) Visible emission checks shall be conducted at least once per calendar month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions;

- (iii) If visible emissions are present at a source(s) the permittee shall perform Method 9 readings to confirm that visible emissions are within the limits of 4.1.10 of this permit. Said Method 9 readings shall be taken as soon as practicable, but within seventy-two (72) hours of the Method 22 emission check; and
 - (iv) If, one year of monthly Method 22 readings show that there are no visible emissions, then the frequency of observations can be reduced to quarterly. If, during quarterly checks, visible emissions are observed, then the frequency of observations shall be returned to monthly.
- f. For the purpose of demonstrating compliance with the visible emissions and opacity requirements, the permittee shall maintain records of the visible emission opacity tests and checks. The permittee shall maintain records of all monitoring data required by 4.2.14 documenting the date and time of each visible emission check, the emission point or equipment/ source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6-10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9. For an emission unit out of service during the evaluation, the record of observation may note "out of service" (O/S) or equivalent; and
- g. Any deviation of the allowable visible emission requirement for any emission source discovered during observation using 40CFR Part 60, Appendix A, Method 9 must be reported in writing to the Director of the DAQ as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

4.2.14. Baghouse/Fabric Filter Compliance Demonstrations

Unless specifically requested under 4.3.1. or listed in Table 4.3.2., compliance with all baghouse and fabric filter mass emission limits that have outlet grain loading limits shall be based on vendor information or vendor guarantees that show the maximum outlet grain loading emissions from the baghouse/fabric filter is in compliance with the specific limit.

4.2.15. Emission Point Map

The permittee shall prepare and maintain an emission point map of the facility. This map shall consist of a diagram of the location and identification of all emission points at the facility that vent to ambient air. A legend shall be prepared with the map that identifies the emission point type and source(s) contributing to that emission point. This map shall be prepared within 180 days of startup and thereafter be updated as necessary to reflect current facility operations. The map(s) shall be retained on-site and be made available to the Director or his/her duly authorized representative upon request.

4.3. Performance Testing Requirements

4.3.1. At such reasonable time(s) as the Secretary may designate, in accordance with the provisions of 3.3 of this permit, the permittee shall conduct or have conducted test(s) to determine compliance with the emission limitations established in this permit and/or applicable regulations.

4.3.2. Emissions Point Performance Testing

The permittee shall conduct, or have conducted, in accordance with a protocol submitted pursuant to 3.3.1(c), and in accordance with the testing schedule in 4.3.3, performance tests on the emission units (as emitted from the listed emission points) to show compliance with the specified pollutants as given in the following table:

Table 4.3.2.: Performance Testing Requirements

Emission Unit(s)	Emission Point	Pollutants	Limit
Melting Furnace	IMF01	All Pollutants under Table 4.1.4(a) with the exception of Mineral Fiber, and Total HAPs.	PPH ⁽²⁾
Gutter Exhaust, Spinning Chamber, Curing Oven Hoods, Curing Oven, and Cooling Section	HE01	All Pollutants under Table 4.1.5(a) with the exception of SO ₂ , Mineral Fiber, and Total HAPs.	PPH ⁽²⁾
Recycle Building Vent 1	CM10	PM _{2.5(1)} , PM ₁₀₍₁₎ , PM ⁽¹⁾	PPH gr/dscf

(1) Filterable Only.

(2) Results from the required performance testing used to show compliance with the MACT standards (in lb/ton-melt) may be converted and used for compliance with the PPH limits. Compliance with the MACT standards does not necessarily mean compliance with the limits under Table 4.1.4(a).

4.3.3 With respect to the performance testing required above under Section 4.3.2, the permittee shall, after the initial performance test, periodically conduct additional performance testing on the specified sources according to the following schedule:

Table 4.3.3.: Performance Testing Schedule

Test	Test Results	Retesting Frequency
Initial Baseline	<90% of weight emission standard	Once/3 years
Initial Baseline	>90% of weight emission standard	Annual
Annual	after three successive tests indicate mass emission rates <90% of weight emission standard	Once/3 years
Annual	any tests indicates a mass emission rate >90% of weight emission standard	Annual
Once/3 years	any tests indicates a mass emission rate <90% of weight emission standard	Once/3 years

Test	Test Results	Retesting Frequency
Once/3 years	any test indicates a mass emission rate >90% of weight emission standard	Annual

4.3.4. Performance testing for pollutants monitored by CEMS (CO, NO_x, and SO₂ emitted from the Melting Furnace) are not subject to the performance testing schedule given under Table 4.3.4 and any performance testing shall, unless at such other reasonable time(s) as the Secretary may designate, be conducted on a schedule consistent with the required RATA testing.

4.3.5. The permittee shall use the test methods specified in Table 4.3.5. unless granted approval in writing by the Director to use an alternative test method in a protocol submitted pursuant to 3.3.1(c).

Table 4.3.5: Performance Test Methods

Pollutant	Test Method ⁽¹⁾
CO	Method 10
NO _x	Method 7E
PM _{2.5} (filterable only)	Method 201A
PM ₁₀ /PM (filterable only)	Method 5
PM _{2.5} /PM ₁₀ (condensable)	Method 202
SO ₂	Method 6C
VOCs	Method 18/25A
COS	Method 15
HF/HCl	Method 26A
Formaldehyde Phenol/ Methanol	Method 318
H ₂ SO ₄	Method 8

(1) All test methods refer to those given under 40 CFR 60, Appendix A

4.3.6. 40 CFR 60, Subpart OOO

The permittee shall meet all applicable Performance Testing requirements as given under 40 CFR 60, Subpart A, Section §60.8 and Subpart OOO, Section §60.675.

4.3.7. 40 CFR 63, Subpart DDD

The permittee shall meet all applicable Performance Testing requirements as given under 40 CFR 63, Subpart DDD, Sections §63.1188 through §63.1190.

4.4. Additional Recordkeeping Requirements

- 4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:
- a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.
- 4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
- 4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
- a. The equipment involved.
 - b. Steps taken to minimize emissions during the event.
 - c. The duration of the event.
 - d. The estimated increase in emissions during the event.

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

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

4.5. Additional Reporting Requirements

4.5.1. The permittee shall submit the following information to the DAQ according to the specified schedules:

- a. The permittee shall submit reports of all required monitoring on or before September 15 for the reporting period January 1 to June 30 and March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports; and
- b. The permittee shall submit to the Director on or before March 15, a certification of compliance with all requirements of this permit for the previous calendar year ending on December 31. If, during the previous annual period, the permittee had been out of compliance with any part of this permit, it shall be noted along with the following information: 1) the source/equipment/process that was non-compliant and the specific requirement of this permit that was not met, 2) the date the permitted discovered that the source/ equipment/process was out of compliance, 3) the date the Director was notified, 4) the corrective measures to get the source/equipment/process back into compliance, and 5) the date the source began to operate in compliance. The submission of any non-compliance report shall give no enforcement action immunity to episodes of non-compliance contained therein.

CERTIFICATION OF DATA ACCURACY

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

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

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

Telephone No. _____ Fax No. _____

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- ¹ This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:
- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (I) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) the delegation of authority to such representative is approved in advance by the Director;
 - b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
 - c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of USEPA); or
 - d. The designated representative delegated with such authority and approved in advance by the Director.