



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Re: Revised Draft/Proposed Permit and Fact Sheet - Armstrong World Industries, Inc. - R30-03500049-2025

1 message

McCumbers, Carrie <carrie.mccumbers@wv.gov>
To: "Roberts, Daniel P" <daniel.p.roberts@wv.gov>

Thu, Dec 5, 2024 at 2:31 PM

Dan,

Attached are my comments on the permit and fact sheet. For condition 4.5.4(1), I don't think it should be deleted, I just think the language should be changed to match that from the CAM rule. If you have any questions, just let me know.

Thanks,
Carrie

On Thu, Dec 5, 2024 at 12:09 PM Roberts, Daniel P <daniel.p.roberts@wv.gov> wrote:
Carrie,

Hey. I have attached the revised draft proposed permit and fact sheet which have removed all of the changes the company has proposed which are in their NSR permit R13-2864D that needs to be modified first. The only change I left in was to delete condition 4.5.4.(1). Here is the reasoning behind the request taken straight from the application:

Per the advice of WVDEP (Denton McDermitt, email 9/3/2020) Armstrong is requesting that the non-applicable permit condition 4.5.4(1) be deleted from the permit. Per Mr. McDermitt:

"The quarterly excess emissions reports are leftover language from when I originally developed the CAM "boilerplate" conditions for an electric utility company in our state. The power plant was subject to 45CSR2 and CAM applied to the weight emission standard for PM. Opacity was elected as a CAM parameter in their case. I linked the CAM reports to the applicable quarterly excess emissions reports (45CSR2-9.3.a.). The CAM Regulation in 40 CFR 64.9(a)(1) refers to 70.6(a)(3)(iii), which is Title V permit content for reporting. 70.6(a)(3)(iii)(A) requires reporting at least every 6 months. Since the CAM-affected emission units 1S, 15S, and 16S are not subject to 45CSR2, the quarterly excess emissions report is not applicable. You should submit the CAM report every 6 months with the semiannual monitoring report. I apologize for leaving this non-applicable language in your permit. The next time you modify the permit, I suggest asking the permit writer to remove it and provide the writer with this explanation."

In my original fact sheet, I did not include the proper explanation on why this permit condition was being deleted.

Dan

2 attachments **DPFactSheet R30-03500049-2025 12-5-24 revised Carrie's comments part 2.docx**
91K **DPPermit R30-03500049-2025 12-5-24 revised Carrie's comments part 2.docx**
297K

West Virginia Department of Environmental Protection

Harold D. Ward
Cabinet Secretary

Permit to Operate



Pursuant to
Title V
of the Clean Air Act

Issued to:
Armstrong World Industries, Inc.
Armstrong Millwood Plant
R30-03500049-2025

Laura M. Crowder
Director, Division of Air Quality

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

Permit Number: **R30-03500049-2025**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Permittee Mailing Address: **P.O. Box 220, Millwood, WV 25262**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 C Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Millwood, Jackson County, West Virginia
Facility Mailing Address:	141 Sensenich Drive, Millwood, WV 25262
Telephone Number:	304-273-3900
Type of Business Entity:	Corporation
Facility Description:	Slag wool manufacturing facility
SIC Codes:	3296
UTM Coordinates:	427.2 km Easting \$ 4,307 km Northing \$ Zone 17

Permit Writer: Dan Roberts

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

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device ¹
1S	1-2E	Raw Material Transfer and Electric Arc Furnace (EAF)	2011	40,000 lb/hr	Scrubber 1C & Dust Collector 2C
3S	3-4E	Spinner Collection Chamber #1	2011	34,500 lb/hr	Baghouse 3C
4S	3-4E	Spinner Collection Chamber #2	2011		Baghouse 4C
6S	6E	Hydrated Lime Storage Silo	2011	3,300 cfm	Filter 6C
7S	7E	Backup Generator	2011	500 kWe	N/A
8S	Fugitive	Haulroads	2011	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	175,000 tpy	N/A
10S	10E	Cooling Tower #1	2011	1,500 GPM	N/A
11S	Fugitive	Railcar Unloading	2011	300 TPH	N/A
12S	Fugitive	Diesel Storage Tank #1	2011	900 Gal	N/A
13S	Fugitive	Diesel Storage Tank #2	2011	500 Gal	N/A
15S	8E	Slag Wool Processing Line #1	2011	28,000 lb/hr (based on a 24-hour average)	Baghouse 7C
16S	8E	Slag Wool Processing Line #2	2011		Baghouse 7C
17S	17E	Cooling Tower #2	2011	800 GPM	N/A
18S	18E	Propane-fueled Sand Dryer	2017	2,000 lb/hr sand 5 gal/hr propane	None

¹ Control Device abbreviations: WS – Wet Suppression

1.2 Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2864D	September 23, 2019

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 other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.39.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM₁₀	Particulate Matter less than 10µm in diameter
CES	Certified Emission Statement	pph	Pounds per Hour
C.F.R. or CFR	Code of Federal Regulations	ppm	Parts per Million
CO	Carbon Monoxide	PSD	Prevention of Significant Deterioration
C.S.R. or CSR	Codes of State Rules	psi	Pounds per Square Inch
DAQ	Division of Air Quality	SIC	Standard Industrial Classification
DEP	Department of Environmental Protection	SIP	State Implementation Plan
FOIA	Freedom of Information Act	SO₂	Sulfur Dioxide
HAP	Hazardous Air Pollutant	TAP	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	TPY	Tons per Year
HP	Horsepower	TRS	Total Reduced Sulfur
lbs/hr or lb/hr	Pounds per Hour	TSP	Total Suspended Particulate
LDAR	Leak Detection and Repair	USEPA	United States Environmental Protection Agency
m	Thousand	UTM	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	VEE	Visual Emissions Evaluation
mm	Million	VOC	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour		
NA or N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.

[45CSR§30-6.4.]

2.7. Minor Permit Modifications

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.

[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.

[45CSR§30-6.5.b.]

2.9. Emissions Trading

- 2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.

[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
- b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
- c. The change shall not qualify for the permit shield.
- d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.40]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

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

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
- b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

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

[45CSR§30-5.1.f.2.]

2.17. Reserved

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

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

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

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

[45CSR§30-4.2.]

2.21. Permit Shield

- 2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

[45CSR§30-5.6.a.]

- 2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§305.6.c.]

2.22. Credible Evidence

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

[45CSR§30-5.3.e.3.B.]

2.23. Severability

- 2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

[45CSR§305.1.e.]

2.24. Property Rights

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

[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

- 2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.
- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
 - b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
 - c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1 Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. [45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. [40 C.F.R. §61.145(b) and 45CSR34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. [45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. [45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. [W.Va. Code § 22-5-4(a)(15)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.

[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

3.2. Monitoring Requirements

- 3.2.1. Reserved.

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a sourcespecific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a sourcespecific 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 shall be revised in accordance with 45CSR§30-6.4 or 45CSR§30-6.5 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 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language.
 2. The result of the test for each permit or rule condition.
 3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 2254(a)(15-16) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.; 45CSR13, R13-2864, 4.4.1.]

- 3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. and 5.1.c.3.D.]
- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]
- 3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

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

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

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

- 3.5.4. **Fees.** The permittee shall pay fees on an annual basis in accordance with 45CSR§30-8.
[45CSR§30-8.]
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the

certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

- 3.5.7. **Reserved.**

- 3.5.8. **Deviations.**

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
1. Reserved.
 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 3. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 4. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 5. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.
[45CSR§30-5.1.c.3.B.]

- 3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

- 3.6.1. Reserved.

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.
- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.
 - a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.
 - b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral. In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart OOO) because dryers are not an “affected facility” as listed by the regulation.
 - c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart. In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.
 - d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is

not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons, the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.

- e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. **45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
- h. **45CSR27 - Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

4.0 Manufacturing Process Sources Requirements [1S, 3S, 4S, 6S, 9S, 11S, 15S, 16S, 18S]

4.1. Limitations and Standards

4.1.1. Emissions from the facility shall not exceed the limitations set forth in Tables 4.1.1.1 and 4.1.1.2:

Table 4.1.1.1.

Source	PM		PM ₁₀ ¹		NO _x		VOC		SO ₂		CO	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.00	55.00 ²	240.90
3S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
4S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
6S	1.13	4.95	1.13	4.95	--	--	--	--	--	--	--	--
9S	--	1.98	--	0.97	--	--	--	--	--	--	--	--
11S	0.02	0.10	0.01	0.05	--	--	--	--	--	--	--	--
15S/16S	2.39	10.47	2.39	10.47	--	--	--	--	--	--	--	--
18S ³	0.1	0.44	0.1	0.44	0.07	0.28	0.01	0.02	--	--	0.03	0.16

¹ All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

² Hourly CO emission limits from the EAF are 55.00 pounds per hour based on a rolling 30 day average and 100 pounds per hour based on a rolling 24 hour average.

³ Hourly emissions for the Propane-fueled Sand Dryer (18S) are calculated based on burning 5 gal/hr of propane; Annual emissions for the Propane-fueled Sand Dryer (18S) are based on operating for 8,760 hr/yr.

Table 4.1.1.2

Source	Mn		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	0.28	1.25	--	--	0.28	1.25
3S	0.78	3.40	--	--	0.78	3.40
4S	0.78	3.40	--	--	0.78	3.40
6S	--	--	--	--	--	--
9S	0.02	0.22	--	--	0.02	0.22
11S	0.01	0.01	--	--	0.01	0.01
15S/16S	0.26	1.15	--	--	0.26	1.15
18S	--	--	--	--	--	--

Compliance with the PM emission limits shall demonstrate compliance with the less stringent PM emission limits of 45CSR§7-4.1.

[45CSR13, R13-2864, 4.1.1 and 4.1.9.2, Tables 4.1.1.1 and 4.1.1.2, 45CSR§7-4.1.]

4.1.2. The total annual SO₂ emissions from the Submerged Electric Arc Furnace (1S) shall not exceed 245 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.2]

- 4.1.3. The Furnace Dry Scrubber (1C) shall be designed, installed, operated and maintained so as to ensure compliance with the emission limits of 4.1.1. Operation of the scrubber is only required when necessary to meet the emission limits of 4.1.1.

[45CSR13, R13-2864, 4.1.3]

- 4.1.4. For the purpose of complying with the PM/PM₁₀/PM_{2.5} emission limits of condition 4.1.1 of this permit, all of the dust collectors shall be operated according to the following requirements:

The permittee has determined the optimal ranges for the pressure drop across baghouses 2C, 3C, 4C and 7C. The permittee shall maintain on site, and update as necessary, a certified report listing the operating ranges.

[45CSR13, R13-2864, 4.1.4]

- 4.1.5. Manganese content of the slag entering the furnace shall not exceed 10.95% (equivalent to 14.14% MnO).

[45CSR13, R13-2864, 4.1.5]

- 4.1.6. The total annual Mn emissions from the facility shall not exceed 9.6 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.12.]

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

- a. The permittee shall maintain a water truck on site and in good operating condition, and shall utilize same to apply a either water or a mixture of water and an environmentally acceptable dust control additive, hereinafter referred to as solution, as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from unpaved haulroads and other unpaved work areas where mobile equipment is used. The spraybar shall be equipped with commercially available spray nozzles, of sufficient size and number, so as to provide adequate coverage to the area being treated.

The pump delivering the solution, shall be of sufficient size and capacity so as to be capable of delivering to the spray nozzle(s) an adequate quantity of solution, and at a sufficient pressure, so as to assure that the treatment process will minimize the atmospheric entrainment of fugitive particulate emissions generated from the unpaved haulroads and work areas where mobile equipment is used.

- b. All unpaved haulroads, access roads, stockpile and work areas shall be kept clean and in good condition by replacing base material and/or grading as required.
- c. If tracking of solids by vehicular traffic from access and/or haulroads onto any public road or highway occurs and generates or has the potential to generate fugitive particulate emissions, the registrant shall properly operate and maintain an underbody truck wash, rumble strips or employ other suitable measures to maintain effective fugitive dust control of the premises and minimize the emission of particulate matter.

[45CSR13, R13-2864, 4.1.6]

- 4.1.8. The permittee shall ensure that the water trucks and/or water sprays are properly equipped with winterization systems capable of operating in a manner such that all such fugitive dust control systems remain effective and functional, to the maximum extent practicable, during winter months and cold

weather. At all times, including periods of cold weather, the registrant shall comply with the water trucks and/or water sprays requirements of this permit.

[45CSR13, R13-2864, 4.1.7]

- 4.1.9. Total slag throughput to the EAF shall not exceed 175,200 tons per year on a rolling 12 month total.
[45CSR13, R13-2864, 4.1.8]
- 4.1.10. 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 for 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§7-3.1 & 45CSR§7-3.2, 45CSR13, R13-2864, 4.1.9.1 (1S, 3S, 4S, 15S, 16S, 18S)]
- 4.1.11. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process that pursuant to Condition 4.1.13. is required to have a full enclosure and be equipped with a particulate matter control device.
[45CSR§7-3.7.] (6S)
- 4.1.12. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.
[45CSR§7-4.12.]
- 4.1.13. 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., 45CSR13, R13-2864, 4.1.9.3]
- 4.1.14. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.
[45CSR§7-5.2., 45CSR13, R13-2864, 4.1.9.4]
- 4.1.15. 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. of 45CSR10.
[45CSR§10-4.1., 45CSR13, R13-2864, 4.1.10.] (1S)
- 4.1.16. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.10., 45CSR13, R13-2864, 4.1.13]

4.2. Monitoring Requirements

- 4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturer's recommendations concerning maintenance and performance.

[45CSR13, R13-2864, 4.2.1]

- 4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, R13-2864, 4.2.2] (1S, 3S, 4S, 6S, 15S, 16S, 18S)

- 4.2.3. The permittee shall install, maintain and operate instrumentation to continuously monitor and record at least once per operating day the control device parameters (1C, 2C, 3C, 4C and 7C) as determined by conditions 4.1.3 and 4.1.4 of this permit at all times that the emission source(s) is/are in operation.

[45CSR13, R13-2864, 4.2.3]

[40 C.F.R. § 64.3(b)(4)(iii); 45CSR§30-5.1.c.] (2C, 7C)

- 4.2.4. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of SO₂ from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 2 as appropriate, and Performance Specification 4, 4a or 4b (CO) as appropriate.

[45CSR13, R13-2864, 4.2.4]

- 4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.15 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier. Alternatively, the permittee may obtain a fuel sample of each shipment and perform analytical testing to determine the sulfur content.

[45CSR13, R13-2864, 4.2.5]

- 4.2.6. To show compliance with the SO₂ limit in condition 4.1.2 of this permit, monthly SO₂ emissions from the submerged electric arc furnace shall be calculated (using SO₂ CEMS) by the 15th of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.7]

- 4.2.7. In order to determine compliance with conditions 4.1.1. and 4.1.5 of this permit, the permittee shall obtain representative samples from each shipment of slag from each supplier for the first week of operation (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) to be analyzed for the Manganese content (percent Manganese by weight). The manganese content from each type of slag shall be averaged for the week in order to determine a baseline manganese content for that supplier's slag. After the first week of samples, the permittee shall continue to collect the weeks worth of samples (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) at least once per month to either confirm the existing or reestablish a new baseline Mn level for that supplier. If the permittee adds a new slag supplier, the permittee shall collect samples for each shipment for one week in order to establish the baseline Mn content for that supplier.

If the baseline Mn content of the slag from any supplier exceeds the Mn level permitted in condition 4.1.5 of this permit, Armstrong shall maintain a record documenting, any time that specific slag is used in the furnace, that the Mn content of the slag blend entering the furnace does not exceed the Mn level permitted in Condition 4.1.5 of this permit.

[45CSR13, R13-2864, 4.2.9]

- 4.2.8. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of CO, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 4, 4a or 4b as appropriate.

[45CSR13, R13-2864, 4.2.6]

- 4.2.9. The permittee shall maintain monthly records of slag throughput to the EAF.

[45CSR13, R13-2864, 4.2.11]

- 4.2.10. To show compliance with the Mn emission limit in condition 4.1.6. of this permit, monthly Mn emissions from the facility shall be calculated (mass balance) by the 15th day of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.12]

- 4.2.11. To show compliance with the CO limit in condition 4.1.1 of this permit, monthly CO emissions from the submerged electric arc furnace shall be calculated (using CO CEMS) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.10]

- 4.2.12. To show compliance with the emission limits given in condition 4.1.1. of this permit, the permittee shall keep a monthly record of hours of operation and propane fuel usage for the Sand Dryer (18S). These

monthly records shall be used to calculate a twelve month rolling average hourly fuel usage rate which should not exceed 5gal/hr of propane consumption.

[45CSR13, R13-2864, 4.2.13.]

- 4.2.13. **CAM Indicator Range for 2C** – While the Raw Material Transfer and EAF is operating, the static pressure drop across the Furnace Dust Collector (2C) shall be greater than or equal to 1.0 and less than or equal to 7.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.
[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (1S)
- 4.2.14. **CAM Indicator Range for 7C** – While the Slag Wool Processing Lines #1 or #2 (or both simultaneously) are operating, the static pressure drop across the Fiber Line Baghouse (7C) shall be greater than or equal to 0.5 and less than or equal to 9.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.
[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (15S, 16S)
- 4.2.15. **Excursion Definition for the Raw Material Transfer and EAF** – For the purposes of 40 C.F.R. Part 64, an excursion for the Raw Material Transfer and EAF (1S) is a static pressure drop across the Furnace Dust Collector (2C) outside of the indicator range specified in permit condition 4.2.13. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.
[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (1S)
- 4.2.16. **Excursion Definition for the Slag Wool Processing Lines #1 and #2** – For the purposes of 40 C.F.R. Part 64, an excursion for the Slag Wool Processing Lines #1 and #2 (15S and 16S) is a static pressure drop across the Fiber Line Baghouse (7C) outside of the indicator range specified in permit condition 4.2.14. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.
[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (15S, 16S)
- 4.2.17. **Commencement of operation** – The permittee shall conduct the monitoring required under 40 C.F.R. Part 64 upon issuance of this permit that includes such monitoring.
[40 C.F.R. § 64.7(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)
- 4.2.18. **Proper Maintenance** – At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
[40 C.F.R. § 64.7(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)
- 4.2.19. **Continued Operation** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 C.F.R. Part 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated

control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 C.F.R. § 64.7(c); 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

4.2.20. **Response to Excursions or Exceedances**

- (1) Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (2) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. § 64.7(d); 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

- 4.2.21. **Documentation of Need for Improved Monitoring** – After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. § 64.7(e); 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

- 4.2.22. **Quality Improvement Plan (QIP)** – Based on the results of a determination made under §64.7(d)(2) (Response to excursions or exceedances, permit condition 4.2.20.(2)), the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, then it shall be developed, implemented, and modified as required according to 40 C.F.R. §§ 64.8(b) through (e). Refer to permit condition 4.5.4.(2)c. for the reporting required when a QIP is implemented. Notwithstanding the Administrator or the Director requiring the permittee to develop a QIP, the permittee proposed an accumulation of exceedances or excursions exceeding 10 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP.

[40 C.F.R. § 64.8; 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

4.3. Testing Requirements

4.3.1. The permittee shall complete the following performance testing:

4.3.1.1. The permittee shall perform or have performed EPA approved stack tests to determine emissions of NO_x, VOCs, PM and PM₁₀ from the submerged electric arc furnace.

4.3.1.2. The permittee shall perform or have performed EPA approved stack tests to determine emissions of PM and PM₁₀ from one of the spinner collection chambers.

4.3.1.3. The permittee shall perform or have performed EPA approved stack tests to determine emissions of Manganese from one of the spinner collection chambers and the submerged electric arc furnace.

[45CSR13, R13-2864, 4.3.1]

4.3.2. Ongoing compliance shall be demonstrated by repeating the above testing (condition 4.3.1.) according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Director's Request
Initial	Between 10% and 50% of limits	Once/5 years
Initial	Between 50% and 90% limits	Once/3 years
Initial	≥90% of limits	Annual
Annual	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Annual	After two successive tests indicate emission rates <90% of limits	Once/3 years
Annual	≥90% of limits	Annual
Once/3 years	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Once/3 years	After two successive tests indicate emission rates <90% of limits	Once/3 years
Once/3 years	≥90% of limits	Annual
Once/5 years	After two successive tests indicate emission rates <10% of limits	Upon Director's Request
Once/5 years	≤50% of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	≥90% of limits	Annual

[45CSR13, R13-2864, 4.3.2]

4.3.3. **Quality Assurance / Quality Control Practice** – For the Furnace Dust Collector (2C) and Fiber Line Baghouse (7C), the differential pressure sensing devices shall be electrically tested semi-annually to verify correct readings and that accurate data is being sent to the data logging system. The reading shall be within 0.15 in. of water column. If a reading differs in a value greater than 0.15 in. water column, a vendor shall be utilized as expeditiously as practicable to calibrate the differential pressure sensing device. A vendor

shall be scheduled for a regular calibration visit every 3 years. Records of the testing and calibrations shall be maintained in accordance with conditions 3.4.1. and 3.4.2.

[40 C.F.R. § 64.3(b)(3); 45CSR§30-5.1.c.] (*1S, 15S, 16S*)

4.4. Recordkeeping Requirements

4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-2864, 4.4.2.]

4.4.2. **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.

[45CSR13, R13-2864, 4.4.3.]

4.4.3. In order to determine compliance with condition 4.1.5 of this permit, the permittee shall keep monthly records of the Manganese content of the slag. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.4]

4.4.4. The permittee shall maintain monthly records of slag wool production from the facility. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.2.8. and 4.4.5]

4.4.5. In order to demonstrate compliance with the requirements of 4.2.2 of this permit, records of the Method 22 testing and any necessary Method 9 testing shall be retained on site by the permittee for at least five (5) years. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.6]

4.4.6. In order to determine compliance with the requirements of conditions 4.1.15 and 4.2.5 of this permit, the permittee shall maintain records of the fuel oil sulfur content. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.7]

- 4.4.7. In order to determine compliance with the requirements of condition 4.1.4 of this permit, the permittee shall maintain daily records of the pressure drop across each baghouse. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.4.8]
- 4.4.8. In order to determine compliance with condition 4.2.9 of this permit, the permittee shall maintain monthly records of slag throughput to the EAF. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.4.9]
- 4.4.9. **General recordkeeping requirements for 40 C.F.R. Part 64 (CAM).** The permittee shall comply with the recordkeeping requirements specified in permit conditions 3.4.1. and 3.4.2. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 (condition 4.2.22.) and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
[40 C.F.R. § 64.9(b); 45CSR§30-5.1.c.] (*1S, 15S, 16S*)

4.5. Reporting Requirements

- 4.5.1. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
[45CSR13, R13-2864, 4.5.1]
- 4.5.2. With regard to testing required by section 4.3 of this permit, results shall be submitted to the Director no more than 60 days after the date the testing takes place.
[45CSR13, R13-2864, 4.5.2]
- 4.5.3. The permittee shall comply with all applicable reporting requirements of 45CSR7, 45CSR10, and 45CSR13.
[45CSR13, R13-2864, 4.5.3]
- 4.5.4. **General reporting requirements for 40 C.F.R. Part 64 (CAM)**
- (1) ~~Reserved.~~ On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit CAM monitoring reports to the permitting authority in accordance with condition 3.5.6
 - (2) A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:
 - a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

- b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. § 64.9(a); 45CSR§30-5.1.c.] (*1S, 15S, 16S*)

4.6. Compliance Plan

- 4.6.1. Reserved.

5.0 Storage Tanks [12S and 13S] and Cooling Tower [10S and 17S]

5.1. Limitations and Standards

5.1.1. Emissions from the storage tanks shall not exceed the limitations set forth below:

Source	VOC		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
12S	0.02	0.07	0.02	0.07	0.02	0.07
13S	0.01	0.04	0.01	0.04	0.01	0.04

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 & 4.1.1.2; State-enforceable only]

5.1.2. Emissions from the cooling towers shall not exceed the limitations set forth below:

Source	PM		PM ₁₀ ¹	
	lb/hr	tpy	lb/hr	tpy
10S	0.77	3.37	0.77	3.37
17S	0.41	1.80	0.41	1.80

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Table 4.1.1.1; State-enforceable only]

5.2. Monitoring Requirements

5.2.1. Reserved.

5.3. Testing Requirements

5.3.1. Reserved.

5.4. Recordkeeping Requirements

5.4.1. Reserved.

5.5. Reporting Requirements

5.5.1. Reserved.

5.6. Compliance Plan

5.6.1. Reserved.

6.0 Backup Generator Requirements [7S]

6.1 Limitations and Standards

6.1.1. Emissions from the backup generator, 7S, shall not exceed the following limitations:

Pollutant	Hourly limit in lb/hr	Annual limit in tpy
PM	0.08	0.02
PM ₁₀ ¹	0.08	0.02
NO _x	8.17	2.04
VOC	0.07	0.02
SO ₂	0.31	0.08
CO	1.93	0.48
VOC HAP	0.01	0.002
Total HAP	0.01	0.002

¹ All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 and 4.1.1.2; State-enforceable only]

6.1.2. The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart IIII (backup generator 7S) including but not limited to the following:

Emissions from the Backup Generator (7S) shall not exceed the following:

NOx+NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
4.0	3.5	0.20

[40 C.F.R. §60.4205(b); 45CSR13, R13-2864, 4.1.11.1; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 over the entire life of the engine.

[40 C.F.R. §60.4206; 45CSR13, R13-2864, 4.1.11.2; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.4. The nonroad diesel fuel that is used in the backup generator must have a sulfur content less than 15 parts per million. The nonroad diesel fuel must have a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

[40 C.F.R. §60.4207(b); 45CSR13, R13-2864, 4.1.11.3; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.5. a. If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under Condition 6.1.5.c. of this permit:

1. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

2. Change only those emission-related settings that are permitted by the manufacturer; and
 3. Meet the requirements of 40 CFR part 1068, as they apply to you.
- b. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Condition 6.1.2. of this permit, you must comply by purchasing an engine certified to the emission standards in Condition 6.1.2. for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 6.1.5.c. of this permit.
- c. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[40 C.F.R. §§ 60.4211(a), (c), (g), and (g)(3); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

- 6.1.6. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
- (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) You may operate your emergency stationary ICE for the purposes specified in paragraph (f)(2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
 - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2) of this condition.

[40 C.F.R. §60.4211(f); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.2. Monitoring Requirements

- 6.2.1. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

[40 C.F.R. §60.4209(b); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.3. Testing Requirements

- 6.3.1. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.3.3]

6.4. Recordkeeping Requirements

- 6.4.1. Reserved.

6.5. Reporting Requirements

- 6.5.1. The permittee shall comply with all applicable reporting requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.5.3]

6.6. Compliance Plan

- 6.6.1. Reserved.

Fact Sheet



***For **Draft/Proposed** Renewal Permitting Action Under 45CSR30 and
Title V of the Clean Air Act***

Permit Number: **R30-03500049-2025**
Application Received: **January 24, 2024**
Plant Identification Number: **03-054-035-00049**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Mailing Address: **P.O. Box 220, Millwood, WV 25262**

Physical Location: Millwood, Jackson County, West Virginia
UTM Coordinates: 427.2 km Easting • 4,307 km Northing • Zone 17
Directions: From US-33 E, turn left onto WV 68 S. Continue on WV 68 S for 0.4 miles. Turn right onto WV 2 S. Continue for approximately 6 miles. Turn right onto Jack Burlingame Road.

Facility Description

The Armstrong World Industries Millwood plant is a slag wool manufacturing facility covered under SIC Code 3296. It typically manufactures slag wool from silicomanganese slag. The plant receives the slag via truck or railcar, stores the slag in outdoor piles, and then transfers the slag to a belt conveyor via front-end loader. The slag is then transferred to a submerged Electric Arc Furnace (EAF) where the slag is melted using graphite electrodes. The molten slag is then transferred to one of two spinners which spin the molten slag into slag wool fibers. The wool fibers are then collected in one of two collection chambers, further processed into slag wool bales, and then shipped off site.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions ¹	Actual Emissions ²
Carbon Monoxide (CO)	241.54	75.02
Nitrogen Oxides (NO _x)	24.22	0.22
Particulate Matter (PM _{2.5})	95.10	16.84
Particulate Matter (PM ₁₀)	99.45	18.59
Total Particulate Matter (TSP)	111.19	47.79
Sulfur Dioxide (SO ₂)	245.10	53.24
Volatile Organic Compounds (VOC)	25.35	0.78
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions ¹	Actual Emissions ²
Manganese Compounds	9.27	5.57
Total HAPs excluding Mn	0.0	Not Reported

Some of the above HAPs may be counted as PM or VOCs.

¹ Potential emissions are from Table 1 of Attachment I in the renewal application, but have been modified to exclude the suggested changes in the application that could not be incorporated at this time because NSR permit R13-2864D must be revised first.

² Actual emissions are from the State and Local Emissions Inventory System (SLEIS) Summary Report Total Emissions by Source.

Title V Program Applicability Basis

This facility has the potential to emit 241.54 tpy of CO and 245.10 tpy of SO₂. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Armstrong World Industries, Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

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

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

Federal and State:	45CSR6	Open burning prohibited
	45CSR7	PM limits on manufacturing processes
	45CSR10	Emissions of sulfur dioxides
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Construction permits
	45CSR16	New Source Performance Standards

information	WV Code § 22-5-4 (a) (15)	The Secretary can request any pertinent such as annual emission inventory reporting.
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for HAPs
	40 C.F.R. Part 60 Subpart III	Stationary Compression Ignition Engines NSPS
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63 Subpart ZZZZ	RICE MACT
	40 C.F.R. Part 64	Compliance Assurance Monitoring (CAM)
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors

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

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

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2864D	September 23, 2019	

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

Determinations and Justifications

This is the second renewal of the Title V Permit. There were no changes to the existing emission units which have control devices or the approved compliance assurance monitoring (CAM) plans. Therefore, there were no changes to CAM applicability or the existing CAM plans.

The following changes have occurred since the most recent Title V permit was issued:

Title V Permit Boilerplate changes:

- **Condition 2.1.3.** – This condition was updated to delete the word “such” which was removed from 45CSR30 effective March 31, 2023. The citation was changed from “45CSR§30-2.12” to “45CSR§30-2.39” because the definition of “Secretary” was renumbered from a previous version of 45CSR30.
- **Condition 2.11.4** – The citation was changed from “45CSR§30-2.39” to “45CSR§30-2.40” because it was renumbered from a previous version of 45CSR30.

- **Conditions 2.17., 3.5.7. and 3.5.8.a.1.** – These conditions were deleted and replaced with “Reserved” because the emergency provisions under 45CSR§30-5.7 were removed from 45CSR30 effective March 31, 2023.
- **Condition 2.22.1** – “45CSR38” was removed from the citation because this rule has been repealed.
- **Conditions 3.1.6. and 3.3.1.** – The citation was revised to refer to the current version of the WV Code.
- **Condition 3.3.1.b.** – This condition was updated to include the following additional language: “If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit shall be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.”
- **Condition 3.5.3.** – This condition was updated to include the current EPA mailing address.
- **Condition 3.5.4.** – This condition was updated because the requirement to submit a certified emissions statement was removed from 45CSR30 effective March 31, 2023.
- **Condition 3.5.8.a.2.** – This condition was updated to replace the word “telefax” with “email” according to the change in 45CSR30 effective March 31, 2023.

Updated Permit Language Due to Rule/Regulation Language Changes:

- **Conditions 6.1.5.a.3., 6.1.6., 6.1.6.2. and 6.1.6.3.** – These conditions were amended to match the current version of 40 CFR 60 Subpart IIII.

Changes requested in the permit renewal application:

- **Condition 4.5.4.(1)** – This condition previously included was from a CAM boilerplate that was developed for a different facility and is not applicable to the Armstrong Millwood Plant so the language was changed to match the language from 40 C.F.R. §64.9(a)(1). This condition was deleted because it was inadvertently included in the permit previously. This condition was from a CAM boilerplate that was developed for a different facility and is not applicable to the Armstrong Millwood Plant.

Non-Applicability Determinations

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

- a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.
- b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral. In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart OOO) because dryers are not an “affected facility” as listed by the regulation.
- c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart. In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is

- not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.
- d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons, the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
 - e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
 - f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
 - g. **45CSR19 and 45CSR21 WV NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
 - h. **45CSR27 - WV Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

Request for Variances or Alternatives

None.

Insignificant Activities

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

Comment Period

Beginning Date: (Date of Notice Publication)

Ending Date: (Publication Date PLUS 30 Days)

Point of Contact

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

Dan Roberts
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/926-0499 ext. 41902
Daniel.p.roberts@wv.gov

Procedure for Requesting Public Hearing

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

Response to Comments (Statement of Basis)

Not applicable.



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Revised Draft/Proposed Permit and Fact Sheet - Armstrong World Industries, Inc. - R30-03500049-2025

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>
To: "McCumbers, Carrie" <Carrie.McCumbers@wv.gov>

Thu, Dec 5, 2024 at 12:09 PM

Carrie,

Hey. I have attached the revised draft proposed permit and fact sheet which have removed all of the changes the company has proposed which are in their NSR permit R13-2864D that needs to be modified first. The only change I left in was to delete condition 4.5.4.(1). Here is the reasoning behind the request taken straight from the application:

Per the advice of WVDEP (Denton McDermitt, email 9/3/2020) Armstrong is requesting that the non-applicable permit condition 4.5.4(1) be deleted from the permit. Per Mr. McDermitt:

"The quarterly excess emissions reports are leftover language from when I originally developed the CAM "boilerplate" conditions for an electric utility company in our state. The power plant was subject to 45CSR2 and CAM applied to the weight emission standard for PM. Opacity was elected as a CAM parameter in their case. I linked the CAM reports to the applicable quarterly excess emissions reports (45CSR2-9.3.a.). The CAM Regulation in 40 CFR 64.9(a)(1) refers to 70.6(a)(3)(iii), which is Title V permit content for reporting. 70.6(a)(3)(iii)(A) requires reporting at least every 6 months. Since the CAM-affected emission units 1S, 15S, and 16S are not subject to 45CSR2, the quarterly excess emissions report is not applicable. You should submit the CAM report every 6 months with the semiannual monitoring report. I apologize for leaving this non-applicable language in your permit. The next time you modify the permit, I suggest asking the permit writer to remove it and provide the writer with this explanation."

In my original fact sheet, I did not include the proper explanation on why this permit condition was being deleted.

Dan

2 attachments **DPFactSheet R30-03500049-2025 12-5-24 revised.docx**

89K

DPPermit R30-03500049-2025 12-5-24 revised.docx

291K

West Virginia Department of Environmental Protection

Harold D. Ward
Cabinet Secretary

Permit to Operate



Pursuant to
Title V
of the Clean Air Act

Issued to:
Armstrong World Industries, Inc.
Armstrong Millwood Plant
R30-03500049-2025

Laura M. Crowder
Director, Division of Air Quality

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

Permit Number: **R30-03500049-2025**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Permittee Mailing Address: **P.O. Box 220, Millwood, WV 25262**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 C Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Millwood, Jackson County, West Virginia
Facility Mailing Address:	141 Sensenich Drive, Millwood, WV 25262
Telephone Number:	304-273-3900
Type of Business Entity:	Corporation
Facility Description:	Slag wool manufacturing facility
SIC Codes:	3296
UTM Coordinates:	427.2 km Easting \$ 4,307 km Northing \$ Zone 17

Permit Writer: Dan Roberts

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

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device ¹
1S	1-2E	Raw Material Transfer and Electric Arc Furnace (EAF)	2011	40,000 lb/hr	Scrubber 1C & Dust Collector 2C
3S	3-4E	Spinner Collection Chamber #1	2011	34,500 lb/hr	Baghouse 3C
4S	3-4E	Spinner Collection Chamber #2	2011		Baghouse 4C
6S	6E	Hydrated Lime Storage Silo	2011	3,300 cfm	Filter 6C
7S	7E	Backup Generator	2011	500 kWe	N/A
8S	Fugitive	Haulroads	2011	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	175,000 tpy	N/A
10S	10E	Cooling Tower #1	2011	1,500 GPM	N/A
11S	Fugitive	Railcar Unloading	2011	300 TPH	N/A
12S	Fugitive	Diesel Storage Tank #1	2011	900 Gal	N/A
13S	Fugitive	Diesel Storage Tank #2	2011	500 Gal	N/A
15S	8E	Slag Wool Processing Line #1	2011	28,000 lb/hr (based on a 24-hour average)	Baghouse 7C
16S	8E	Slag Wool Processing Line #2	2011		Baghouse 7C
17S	17E	Cooling Tower #2	2011	800 GPM	N/A
18S	18E	Propane-fueled Sand Dryer	2017	2,000 lb/hr sand 5 gal/hr propane	None

¹ Control Device abbreviations: WS – Wet Suppression

1.2 Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2864D	September 23, 2019

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 other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.39.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM₁₀	Particulate Matter less than 10µm in diameter
CES	Certified Emission Statement	pph	Pounds per Hour
C.F.R. or CFR	Code of Federal Regulations	ppm	Parts per Million
CO	Carbon Monoxide	PSD	Prevention of Significant Deterioration
C.S.R. or CSR	Codes of State Rules	psi	Pounds per Square Inch
DAQ	Division of Air Quality	SIC	Standard Industrial Classification
DEP	Department of Environmental Protection	SIP	State Implementation Plan
FOIA	Freedom of Information Act	SO₂	Sulfur Dioxide
HAP	Hazardous Air Pollutant	TAP	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	TPY	Tons per Year
HP	Horsepower	TRS	Total Reduced Sulfur
lbs/hr or lb/hr	Pounds per Hour	TSP	Total Suspended Particulate
LDAR	Leak Detection and Repair	USEPA	United States Environmental Protection Agency
m	Thousand	UTM	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	VEE	Visual Emissions Evaluation
mm	Million	VOC	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour		
NA or N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.

[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.

[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.

[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.

[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
- b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
- c. The change shall not qualify for the permit shield.
- d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.40]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

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

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
- b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

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

[45CSR§30-5.1.f.2.]

2.17. Reserved

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

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

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

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

[45CSR§30-4.2.]

2.21. Permit Shield

- 2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

[45CSR§30-5.6.a.]

- 2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§305.6.c.]

2.22. Credible Evidence

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

[45CSR§30-5.3.e.3.B.]

2.23. Severability

- 2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

[45CSR§305.1.e.]

2.24. Property Rights

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

[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

- 2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.
- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
 - b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
 - c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1 Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. [45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. [40 C.F.R. §61.145(b) and 45CSR34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. [45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. [45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. [W.Va. Code § 22-5-4(a)(15)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.

[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

3.2. Monitoring Requirements

- 3.2.1. Reserved.

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a sourcespecific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a sourcespecific 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 shall be revised in accordance with 45CSR§30-6.4 or 45CSR§30-6.5 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 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language.
 2. The result of the test for each permit or rule condition.
 3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 2254(a)(15-16) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.; 45CSR13, R13-2864, 4.4.1.]

- 3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. and 5.1.c.3.D.]
- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]
- 3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

US EPA:

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

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

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

- 3.5.4. **Fees.** The permittee shall pay fees on an annual basis in accordance with 45CSR§30-8.
[45CSR§30-8.]
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the

certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

- 3.5.7. **Reserved.**

- 3.5.8. **Deviations.**

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
1. Reserved.
 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 3. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 4. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 5. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.
[45CSR§30-5.1.c.3.B.]

- 3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

- 3.6.1. Reserved.

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.
- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.
 - a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.
 - b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral. In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart OOO) because dryers are not an “affected facility” as listed by the regulation.
 - c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart. In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.
 - d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is

not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons, the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.

- e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. **45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
- h. **45CSR27 - Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

4.0 Manufacturing Process Sources Requirements [1S, 3S, 4S, 6S, 9S, 11S, 15S, 16S, 18S]

4.1. Limitations and Standards

4.1.1. Emissions from the facility shall not exceed the limitations set forth in Tables 4.1.1.1 and 4.1.1.2:

Table 4.1.1.1.

Source	PM		PM ₁₀ ¹		NO _x		VOC		SO ₂		CO	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.00	55.00 ²	240.90
3S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
4S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
6S	1.13	4.95	1.13	4.95	--	--	--	--	--	--	--	--
9S	--	1.98	--	0.97	--	--	--	--	--	--	--	--
11S	0.02	0.10	0.01	0.05	--	--	--	--	--	--	--	--
15S/16S	2.39	10.47	2.39	10.47	--	--	--	--	--	--	--	--
18S ³	0.1	0.44	0.1	0.44	0.07	0.28	0.01	0.02	--	--	0.03	0.16

¹ All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

² Hourly CO emission limits from the EAF are 55.00 pounds per hour based on a rolling 30 day average and 100 pounds per hour based on a rolling 24 hour average.

³ Hourly emissions for the Propane-fueled Sand Dryer (18S) are calculated based on burning 5 gal/hr of propane; Annual emissions for the Propane-fueled Sand Dryer (18S) are based on operating for 8,760 hr/yr.

Table 4.1.1.2

Source	Mn		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	0.28	1.25	--	--	0.28	1.25
3S	0.78	3.40	--	--	0.78	3.40
4S	0.78	3.40	--	--	0.78	3.40
6S	--	--	--	--	--	--
9S	0.02	0.22	--	--	0.02	0.22
11S	0.01	0.01	--	--	0.01	0.01
15S/16S	0.26	1.15	--	--	0.26	1.15
18S	--	--	--	--	--	--

Compliance with the PM emission limits shall demonstrate compliance with the less stringent PM emission limits of 45CSR§7-4.1.

[45CSR13, R13-2864, 4.1.1 and 4.1.9.2, Tables 4.1.1.1 and 4.1.1.2, 45CSR§7-4.1.]

4.1.2. The total annual SO₂ emissions from the Submerged Electric Arc Furnace (1S) shall not exceed 245 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.2]

- 4.1.3. The Furnace Dry Scrubber (1C) shall be designed, installed, operated and maintained so as to ensure compliance with the emission limits of 4.1.1. Operation of the scrubber is only required when necessary to meet the emission limits of 4.1.1.

[45CSR13, R13-2864, 4.1.3]

- 4.1.4. For the purpose of complying with the PM/PM₁₀/PM_{2.5} emission limits of condition 4.1.1 of this permit, all of the dust collectors shall be operated according to the following requirements:

The permittee has determined the optimal ranges for the pressure drop across baghouses 2C, 3C, 4C and 7C. The permittee shall maintain on site, and update as necessary, a certified report listing the operating ranges.

[45CSR13, R13-2864, 4.1.4]

- 4.1.5. Manganese content of the slag entering the furnace shall not exceed 10.95% (equivalent to 14.14% MnO).

[45CSR13, R13-2864, 4.1.5]

- 4.1.6. The total annual Mn emissions from the facility shall not exceed 9.6 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.12.]

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

- a. The permittee shall maintain a water truck on site and in good operating condition, and shall utilize same to apply a either water or a mixture of water and an environmentally acceptable dust control additive, hereinafter referred to as solution, as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from unpaved haulroads and other unpaved work areas where mobile equipment is used. The spraybar shall be equipped with commercially available spray nozzles, of sufficient size and number, so as to provide adequate coverage to the area being treated.

The pump delivering the solution, shall be of sufficient size and capacity so as to be capable of delivering to the spray nozzle(s) an adequate quantity of solution, and at a sufficient pressure, so as to assure that the treatment process will minimize the atmospheric entrainment of fugitive particulate emissions generated from the unpaved haulroads and work areas where mobile equipment is used.

- b. All unpaved haulroads, access roads, stockpile and work areas shall be kept clean and in good condition by replacing base material and/or grading as required.
- c. If tracking of solids by vehicular traffic from access and/or haulroads onto any public road or highway occurs and generates or has the potential to generate fugitive particulate emissions, the registrant shall properly operate and maintain an underbody truck wash, rumble strips or employ other suitable measures to maintain effective fugitive dust control of the premises and minimize the emission of particulate matter.

[45CSR13, R13-2864, 4.1.6]

- 4.1.8. The permittee shall ensure that the water trucks and/or water sprays are properly equipped with winterization systems capable of operating in a manner such that all such fugitive dust control systems remain effective and functional, to the maximum extent practicable, during winter months and cold

weather. At all times, including periods of cold weather, the registrant shall comply with the water trucks and/or water sprays requirements of this permit.

[45CSR13, R13-2864, 4.1.7]

- 4.1.9. Total slag throughput to the EAF shall not exceed 175,200 tons per year on a rolling 12 month total.

[45CSR13, R13-2864, 4.1.8]

- 4.1.10. 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 for 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§7-3.1 & 45CSR§7-3.2, 45CSR13, R13-2864, 4.1.9.1 (1S, 3S, 4S, 15S, 16S, 18S)]

- 4.1.11. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process that pursuant to Condition 4.1.13. is required to have a full enclosure and be equipped with a particulate matter control device.

[45CSR§7-3.7.] (6S)

- 4.1.12. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.

[45CSR§7-4.12.]

- 4.1.13. 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., 45CSR13, R13-2864, 4.1.9.3]

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

[45CSR§7-5.2., 45CSR13, R13-2864, 4.1.9.4]

- 4.1.15. 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. of 45CSR10.

[45CSR§10-4.1., 45CSR13, R13-2864, 4.1.10.] (1S)

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

[45CSR§13-5.10., 45CSR13, R13-2864, 4.1.13]

4.2. Monitoring Requirements

- 4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturer's recommendations concerning maintenance and performance.

[45CSR13, R13-2864, 4.2.1]

- 4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, R13-2864, 4.2.2] (1S, 3S, 4S, 6S, 15S, 16S, 18S)

- 4.2.3. The permittee shall install, maintain and operate instrumentation to continuously monitor and record at least once per operating day the control device parameters (1C, 2C, 3C, 4C and 7C) as determined by conditions 4.1.3 and 4.1.4 of this permit at all times that the emission source(s) is/are in operation.

[45CSR13, R13-2864, 4.2.3]

[40 C.F.R. § 64.3(b)(4)(iii); 45CSR§30-5.1.c.] (2C, 7C)

- 4.2.4. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of SO₂ from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 2 as appropriate, and Performance Specification 4, 4a or 4b (CO) as appropriate.

[45CSR13, R13-2864, 4.2.4]

- 4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.15 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier. Alternatively, the permittee may obtain a fuel sample of each shipment and perform analytical testing to determine the sulfur content.

[45CSR13, R13-2864, 4.2.5]

- 4.2.6. To show compliance with the SO₂ limit in condition 4.1.2 of this permit, monthly SO₂ emissions from the submerged electric arc furnace shall be calculated (using SO₂ CEMS) by the 15th of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.7]

- 4.2.7. In order to determine compliance with conditions 4.1.1. and 4.1.5 of this permit, the permittee shall obtain representative samples from each shipment of slag from each supplier for the first week of operation (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) to be analyzed for the Manganese content (percent Manganese by weight). The manganese content from each type of slag shall be averaged for the week in order to determine a baseline manganese content for that supplier's slag. After the first week of samples, the permittee shall continue to collect the weeks worth of samples (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) at least once per month to either confirm the existing or reestablish a new baseline Mn level for that supplier. If the permittee adds a new slag supplier, the permittee shall collect samples for each shipment for one week in order to establish the baseline Mn content for that supplier.

If the baseline Mn content of the slag from any supplier exceeds the Mn level permitted in condition 4.1.5 of this permit, Armstrong shall maintain a record documenting, any time that specific slag is used in the furnace, that the Mn content of the slag blend entering the furnace does not exceed the Mn level permitted in Condition 4.1.5 of this permit.

[45CSR13, R13-2864, 4.2.9]

- 4.2.8. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of CO, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 4, 4a or 4b as appropriate.

[45CSR13, R13-2864, 4.2.6]

- 4.2.9. The permittee shall maintain monthly records of slag throughput to the EAF.

[45CSR13, R13-2864, 4.2.11]

- 4.2.10. To show compliance with the Mn emission limit in condition 4.1.6. of this permit, monthly Mn emissions from the facility shall be calculated (mass balance) by the 15th day of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.12]

- 4.2.11. To show compliance with the CO limit in condition 4.1.1 of this permit, monthly CO emissions from the submerged electric arc furnace shall be calculated (using CO CEMS) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.10]

- 4.2.1. To show compliance with the emission limits given in condition 4.1.1. of this permit, the permittee shall keep a monthly record of hours of operation and propane fuel usage for the Sand Dryer (18S). These

monthly records shall be used to calculate a twelve month rolling average hourly fuel usage rate which should not exceed 5gal/hr of propane consumption.
[45CSR13, R13-2864, 4.2.13.]

- 4.2.12. **CAM Indicator Range for 2C** – While the Raw Material Transfer and EAF is operating, the static pressure drop across the Furnace Dust Collector (2C) shall be greater than or equal to 1.0 and less than or equal to 7.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.
[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (1S)
- 4.2.13. **CAM Indicator Range for 7C** – While the Slag Wool Processing Lines #1 or #2 (or both simultaneously) are operating, the static pressure drop across the Fiber Line Baghouse (7C) shall be greater than or equal to 0.5 and less than or equal to 9.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.
[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (15S, 16S)
- 4.2.14. **Excursion Definition for the Raw Material Transfer and EAF** – For the purposes of 40 C.F.R. Part 64, an excursion for the Raw Material Transfer and EAF (1S) is a static pressure drop across the Furnace Dust Collector (2C) outside of the indicator range specified in permit condition 4.2.13. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.
[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (1S)
- 4.2.15. **Excursion Definition for the Slag Wool Processing Lines #1 and #2** – For the purposes of 40 C.F.R. Part 64, an excursion for the Slag Wool Processing Lines #1 and #2 (15S and 16S) is a static pressure drop across the Fiber Line Baghouse (7C) outside of the indicator range specified in permit condition 4.2.14. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.
[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (15S, 16S)
- 4.2.16. **Commencement of operation** – The permittee shall conduct the monitoring required under 40 C.F.R. Part 64 upon issuance of this permit that includes such monitoring.
[40 C.F.R. § 64.7(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)
- 4.2.17. **Proper Maintenance** – At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
[40 C.F.R. § 64.7(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)
- 4.2.18. **Continued Operation** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 C.F.R. Part 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated

control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 C.F.R. § 64.7(c); 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

4.2.19. **Response to Excursions or Exceedances**

- (1) Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (2) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. § 64.7(d); 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

- 4.2.20. **Documentation of Need for Improved Monitoring** – After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. § 64.7(e); 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

- 4.2.21. **Quality Improvement Plan (QIP)** – Based on the results of a determination made under §64.7(d)(2) (Response to excursions or exceedances, permit condition 4.2.20.(2)), the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, then it shall be developed, implemented, and modified as required according to 40 C.F.R. §§ 64.8(b) through (e). Refer to permit condition 4.5.4.(2)c. for the reporting required when a QIP is implemented. Notwithstanding the Administrator or the Director requiring the permittee to develop a QIP, the permittee proposed an accumulation of exceedances or excursions exceeding 10 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP.

[40 C.F.R. § 64.8; 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

4.3. Testing Requirements

4.3.1. The permittee shall complete the following performance testing:

4.3.1.1. The permittee shall perform or have performed EPA approved stack tests to determine emissions of NO_x, VOCs, PM and PM₁₀ from the submerged electric arc furnace.

4.3.1.2. The permittee shall perform or have performed EPA approved stack tests to determine emissions of PM and PM₁₀ from one of the spinner collection chambers.

4.3.1.3. The permittee shall perform or have performed EPA approved stack tests to determine emissions of Manganese from one of the spinner collection chambers and the submerged electric arc furnace.

[45CSR13, R13-2864, 4.3.1]

4.3.2. Ongoing compliance shall be demonstrated by repeating the above testing (condition 4.3.1.) according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Director's Request
Initial	Between 10% and 50% of limits	Once/5 years
Initial	Between 50% and 90% limits	Once/3 years
Initial	≥90% of limits	Annual
Annual	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Annual	After two successive tests indicate emission rates <90% of limits	Once/3 years
Annual	≥90% of limits	Annual
Once/3 years	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Once/3 years	After two successive tests indicate emission rates <90% of limits	Once/3 years
Once/3 years	≥90% of limits	Annual
Once/5 years	After two successive tests indicate emission rates <10% of limits	Upon Director's Request
Once/5 years	≤50% of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	≥90% of limits	Annual

[45CSR13, R13-2864, 4.3.2]

4.3.3. **Quality Assurance / Quality Control Practice** – For the Furnace Dust Collector (2C) and Fiber Line Baghouse (7C), the differential pressure sensing devices shall be electrically tested semi-annually to verify correct readings and that accurate data is being sent to the data logging system. The reading shall be within 0.15 in. of water column. If a reading differs in a value greater than 0.15 in. water column, a vendor shall be utilized as expeditiously as practicable to calibrate the differential pressure sensing device. A vendor

shall be scheduled for a regular calibration visit every 3 years. Records of the testing and calibrations shall be maintained in accordance with conditions 3.4.1. and 3.4.2.

[40 C.F.R. § 64.3(b)(3); 45CSR§30-5.1.c.] (*1S, 15S, 16S*)

4.4. Recordkeeping Requirements

4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-2864, 4.4.2.]

4.4.2. **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.

[45CSR13, R13-2864, 4.4.3.]

4.4.3. In order to determine compliance with condition 4.1.5 of this permit, the permittee shall keep monthly records of the Manganese content of the slag. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.4]

4.4.4. The permittee shall maintain monthly records of slag wool production from the facility. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.2.8. and 4.4.5]

4.4.5. In order to demonstrate compliance with the requirements of 4.2.2 of this permit, records of the Method 22 testing and any necessary Method 9 testing shall be retained on site by the permittee for at least five (5) years. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.6]

4.4.6. In order to determine compliance with the requirements of conditions 4.1.15 and 4.2.5 of this permit, the permittee shall maintain records of the fuel oil sulfur content. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.7]

- 4.4.7. In order to determine compliance with the requirements of condition 4.1.4 of this permit, the permittee shall maintain daily records of the pressure drop across each baghouse. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.4.8]
- 4.4.8. In order to determine compliance with condition 4.2.9 of this permit, the permittee shall maintain monthly records of slag throughput to the EAF. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.4.9]
- 4.4.9. **General recordkeeping requirements for 40 C.F.R. Part 64 (CAM).** The permittee shall comply with the recordkeeping requirements specified in permit conditions 3.4.1. and 3.4.2. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 (condition 4.2.22.) and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
[40 C.F.R. § 64.9(b); 45CSR§30-5.1.c.] (*1S, 15S, 16S*)

4.5. Reporting Requirements

- 4.5.1. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
[45CSR13, R13-2864, 4.5.1]
- 4.5.2. With regard to testing required by section 4.3 of this permit, results shall be submitted to the Director no more than 60 days after the date the testing takes place.
[45CSR13, R13-2864, 4.5.2]
- 4.5.3. The permittee shall comply with all applicable reporting requirements of 45CSR7, 45CSR10, and 45CSR13.
[45CSR13, R13-2864, 4.5.3]
- 4.5.4. **General reporting requirements for 40 C.F.R. Part 64 (CAM)**
- (1) Reserved.
 - (2) A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:
 - a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
 - b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

- c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. § 64.9(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.6. Compliance Plan

- 4.6.1. Reserved.

5.0 Storage Tanks [12S and 13S] and Cooling Tower [10S and 17S]

5.1. Limitations and Standards

5.1.1. Emissions from the storage tanks shall not exceed the limitations set forth below:

Source	VOC		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
12S	0.02	0.07	0.02	0.07	0.02	0.07
13S	0.01	0.04	0.01	0.04	0.01	0.04

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 & 4.1.1.2; State-enforceable only]

5.1.2. Emissions from the cooling towers shall not exceed the limitations set forth below:

Source	PM		PM ₁₀ ¹	
	lb/hr	tpy	lb/hr	tpy
10S	0.77	3.37	0.77	3.37
17S	0.41	1.80	0.41	1.80

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Table 4.1.1.1; State-enforceable only]

5.2. Monitoring Requirements

5.2.1. Reserved.

5.3. Testing Requirements

5.3.1. Reserved.

5.4. Recordkeeping Requirements

5.4.1. Reserved.

5.5. Reporting Requirements

5.5.1. Reserved.

5.6. Compliance Plan

5.6.1. Reserved.

6.0 Backup Generator Requirements [7S]

6.1 Limitations and Standards

6.1.1. Emissions from the backup generator, 7S, shall not exceed the following limitations:

Pollutant	Hourly limit in lb/hr	Annual limit in tpy
PM	0.08	0.02
PM ₁₀ ¹	0.08	0.02
NO _x	8.17	2.04
VOC	0.07	0.02
SO ₂	0.31	0.08
CO	1.93	0.48
VOC HAP	0.01	0.002
Total HAP	0.01	0.002

¹ All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 and 4.1.1.2; State-enforceable only]

6.1.2. The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart IIII (backup generator 7S) including but not limited to the following:

Emissions from the Backup Generator (7S) shall not exceed the following:

NOx+NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
4.0	3.5	0.20

[40 C.F.R. §60.4205(b); 45CSR13, R13-2864, 4.1.11.1; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 over the entire life of the engine.

[40 C.F.R. §60.4206; 45CSR13, R13-2864, 4.1.11.2; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.4. The nonroad diesel fuel that is used in the backup generator must have a sulfur content less than 15 parts per million. The nonroad diesel fuel must have a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

[40 C.F.R. §60.4207(b); 45CSR13, R13-2864, 4.1.11.3; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.5. a. If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under Condition 6.1.5.c. of this permit:

1. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

2. Change only those emission-related settings that are permitted by the manufacturer; and
 3. Meet the requirements of 40 CFR part 1068, as they apply to you.
- b. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Condition 6.1.2. of this permit, you must comply by purchasing an engine certified to the emission standards in Condition 6.1.2. for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 6.1.5.c. of this permit.
- c. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[40 C.F.R. §§ 60.4211(a), (c), (g), and (g)(3); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

- 6.1.6. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
- (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) You may operate your emergency stationary ICE for the purposes specified in paragraph (f)(2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
 - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2) of this condition.

[40 C.F.R. §60.4211(f); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.2. Monitoring Requirements

- 6.2.1. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

[40 C.F.R. §60.4209(b); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.3. Testing Requirements

- 6.3.1. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.3.3]

6.4. Recordkeeping Requirements

- 6.4.1. Reserved.

6.5. Reporting Requirements

- 6.5.1. The permittee shall comply with all applicable reporting requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.5.3]

6.6. Compliance Plan

- 6.6.1. Reserved.

Fact Sheet



***For **Draft/Proposed** Renewal Permitting Action Under 45CSR30 and
Title V of the Clean Air Act***

Permit Number: **R30-03500049-2025**
Application Received: **January 24, 2024**
Plant Identification Number: **03-054-035-00049**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Mailing Address: **P.O. Box 220, Millwood, WV 25262**

Physical Location: Millwood, Jackson County, West Virginia
UTM Coordinates: 427.2 km Easting • 4,307 km Northing • Zone 17
Directions: From US-33 E, turn left onto WV 68 S. Continue on WV 68 S for 0.4 miles. Turn right onto WV 2 S. Continue for approximately 6 miles. Turn right onto Jack Burlingame Road.

Facility Description

The Armstrong World Industries Millwood plant is a slag wool manufacturing facility covered under SIC Code 3296. It typically manufactures slag wool from silicomanganese slag. The plant receives the slag via truck or railcar, stores the slag in outdoor piles, and then transfers the slag to a belt conveyor via front-end loader. The slag is then transferred to a submerged Electric Arc Furnace (EAF) where the slag is melted using graphite electrodes. The molten slag is then transferred to one of two spinners which spin the molten slag into slag wool fibers. The wool fibers are then collected in one of two collection chambers, further processed into slag wool bales, and then shipped off site.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions ¹	Actual Emissions ²
Carbon Monoxide (CO)	241.54	75.02
Nitrogen Oxides (NO _x)	24.22	0.22
Particulate Matter (PM _{2.5})	95.10	16.84
Particulate Matter (PM ₁₀)	99.45	18.59
Total Particulate Matter (TSP)	111.19	47.79
Sulfur Dioxide (SO ₂)	245.10	53.24
Volatile Organic Compounds (VOC)	25.35	0.78
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions ¹	Actual Emissions ²
Manganese Compounds	9.27	5.57
Total HAPs excluding Mn	0.0	Not Reported

Some of the above HAPs may be counted as PM or VOCs.

¹ Potential emissions are from Table 1 of Attachment I in the renewal application, but have been modified to exclude the suggested changes in the application that could not be incorporated at this time because NSR permit R13-2864D must be revised first.

² Actual emissions are from the State and Local Emissions Inventory System (SLEIS) Summary Report Total Emissions by Source.

Title V Program Applicability Basis

This facility has the potential to emit 241.54 tpy of CO and 245.10 tpy of SO₂. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Armstrong World Industries, Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

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

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

Federal and State:	45CSR6	Open burning prohibited
	45CSR7	PM limits on manufacturing processes
	45CSR10	Emissions of sulfur dioxides
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Construction permits
	45CSR16	New Source Performance Standards

information	WV Code § 22-5-4 (a) (15)	The Secretary can request any pertinent such as annual emission inventory reporting.
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for HAPs
	40 C.F.R. Part 60 Subpart III	Stationary Compression Ignition Engines NSPS
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63 Subpart ZZZZ	RICE MACT
	40 C.F.R. Part 64	Compliance Assurance Monitoring (CAM)
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors

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

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

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2864D	September 23, 2019	

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

Determinations and Justifications

This is the second renewal of the Title V Permit. There were no changes to the existing emission units which have control devices or the approved compliance assurance monitoring (CAM) plans. Therefore, there were no changes to CAM applicability or the existing CAM plans.

The following changes have occurred since the most recent Title V permit was issued:

Title V Permit Boilerplate changes:

- **Condition 2.1.3.** – This condition was updated to delete the word “such” which was removed from 45CSR30 effective March 31, 2023. The citation was changed from “45CSR§30-2.12” to “45CSR§30-2.39” because the definition of “Secretary” was renumbered from a previous version of 45CSR30.
- **Condition 2.11.4** – The citation was changed from “45CSR§30-2.39” to “45CSR§30-2.40” because it was renumbered from a previous version of 45CSR30.

- **Conditions 2.17., 3.5.7. and 3.5.8.a.1.** – These conditions were deleted and replaced with “Reserved” because the emergency provisions under 45CSR§30-5.7 were removed from 45CSR30 effective March 31, 2023.
- **Condition 2.22.1** – “45CSR38” was removed from the citation because this rule has been repealed.
- **Conditions 3.1.6. and 3.3.1.** – The citation was revised to refer to the current version of the WV Code.
- **Condition 3.3.1.b.** – This condition was updated to include the following additional language: “If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit shall be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.”
- **Condition 3.5.3.** – This condition was updated to include the current EPA mailing address.
- **Condition 3.5.4.** – This condition was updated because the requirement to submit a certified emissions statement was removed from 45CSR30 effective March 31, 2023.
- **Condition 3.5.8.a.2.** – This condition was updated to replace the word “telefax” with “email” according to the change in 45CSR30 effective March 31, 2023.

Updated Permit Language Due to Rule/Regulation Language Changes:

- **Conditions 6.1.5.a.3., 6.1.6., 6.1.6.2. and 6.1.6.3.** – These conditions were amended to match the current version of 40 CFR 60 Subpart IIII.
-

Changes requested in the permit renewal application:

- **Condition 4.5.4.(1)** – This condition was deleted because it was inadvertently included in the permit previously. This condition was from a CAM boilerplate that was developed for a different facility and is not applicable to the Armstrong Millwood Plant.

Non-Applicability Determinations

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

- a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.
- b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral. In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart OOO) because dryers are not an “affected facility” as listed by the regulation.
- c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart. In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not

- constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.
- d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons, the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
 - e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
 - f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
 - g. **45CSR19 and 45CSR21 WV NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
 - h. **45CSR27 - WV Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

Request for Variances or Alternatives

None.

Insignificant Activities

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

Comment Period

Beginning Date: (Date of Notice Publication)

Ending Date: (Publication Date PLUS 30 Days)

Point of Contact

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

Dan Roberts
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/926-0499 ext. 41902
Daniel.p.roberts@wv.gov

Procedure for Requesting Public Hearing

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

Response to Comments (Statement of Basis)

Not applicable.



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Fwd: Armstrong World Industries, Millwood - Additional Response Time Request

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>
To: "McCumbers, Carrie" <Carrie.McCumbers@wv.gov>

Wed, Dec 4, 2024 at 3:38 PM

Carrie,

Hey. I just received this email from the contact at Armstrong. I'm going to call Mr. Martin to talk and get more info. The size of the diesel storage tank is in their permit R13-2864D, so we cannot change it now even if they can provide a legitimate explanation of why the PTE will not change.

Dan

----- Forwarded message -----

From: **Logan M. Martin** <LMMartin@armstrongceilings.com>

Date: Wed, Dec 4, 2024 at 3:12 PM

Subject: Armstrong World Industries, Millwood - Additional Response Time Request

To: Daniel P Roberts <daniel.p.roberts@wv.gov>

Cc: John A. Ackiewicz <jaackiewicz@armstrongceilings.com>, Gavin Biebuyck <gbiebuyck@libertyenviro.com>, Michael Zeiders <mzeiders@libertyenviro.com>

Mr. Roberts,

We need until the end of next week(12/13) to provide the R13 NSR permit application and additional information. This is necessary so that we can check on tank/coke emissions, and also review the fact sheet and draft permit with our new Plant Manager. This is to bring him up-to-speed so he can sign the application, etc.

Also be advised that re-issuance of the TV permit with the incorrect Diesel Tank capacities would not be acceptable to us. This description needs to be correct, and we will demonstrate that there is no emissions change.

We appreciate your help and consideration.

Regards,.

Logan

Logan Martin, GSP, LSSBB

EH&S Manager

Armstrong World Industries

141 Sensenich Dr, Millwood, WV 25262

O: 304-273-3903

12/5/24, 3:12 PM

State of West Virginia Mail - Fwd: Armstrong World Industries, Millwood - Additional Response Time Request

M: 304-531-4550

E: Immartin@armstrongceilings.com



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Re: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>

Tue, Dec 3, 2024 at 5:10 PM

To: Michael Zeiders <mzeiders@libertyenviro.com>, "Logan M. Martin" <Immartin@armstrongceilings.com>

Cc: Gavin Biebuyck <gbiebuyck@libertyenviro.com>, "McCumbers, Carrie" <Carrie.McCumbers@wv.gov>, Joseph R Kessler <joseph.r.kessler@wv.gov>

Gentlemen,

Good afternoon. I just wanted to touch base with you and see if you had any questions, see how things are going and to check on the timing. In order to incorporate the changes you have proposed, I will have to receive and get the Class I administrative update of permit R13-2864D approved by tomorrow.

After speaking with my supervisor this morning, I wanted to let you know that you have the option of not including the proposed changes which require a revision of the NSR permit R13-2864D before they can be included in the renewal permit and then submitting the application at a later date. It would be reviewed at that time and the NSR permit would be revised and there would be Title V minor modification to the already issued renewal permit.

After reviewing the draft/proposed permit and fact sheet, my supervisor questioned why the emissions associated with diesel storage tank #2 (13S) would not increase with changing the capacity from 500 gallons to 1,000 gallons. The application stated "Potential emissions to remain unchanged (EPA Tanks shows 1.8 lbs/yr VOC/HAP emissions from the diesel tank)." Can you explain this further? It seems like the change in the capacity of the tank would result in more emissions. In 2019, minor modification R30-03500049-2019 MM01 increased the capacity of diesel storage tank #1 (12S) from 500 gallons to 900 gallons and there was an associated increase in emissions. If there is an increase in emissions, then this change could not be processed under an NSR Class I administrative update application and could not be processed and approved before the issuance of the Title V renewal permit. The legal ad for the Title V renewal application has been scheduled to be published on Friday December 6, 2024.

I have attached a copy of current NSR permit R13-2864D with my revision notes in PDF format. It was originally written in WordPerfect.

Sincerely,

Dan Roberts

WV Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV

(304) 926-0499 ext. 41902

daniel.p.roberts@wv.gov

On Sun, Nov 24, 2024 at 9:31 AM Roberts, Daniel P <daniel.p.roberts@wv.gov> wrote:

Mr. Zeiders,

Good morning. I tried to call your office number on Friday afternoon and left a message. To answer your question in your email, you will need to complete the Application for NSR Permits and Title V Operating Permit Revision form found on the DAQ's website at <https://dep.wv.gov/daq/permitting/Documents/Application-05-24-2010.pdf>. You will check the boxes to request an NSR Class I Administrative Update and a Title V minor modification. You must also complete

Attachment S: Title V Revision Information found at <https://dep.wv.gov/daq/permitting/Documents/AttachmentS04-21-08.pdf>. Complete these and have them signed by a responsible official or authorized representative and then just use copies of the applicable attachments from the Title V application (Plot Plan, PFD, Equipment Table, Emission Unit for for 13S, Emissions Inventory, MSDS, etc.).

Most all of the proposed changes will fit under the umbrella of the Class I Administrative Update / Title V Minor Modification, but I have concerns on how to incorporate the new binder (Drakeol 35) and the addition of metallurgical coke. First, the current binder (Xiameter (R) Mem-1727) is only mentioned in the R30-03500049-2019 renewal application in Attachment I - Emissions Inventory in a footnote to Table 3 and is not mentioned by name in NSR permit R13-2864D. Therefore, I believe that as long as the VOC content and application rates are equal to or less than the original binder, that you can use the new binder because the potential to emit, which is listed in the permit, will not change. If you would like a written confirmation in the future for this or any additional new binders, you can submit a PDF (Permit Determination Form) to obtain an official decision from the DAQ. If the binder name is actually listed in the permit, then you would have to file a Class I (or II) Administrative Update every time a new binder is added.

Second, the evaluation of small adds (< or = to 0.5% of throughput) of metallurgical coke to the slag to adjust the carbon content has not been addressed before in any of the applications, permits, etc. that I have reviewed. It appears that a maximum of 876 TPY of metallurgical coke could be added, but there is no explanation on how this change may affect the currently calculated emissions. If there would be any increase in emissions of any regulated pollutant, then this change would not be able to be incorporated into this Class I administrative update and would have to be addressed through a different permitting action at a later time.

When you do submit the application, please reference in the email and cover letter that you are requesting to have the NSR Class I Administrative Update assigned to me. I have spoken with Joe Kessler, NSR Program Manager, and let him know that we have been working on this and to expect the application.

I will be out of the office on vacation this coming week, but will be checking my emails and staying up to speed and available to answer any questions that may arise. The best way to get in touch with me will be my cell phone at 304-767-1222. If I am not able to answer, please leave a message and I will get back to you as soon as I can.

Sincerely,

Dan Roberts

WV Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV

(304) 926-0499 ext. 41902

daniel.p.roberts@wv.gov

On Fri, Nov 22, 2024 at 3:56 PM Michael Zeiders <mzeiders@libertyenviro.com> wrote:

Thanks Logan.

I'll give Dan a call.

Sincerely,



Michael D. Zeiders

Project Manager

Direct: 610.288.1540 **Office:** 610.375.9301

mzeiders@libertyenviro.com

505 Penn Street, Suite 400 Reading PA 19601



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From: Logan M. Martin <LMMartin@armstrongceilings.com>
Sent: Friday, November 22, 2024 3:09 PM
To: Daniel P Roberts <daniel.p.roberts@wv.gov>
Cc: Gavin Biebuyck <gbiebuyck@libertyenviro.com>; Michael Zeiders <mzeiders@libertyenviro.com>
Subject: FW: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

Hey guys,

I just wanted to get you all in touch with Mr.Roberts.

I don't think I was explaining the questions that you were asking Mike very well so instead of being the middle man just figured this would be easier.

We just need to have the changes made by next Thursday preferably but at the latest by the 4th of next month.

I will be out of office on Monday but will be in on Tuesday and Wednesday so I will reach back out to everyone.

Thanks!

Logan

From: Michael Zeiders <mzeiders@libertyenviro.com>
Sent: Friday, November 22, 2024 10:49 AM
To: Logan M. Martin <LMMartin@armstrongceilings.com>
Cc: Gavin Biebuyck <gbiebuyck@libertyenviro.com>
Subject: RE: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

*** This email originated from outside of Armstrong World Industries.**

Logan,

He is requesting that you submit an R13 administrative update to update your NSR permit. If he's willing to be flexible and just let us submit Title V forms, this could be fairly straightforward. I will take a look at the information that he sent. If you do talk to him today, let him know that the R13 permit markup that he sent appears to be corrupted. I can't open it.

Sincerely,



**Michael D.
Zeiders**

*Project
Manager*

Direct: 610.288.1540 **Office:**
610.375.9301

mzeiders@libertyenviro.com

505 Penn Street, Suite 400
Reading PA 19601



**ENVIRONMENT |
ENERGY | GEOTECH**

From: Logan M. Martin <LMMartin@armstrongceilings.com>
Sent: Friday, November 22, 2024 9:03 AM
To: Michael Zeiders <mzeiders@libertyenviro.com>; Gavin Biebuyck <gbiebuyck@libertyenviro.com>
Subject: FW: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

May need your all's help with this.

I sent him my cell number so I am expecting him to reach out to me today.

Thanks

Logan

From: Roberts, Daniel P <daniel.p.roberts@wv.gov>
Sent: Thursday, November 21, 2024 2:45 PM
To: Logan M. Martin <LMMartin@armstrongceilings.com>
Subject: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

You don't often get email from daniel.p.roberts@wv.gov. [Learn why this is important](#)

*** This email originated from outside of Armstrong World Industries.**

Mr. Martin,

Good afternoon. I am working on your Title V renewal application and need to touch base with you. I tried the number listed in the application (304-206-2847) and talked to Matt and he gave me another number (717-201-9268) that didn't work. Can you provide me with a current number to reach you at?

The reason I need to speak with you is that most of the changes which were proposed with the renewal application must be changed in your current NSR permit R13-2864D first. Luckily, they may be done through an NSR Class I Administrative Update application/Title V minor modification which will not require any fee or newspaper notification. You would just need to complete the basic application and copy the applicable parts of the Title V application to attach to it. I have spoken with Joe Kessle, the NSR Program Manager, and have requested to have that application assigned to me since I am already up to speed on this and can get it approved quickly. But time is of the essence.

I have attached the Title V draft proposed permit and fact sheet with the deletions marked in red and struck out and the additions noted in blue and underlined. I have also attached a draft modified NSR permit R13-2864D.

Please call me at your earliest convenience to discuss what needs to be done and the timing.

Sincerely,

Dan Roberts

WV Department of Environmental Protection


Division of Air Quality

601 57th Street, SE

Charleston, WV

(304) 926-0499 ext. 41902

daniel.p.roberts@wv.gov

 **035-00049_PERM_13-2864D with notes.pdf**
276K



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Re: Classified Ad# 1454443 Confirmation

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>
To: "Mink, Stephanie R" <stephanie.r.mink@wv.gov>
Cc: Carrie McCumbers <carrie.mccumbers@wv.gov>

Mon, Dec 2, 2024 at 11:42 AM

Stephanie,

Everything looks good to me. Thanks again!

Dan

On Mon, Dec 2, 2024 at 10:23 AM Mink, Stephanie R <stephanie.r.mink@wv.gov> wrote:
The Armstrong notice is confirmed for Friday.

Dan, please review and let me know if anything needs to be changed. I need to give them the approval to print.

Thanks
Stephanie

----- Forwarded message -----

From: <ssizemore@wvnews.com>
Date: Mon, Dec 2, 2024 at 10:14 AM
Subject: Classified Ad# 1454443 Confirmation
To: <stephanie.r.mink@wv.gov>

Hi Stephanie, here is a proof of your legal ad. Please let me know if everything looks alright. Thank you! Susie

Acc.Id: 27207
Name: WV DEP - AIR QUALITY
Phone: 304
Address: DIVISION OF AIR QUALITY
City: CHARLESTON
State: WV
Postcode: 25304

Class: 995 Jackson Star Legal

Edition: JCC

Start: 12/06/2024

Stop: 12/06/2024

Issues: 1

Units: 532.0

Order ID: TC 1454443

TFN: C

TFN cycle:

Rep: CSIZEMORE

Status: OK

Source:

Paytype: BI

Rate: LW

Cost EXC GST: 55.22

Tax: 0.00

Total Charge: 55.22

Printed on: 12/02/2024 10:14:09

Printed by: CSIZEMORE



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Armstrong World Products, Inc. - Armstrong Millwood Plant - R30-03500049-2025

1 message


Roberts, Daniel P <daniel.p.roberts@wv.gov>
To: Stephanie R Mink <stephanie.r.mink@wv.gov>

Mon, Dec 2, 2024 at 11:40 AM

Stephanie,

Here is the Title V info table. It is also saved on the google drive as well as the IPR file.

Thanks!
Dan

 **T5 Info Table R30-03500049-2025.doc**
39K

Facility Information for Draft/Proposed/Final Permits

Engineer and E-Mail Address	Dan Roberts Daniel.p.roberts@wv.gov
Company Name	Armstrong World Industries, Inc.
Facility Name	Armstrong Millwood Plant
County	Jackson
Permit No.	R30-03500049-2025
Permit Type	Renewal
Newspaper	<i>The Jackson Star News</i>
Responsible Official - Title Street or P. O. Address City, State, Zip E-Mail Address	Matt McVay – Plant Manager P.O. Box 220 Millwood, WV 25262 msmcvay@armstrongceilings.com
Environmental Contact - Title Street or P. O. Address City, State, Zip E-Mail Address	Logan Martin – EHS Manager P.O. Box 220 Millwood, WV 25262 lmartin@armstrongceilings.com
Consultant’s Name and E-mail Address	Michael D. Zeiders mzeiders@libertyenviro.com
Affected States and/or Class I Area	OH
Regional Office	N/A
Reg 13 Permit Nos. (if applicable)	R13-2864D

E-mail to Stephanie and **create a folder** under *G:\Shared drives\DEP AQ Permitting\AQ Permitting\TITLEV\Permits* for your permit and save the following files:

Draft/Proposed	Final
Facility Information Table	Facility Information Table
Notice	
Draft Permit	Final Permit
Fact Sheet	Final Fact Sheet
Reg 13 Permits (if applicable)	



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Fwd: Classified Ad# 1454443 Confirmation

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov> Mon, Dec 2, 2024 at 10:22 AM
To: Daniel P Roberts <daniel.p.roberts@wv.gov>, Carrie McCumbers <carrie.mccumbers@wv.gov>

The Armstrong notice is confirmed for Friday.

Dan, please review and let me know if anything needs to be changed. I need to give them the approval to print.

Thanks
Stephanie

----- Forwarded message -----
From: <ssizemore@wvnews.com>
Date: Mon, Dec 2, 2024 at 10:14 AM
Subject: Classified Ad# 1454443 Confirmation
To: <stephanie.r.mink@wv.gov>

Hi Stephanie, here is a proof of your legal ad. Please let me know if everything looks alright. Thank you! Susie

Acc.Id: 27207
Name: WV DEP - AIR QUALITY
Phone: 304
Address: DIVISION OF AIR QUALITY
City: CHARLESTON
State: WV
Postcode: 25304
Class: 995 Jackson Star Legal
Edition: JCC
Start: 12/06/2024
Stop: 12/06/2024
Issues: 1
Units: 532.0
Order ID: TC 1454443

TFN: C
TFN cycle:
Rep: CSIZEMORE
Status: OK
Source:
Paytype: BI
Rate: LW
Cost EXC GST: 55.22
Tax: 0.00
Total Charge: 55.22
Printed on: 12/02/2024 10:14:09
Printed by: CSIZEMORE

2 attachments



csizemore_1454443_1733152449534.png
49K



1454443.pdf
5K

**NOTICE OF COMMENT
PERIOD FOR DRAFT/PROPOSED
OPERATING PERMIT RENEWAL**

Title V of the Federal Clean Air Act and the state Air Pollution Control Act requires that all major sources and certain minor sources have a permit to operate which states all requirements (e.g. emission limitations, monitoring requirements, etc.) established by regulations promulgated under the aforementioned programs. The Division of Air Quality (DAQ) has determined that the draft/proposed permit renewal referenced herein meets this requirement.

The DAQ is providing notice to the general public of its preliminary determination to issue an operating permit renewal to the following company for operation of the referenced slag wool manufacturing facility:

**Armstrong World Industries, Inc.
Armstrong Millwood Plant
Plant ID No.: 035-00049
141 Sensenich Drive
Millwood, WV 25262**

This notice solicits comments from the public and affected state(s) concerning the above preliminary determination and provides an opportunity for such parties to review the basis for the proposed approval and the "draft" permit renewal. This notice also solicits comments from the U.S. EPA concerning the same preliminary determination and provides an opportunity for the U.S. EPA to concurrently review the basis for the proposed approval as a "proposed" permit.

All written comments submitted by the public and affected state(s) pursuant to this notice must be received by the DAQ within thirty (30) days of the date of publication of this notice. Under concurrent review, written comments submitted by the U.S. EPA must be received by the DAQ within forty-five (45) days from the date of publication of this notice or from the date the U.S. EPA receives this draft/proposed permit renewal, whichever is later. In the event the 30th/45th day is a Saturday, Sunday, or legal holiday, the comment period will be extended until 5:00 p.m. on the following regularly scheduled business day. The public shall have 135 days from the date of publication of this notice to file petitions for concurrently reviewed permits. Upon notice by the U.S. EPA to the DAQ, prior to the end of the 45 day notice period, the U.S. EPA may choose to hold the 30 day comment period on the draft permit and the 45 day comment period on the proposed permit sequentially. During the public comment period any interested person may submit written comments on the draft permit and, if no public hearing has been scheduled, may request a public hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Director of the DAQ shall grant such a request for a hearing if she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located, after 30 day notice is given. The DAQ will consider all written comments prior to final action on the permit.

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Comments and questions concerning this matter should be addressed to:

**WV Department of
Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Contact: Dan Roberts
(304) 926-0499 ext.: 41902
Daniel.p.roberts@wv.gov**

**NOTICE OF COMMENT
PERIOD FOR DRAFT/PROPOSED
OPERATING PERMIT RENEWAL**

Title V of the Federal Clean Air Act and the state Air Pollution Control Act requires that all major sources and certain minor sources have a permit to operate which states all requirements (e.g. emission limitations, monitoring requirements, etc.) established by regulations promulgated under the aforementioned programs. The Division of Air Quality (DAQ) has determined that the draft/proposed permit renewal referenced herein meets this requirement.

The DAQ is providing notice to the general public of its preliminary determination to issue an operating permit renewal to the following company for operation of the referenced slag wool manufacturing facility:

**Armstrong World Industries, Inc.
Armstrong Millwood Plant
Plant ID No.: 035-00049
141 Sensenich Drive
Millwood, WV 25262**

This notice solicits comments from the public and affected state(s) concerning the above preliminary determination and provides an opportunity for such parties to review the basis for the proposed approval and the "draft" permit renewal. This notice also solicits comments from the U.S. EPA concerning the same preliminary determination and provides an opportunity for the U.S. EPA to concurrently review the basis for the proposed approval as a "proposed" permit.

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Roberts, Daniel P <daniel.p.roberts@wv.gov>

Publication of Class I Legal Ad for the WV Division of Air Quality (Jackson Star News)

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov>
To: Legals Theet <legals@theet.com>
Cc: Daniel P Roberts <daniel.p.roberts@wv.gov>

Mon, Dec 2, 2024 at 8:00 AM

Please publish the information below as a Class I legal advertisement (one time only) in the Friday, December 6, 2024, issue of *The Jackson Star News*. Please let me know that this has been received and will be published as requested. Thank you.

Send the invoice for payment and affidavit of publication to:

Stephanie Mink

Stephanie.R.Mink@wv.gov **

**WV Department of Environmental Protection
DIVISION OF AIR QUALITY**

601- 57th Street

Charleston, WV 25304

****To expedite payments for legal notices we are asking that all invoices and affidavits be emailed to the requestor. Any invoices which are mailed to the office are subject to delays. Thank you for your assistance.****

NOTICE OF COMMENT PERIOD FOR DRAFT/PROPOSED OPERATING PERMIT RENEWAL

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Contact: Dan Roberts
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Daniel.p.roberts@wv.gov



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Going to Notice - Armstrong World Industries, Inc. - R30-03500049-2025

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>
To: Stephanie R Mink <stephanie.r.mink@wv.gov>

Sun, Dec 1, 2024 at 11:29 PM

Stephanie,

Good morning! Carrie has given me permission to go to notice on this renewal permit. She has given me her comments on the draft permit and fact sheet, but we are waiting on a response and Class I AU application to revise their Rule 13 permit in order to be able to incorporate the changes they have requested. Therefore, I have only attached the notice for now because I believe it needs to get to the newspaper today in order to be published on Friday December 6th. I apologize for the lack of warning because I wasn't thinking about you being off last week. My bad! Sorry for the Monday morning surprise.

I will be contacting the company/consultant to see where they stand on their end and will update you then. I will also be working on the IPR file in the morning and will let you know when it is finished.

Thanks in advance!

Dan

 **concurrent notice R30-03500049-2025.docx**
18K

NOTICE OF COMMENT PERIOD FOR DRAFT/PROPOSED OPERATING PERMIT RENEWAL

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Division of Air Quality
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(304) 926-0499 ext.: 41902
Daniel.p.roberts@wv.gov



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Re: Draft/Proposed - Armstrong World Industries, Inc. - Armstrong Millwood Plant - R30-03500049-2025

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>
To: "McCumbers, Carrie" <carrie.mccumbers@wv.gov>

Tue, Nov 26, 2024 at 4:34 PM

Carrie,

Hey. Thanks for your time for reviewing the documents and for the comments. I will get the notice to Stephanie so she will have it as soon as she logs on Monday morning. I haven't heard anything from the company or consultant, so I hope it's because they have a handle on it and no questions.

Thanks again! Hope you and your family have a Happy Thanksgiving!

Dan

On Tue, Nov 26, 2024 at 3:47 PM McCumbers, Carrie <carrie.mccumbers@wv.gov> wrote:

Dan,

Attached are my comments on the permit and fact sheet. I don't have any comments on the notice. The latest we can get the ad to the newspaper is Monday, December 2nd at noon. I suggest that you go ahead and send the notice to Stephanie as soon as possible on Monday morning. Since the ad won't publish until Friday, 12/6, you have a little time to work on the comments. Most are insignificant and shouldn't take very long. The majority of my comments relate to the changes that need an NSR update first. If you want to discuss these comments, just let me know.

Thanks,
Carrie

On Thu, Nov 21, 2024 at 2:54 PM Roberts, Daniel P <daniel.p.roberts@wv.gov> wrote:

Carrie,

Hey. I have attached copies of the draft/proposed permit, fact sheet and notice for the above referenced facility's renewal application. Let me know if you have any questions or need anything else.

I have tried to contact Logan Martin, EHS Manager, regarding the modifications that need to be done to their current NSR permit R13-2864D, but have not heard back from him. Most of it can clearly be handled through a Class I AU and I have already spoken with Joe. I'll keep you posted.

Thanks,
Dan



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Re: Draft/Proposed - Armstrong World Industries, Inc. - Armstrong Millwood Plant - R30-03500049-2025

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McCumbers, Carrie <carrie.mccumbers@wv.gov>
To: "Roberts, Daniel P" <daniel.p.roberts@wv.gov>

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2 attachments**DPPermit R30-03500049-2025 11-21-24 CLEAN Carrie's comments.docx**
297K**DPFactSheet R30-03500049-2025 11-21-24 CLEAN Carrie's comments.docx**
96K

West Virginia Department of Environmental Protection

*Harold D. Ward
Cabinet Secretary*

Permit to Operate



Pursuant to
Title V
of the Clean Air Act

Issued to:
Armstrong World Industries, Inc.
Armstrong Millwood Plant
R30-03500049-2025

Laura M. Crowder
Director, Division of Air Quality

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

Permit Number: **R30-03500049-2025**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Permittee Mailing Address: **P.O. Box 220, Millwood, WV 25262**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 C Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Millwood, Jackson County, West Virginia
Facility Mailing Address:	141 Sensenich Drive, Millwood, WV 25262
Telephone Number:	304-273-3900
Type of Business Entity:	Corporation
Facility Description:	Slag wool manufacturing facility
SIC Codes:	3296
UTM Coordinates:	427.2 km Easting \$ 4,307 km Northing \$ Zone 17

Permit Writer: Dan Roberts

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

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device ¹
1S	1-2E	Raw Material Transfer and Electric Arc Furnace (EAF)	2011	40,000 lb/hr	Scrubber 1C & Dust Collector 2C
3S	3-4E	Spinner Collection Chamber #1	2011	34,500 lb/hr	Baghouse 3C
4S	3-4E	Spinner Collection Chamber #2	2011		Baghouse 4C
6S	6E	Hydrated Lime Storage Silo	2011	3,300 cfm	Filter 6C
7S	7E	Backup Generator	2011	500 kWe	N/A
8S	Fugitive	Haulroads	2011	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	175,000 tpy	N/A
10S	10E	Cooling Tower #1	2011	1,500 GPM	N/A
11S	Fugitive	Railcar Unloading	2011	300 TPH	N/A
12S	Fugitive	Diesel Storage Tank #1 – Emergency Generator	2011	900 Gal	N/A
13S	Fugitive	Diesel Storage Tank #2 – Front End Loader	2011	1,000 Gal	N/A
15S	8E	Slag Wool Processing Line #1	2011	28,000 lb/hr (based on a 24-hour average)	Baghouse 7C
16S	8E	Slag Wool Processing Line #2	2011		Baghouse 7C
17S	17E	Cooling Tower #2	2011	800 GPM	N/A

¹ Control Device abbreviations: WS – Wet Suppression

1.2 Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2864D	September 23, 2019

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 other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.39.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM₁₀	Particulate Matter less than 10µm in diameter
CES	Certified Emission Statement	pph	Pounds per Hour
C.F.R. or CFR	Code of Federal Regulations	ppm	Parts per Million
CO	Carbon Monoxide	PSD	Prevention of Significant Deterioration
C.S.R. or CSR	Codes of State Rules	psi	Pounds per Square Inch
DAQ	Division of Air Quality	SIC	Standard Industrial Classification
DEP	Department of Environmental Protection	SIP	State Implementation Plan
FOIA	Freedom of Information Act	SO₂	Sulfur Dioxide
HAP	Hazardous Air Pollutant	TAP	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	TPY	Tons per Year
HP	Horsepower	TRS	Total Reduced Sulfur
lbs/hr or lb/hr	Pounds per Hour	TSP	Total Suspended Particulate
LDAR	Leak Detection and Repair	USEPA	United States Environmental Protection Agency
m	Thousand	UTM	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	VEE	Visual Emissions Evaluation
mm	Million	VOC	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour		
NA or N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.

[45CSR§30-6.4.]

2.7. Minor Permit Modifications

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.

[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.

[45CSR§30-6.5.b.]

2.9. Emissions Trading

- 2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.

[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
- b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
- c. The change shall not qualify for the permit shield.
- d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.40]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

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

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
- b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

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

[45CSR§30-5.1.f.2.]

2.17. Reserved

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

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

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

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

[45CSR§30-4.2.]

2.21. Permit Shield

- 2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

[45CSR§30-5.6.a.]

- 2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§305.6.c.]

2.22. Credible Evidence

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

[45CSR§30-5.3.e.3.B.]

2.23. Severability

- 2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

[45CSR§305.1.e.]

2.24. Property Rights

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

[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

- 2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.
- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
 - b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
 - c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1 Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. [45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. [40 C.F.R. §61.145(b) and 45CSR34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. [45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. [45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. [W.Va. Code § 22-5-4(a)(15)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.

[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

3.2. Monitoring Requirements

- 3.2.1. Reserved.

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a sourcespecific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a sourcespecific 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 shall be revised in accordance with 45CSR§30-6.4- or 45CSR§30-6.5 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 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language.
 2. The result of the test for each permit or rule condition.
 3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 2254(a)(15-16) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.; 45CSR13, R13-2864, 4.4.1.]

- 3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. and 5.1.c.3.D.]
- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]
- 3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

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

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

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

- 3.5.4. **Fees.** The permittee shall pay fees on an annual basis in accordance with 45CSR§30-8.
[45CSR§30-8.]
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the

certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
[R3 APD Permits@epa.gov](mailto:R3_APD_Permits@epa.gov)

[45CSR§30-5.3.e.]

- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

- 3.5.7. **Reserved.**

- 3.5.8. **Deviations.**

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
1. Reserved.
 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 3. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 4. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 5. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.
[45CSR§30-5.1.c.3.B.]

- 3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

- 3.6.1. Reserved.

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.
- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.
 - a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.
 - b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral.
 - c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart.
 - d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral ~~Wood-Wool~~ Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
 - e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
 - f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
 - g. **45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.

- h. **45CSR27 - Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

4.0 Manufacturing Process Sources Requirements [1S, 3S, 4S, 6S, 9S, 11S, 15S, 16S]

4.1. Limitations and Standards

4.1.1. Emissions from the facility shall not exceed the limitations set forth in Tables 4.1.1.1 and 4.1.1.2:

Table 4.1.1.1.

Source	PM		PM ₁₀ ¹		NO _x		VOC		SO ₂		CO	
	lb/hr	tpy	lb/hr	Tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.00	55.00 ²	240.90
3S	7.09	31.06	7.09	31.06	--	--	0.38	1.65	--	--	--	--
4S	7.09	31.06	7.09	31.06	--	--	0.38	1.65	--	--	--	--
6S	1.13	4.95	1.13	4.95	--	--	--	--	--	--	--	--
9S	--	1.98	--	0.97	--	--	--	--	--	--	--	--
11S	0.02	0.10	0.01	0.05	--	--	--	--	--	--	--	--
15S/16S	2.39	10.47	2.39	10.47	--	--	--	--	--	--	--	--

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

²Hourly CO emission limits from the EAF are 55 pounds per hour based on a rolling 30 day average and 100 pounds per hour based on a rolling 24 hour average.

Table 4.1.1.2

Source	Mn		VOC HAP		Total HAP	
	lb/hr	Tpy	lb/hr	Tpy	lb/hr	tpy
1S	0.28	1.25	--	--	0.28	1.25
3S	0.78	3.40	--	--	0.78	3.40
4S	0.78	3.40	--	--	0.78	3.40
6S	--	--	--	--	--	--
9S	0.02	0.22	--	--	0.02	0.22
11S	0.01	0.01	--	--	0.01	0.01
15S/16S	0.26	1.15	--	--	0.26	1.15

Compliance with the PM emission limits shall demonstrate compliance with the less stringent PM emission limits of 45CSR§7-4.1.

[45CSR13, R13-2864, 4.1.1 and 4.1.9.2, Tables 4.1.1.1 and 4.1.1.2, 45CSR§7-4.1.]

4.1.2. The total annual SO₂ emissions from the Submerged Electric Arc Furnace (1S) shall not exceed 245 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.2]

4.1.3. The Furnace Dry Scrubber (1C) shall be designed, installed, operated and maintained so as to ensure compliance with the emission limits of 4.1.1. Operation of the scrubber is only required when necessary to meet the emission limits of 4.1.1.

[45CSR13, R13-2864, 4.1.3]

- 4.1.4. For the purpose of complying with the PM/PM₁₀/PM_{2.5} emission limits of condition 4.1.1 of this permit, all of the dust collectors shall be operated according to the following requirements:

The permittee has determined the optimal ranges for the pressure drop across baghouses 2C, 3C, 4C and 7C. The permittee shall maintain on site, and update as necessary, a certified report listing the operating ranges.

[45CSR13, R13-2864, 4.1.4]

- 4.1.5. Manganese content of the slag entering the furnace shall not exceed 10.95% (equivalent to 14.14% MnO).
[45CSR13, R13-2864, 4.1.5]

- 4.1.6. The total annual Mn emissions from the facility shall not exceed 9.6 tons per year based on a rolling 12 month total basis.
[45CSR13, R13-2864, 4.1.12.]

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

- a. The permittee shall maintain a water truck (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) on site and in good operating condition, and shall utilize same to apply a either water or a mixture of water and an environmentally acceptable dust control additive, hereinafter referred to as solution, as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from unpaved haulroads and other unpaved work areas where mobile equipment is used. The spraybar shall be equipped with commercially available spray nozzles, of sufficient size and number, so as to provide adequate coverage to the area being treated.

The pump delivering the solution, shall be of sufficient size and capacity so as to be capable of delivering to the spray nozzle(s) an adequate quantity of solution, and at a sufficient pressure, so as to assure that the treatment process will minimize the atmospheric entrainment of fugitive particulate emissions generated from the unpaved haulroads and work areas where mobile equipment is used.

- b. All unpaved haulroads, access roads, stockpile and work areas shall be kept clean and in good condition by replacing base material and/or grading as required.
- c. If tracking of solids by vehicular traffic from access and/or haulroads onto any public road or highway occurs and generates or has the potential to generate fugitive particulate emissions, the registrant shall properly operate and maintain an underbody truck wash, rumble strips or employ other suitable measures to maintain effective fugitive dust control of the premises and minimize the emission of particulate matter.

[45CSR13, R13-2864, 4.1.6]

- 4.1.8. The permittee shall ensure that the water trucks (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) and/or water sprays are properly equipped with winterization systems capable of operating in a manner such that all such fugitive dust control systems remain effective and functional, to the maximum extent practicable, during winter months and cold weather. At all times, including periods of cold weather, the registrant shall comply with the water trucks (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) and/or water sprays requirements of this permit.
[45CSR13, R13-2864, 4.1.7]

- 4.1.9. Total slag throughput to the EAF shall not exceed 175,200 tons per year on a rolling 12 month total.
[45CSR13, R13-2864, 4.1.8]
- 4.1.10. 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 for 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§7-3.1 & 45CSR§7-3.2, 45CSR13, R13-2864, 4.1.9.1 (1S, 3S, 4S, 15S, 16S)]
- 4.1.11. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process that pursuant to Condition 4.1.13. is required to have a full enclosure and be equipped with a particulate matter control device.
[45CSR§7-3.7.] (6S)
- 4.1.12. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.
[45CSR§7-4.12.]
- 4.1.13. 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., 45CSR13, R13-2864, 4.1.9.3]
- 4.1.14. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.
[45CSR§7-5.2., 45CSR13, R13-2864, 4.1.9.4]
- 4.1.15. 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. of 45CSR10.
[45CSR§10-4.1., 45CSR13, R13-2864, 4.1.10.] (1S)
- 4.1.16. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.10., 45CSR13, R13-2864, 4.1.13]

4.2. Monitoring Requirements

4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturer's recommendations concerning maintenance and performance.
[45CSR13, R13-2864, 4.2.1]

4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, R13-2864, 4.2.2] (1S, 3S, 4S, 6S, 15S, 16S)

4.2.3. The permittee shall install, maintain and operate instrumentation to continuously monitor and record at least once per operating day the control device parameters (1C, 2C, 3C, 4C and 7C) as determined by conditions 4.1.3 and 4.1.4 of this permit at all times that the emission source(s) is/are in operation.

[45CSR13, R13-2864, 4.2.3]

[40 C.F.R. § 64.3(b)(4)(iii); 45CSR§30-5.1.c.] (2C, 7C)

4.2.4. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of SO₂ from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 2 as appropriate, and Performance Specification 4, 4a or 4b (CO) as appropriate.

[45CSR13, R13-2864, 4.2.4]

4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.15 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier. Alternatively, the permittee may obtain a fuel sample of each shipment and perform analytical testing to determine the sulfur content.

[45CSR13, R13-2864, 4.2.5]

- 4.2.6. To show compliance with the SO₂ limit in condition 4.1.2 of this permit, monthly SO₂ emissions from the submerged electric arc furnace shall be calculated (using SO₂ CEMS) by the 15th of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.7]

- 4.2.7. In order to determine compliance with conditions 4.1.1. and 4.1.5 of this permit, the permittee shall obtain representative samples from each shipment of slag from each supplier for the first week of operation (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) to be analyzed for the Manganese content (percent Manganese by weight). The manganese content from each type of slag shall be averaged for the week in order to determine a baseline manganese content for that supplier's slag. After the first week of samples, the permittee shall continue to collect the weeks worth of samples (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) at least once per month to either confirm the existing or reestablish a new baseline Mn level for that supplier. If the permittee adds a new slag supplier, the permittee shall collect samples for each shipment for one week in order to establish the baseline Mn content for that supplier.

If the baseline Mn content of the slag from any supplier exceeds the Mn level permitted in condition 4.1.5 of this permit, Armstrong shall maintain a record documenting, any time that specific slag is used in the furnace, that the Mn content of the slag blend entering the furnace does not exceed the Mn level permitted in Condition 4.1.5 of this permit.

[45CSR13, R13-2864, 4.2.9]

- 4.2.8. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of CO, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 4, 4a or 4b as appropriate.

[45CSR13, R13-2864, 4.2.6]

- 4.2.9. The permittee shall maintain monthly records of slag throughput to the EAF.

[45CSR13, R13-2864, 4.2.11]

- 4.2.10. To show compliance with the Mn emission limit in condition 4.1.6. of this permit, monthly Mn emissions from the facility shall be calculated (mass balance) by the 15th day of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.12]

- 4.2.11. To show compliance with the CO limit in condition 4.1.1 of this permit, monthly CO emissions from the submerged electric arc furnace shall be calculated (using CO CEMS) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.10]

- 4.2.12. **Reserved.**

- 4.2.13. **CAM Indicator Range for 2C** – While the Raw Material Transfer and EAF is operating, the static pressure drop across the Furnace Dust Collector (2C) shall be greater than or equal to 1.0 and less than or equal to 7.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.
[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (1S)
- 4.2.14. **CAM Indicator Range for 7C** – While the Slag Wool Processing Lines #1 or #2 (or both simultaneously) are operating, the static pressure drop across the Fiber Line Baghouse (7C) shall be greater than or equal to 0.5 and less than or equal to 9.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.
[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (15S, 16S)
- 4.2.15. **Excursion Definition for the Raw Material Transfer and EAF** – For the purposes of 40 C.F.R. Part 64, an excursion for the Raw Material Transfer and EAF (1S) is a static pressure drop across the Furnace Dust Collector (2C) outside of the indicator range specified in permit condition 4.2.13. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.
[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (1S)
- 4.2.16. **Excursion Definition for the Slag Wool Processing Lines #1 and #2** – For the purposes of 40 C.F.R. Part 64, an excursion for the Slag Wool Processing Lines #1 and #2 (15S and 16S) is a static pressure drop across the Fiber Line Baghouse (7C) outside of the indicator range specified in permit condition 4.2.14. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.
[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (15S, 16S)
- 4.2.17. **Commencement of operation** – The permittee shall conduct the monitoring required under 40 C.F.R. Part 64 upon issuance of this permit that includes such monitoring.
[40 C.F.R. § 64.7(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)
- 4.2.18. **Proper Maintenance** – At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
[40 C.F.R. § 64.7(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)
- 4.2.19. **Continued Operation** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 C.F.R. Part 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 C.F.R. § 64.7(c); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.20. Response to Excursions or Exceedances

- (1) Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (2) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. § 64.7(d); 45CSR§30-5.1.c.] (1S, 15S, 16S)

- 4.2.21. **Documentation of Need for Improved Monitoring** – After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. § 64.7(e); 45CSR§30-5.1.c.] (1S, 15S, 16S)

- 4.2.22. **Quality Improvement Plan (QIP)** – Based on the results of a determination made under §64.7(d)(2) (Response to excursions or exceedances, permit condition 4.2.20.(2)), the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, then it shall be developed, implemented, and modified as required according to 40 C.F.R. §§ 64.8(b) through (e). Refer to permit condition 4.5.4.(2)c. for the reporting required when a QIP is implemented. Notwithstanding the Administrator or the Director requiring the permittee to develop a QIP, the permittee proposed an accumulation of exceedances or excursions exceeding 10 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP.

[40 C.F.R. § 64.8; 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.3. Testing Requirements

- 4.3.1. The permittee shall complete the following performance testing:

The permittee shall perform or have performed EPA approved stack tests to determine emissions of NO_x, VOCs, PM and PM₁₀ from the submerged electric arc furnace.

The permittee shall perform or have performed EPA approved stack tests to determine emissions of PM and PM₁₀ from one of the spinner collection chambers.

The permittee shall perform or have performed EPA approved stack tests to determine emissions of Manganese from one of the spinner collection chambers and the submerged electric arc furnace.

[45CSR13, R13-2864, 4.3.1]

- 4.3.2. Ongoing compliance shall be demonstrated by repeating the above testing (condition 4.3.1.) according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Director's Request
Initial	Between 10% and 50% of limits	Once/5 years
Initial	Between 50% and 90% limits	Once/3 years
Initial	≥90% of limits	Annual
Annual	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Annual	After two successive tests indicate emission rates <90% of limits	Once/3 years
Annual	≥90% of limits	Annual
Once/3 years	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Once/3 years	After two successive tests indicate emission rates <90% of limits	Once/3 years
Once/3 years	≥90% of limits	Annual
Once/5 years	After two successive tests indicate emission rates <10% of limits	Upon Director's Request
Once/5 years	≤50% of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	≥90% of limits	Annual

[45CSR13, R13-2864, 4.3.2]

- 4.3.3. **Quality Assurance / Quality Control Practice** – For the Furnace Dust Collector (2C) and Fiber Line Baghouse (7C), the differential pressure sensing devices shall be electrically tested semi-annually to verify correct readings and that accurate data is being sent to the data logging system. The reading shall be within 0.15 in. of water column. If a reading differs in a value greater than 0.15 in. water column, a vendor shall be utilized as expeditiously as practicable to calibrate the differential pressure sensing device. A vendor shall be scheduled for a regular calibration visit every 3 years. Records of the testing and calibrations shall be maintained in accordance with conditions 3.4.1. and 3.4.2.

[40 C.F.R. § 64.3(b)(3); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.4. Recordkeeping Requirements

4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-2864, 4.4.2.]

4.4.2. **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.

[45CSR13, R13-2864, 4.4.3.]

4.4.3. In order to determine compliance with condition 4.1.5 of this permit, the permittee shall keep monthly records of the Manganese content of the slag. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.4]

4.4.4. The permittee shall maintain monthly records of slag wool production from the facility. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.2.8. and 4.4.5]

4.4.5. In order to demonstrate compliance with the requirements of 4.2.2 of this permit, records of the Method 22 testing and any necessary Method 9 testing shall be retained on site by the permittee for at least five (5) years. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.6]

4.4.6. In order to determine compliance with the requirements of conditions 4.1.15 and 4.2.5 of this permit, the permittee shall maintain records of the fuel oil sulfur content. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.7]

4.4.7. In order to determine compliance with the requirements of condition 4.1.4 of this permit, the permittee shall maintain daily records of the pressure drop across each baghouse. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.8]

- 4.4.8. In order to determine compliance with condition 4.2.9 of this permit, the permittee shall maintain monthly records of slag throughput to the EAF. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.9]

- 4.4.9. **General recordkeeping requirements for 40 C.F.R. Part 64 (CAM).** The permittee shall comply with the recordkeeping requirements specified in permit conditions 3.4.1. and 3.4.2. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 (condition 4.2.22.) and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

[40 C.F.R. § 64.9(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.5. Reporting Requirements

- 4.5.1. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

[45CSR13, R13-2864, 4.5.1]

- 4.5.2. With regard to testing required by section 4.3 of this permit, results shall be submitted to the Director no more than 60 days after the date the testing takes place.

[45CSR13, R13-2864, 4.5.2]

- 4.5.3. The permittee shall comply with all applicable reporting requirements of 45CSR7, 45CSR10, and 45CSR13.

[45CSR13, R13-2864, 4.5.3]

- 4.5.4. **General reporting requirements for 40 C.F.R. Part 64 (CAM)**

(1) On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit CAM monitoring reports to the permitting authority in accordance with condition 3.5.6.

(2) ~~Reserved.~~

(3) A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:

- a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

- b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. § 64.9(a); 45CSR§30-5.1.c.] (*1S, 15S, 16S*)

4.6. Compliance Plan

- 4.6.1. Reserved.

5.0 Storage Tanks [12S and 13S] and Cooling Tower [10S and 17S]

5.1. Limitations and Standards

5.1.1. Emissions from the storage tanks shall not exceed the limitations set forth below:

Source	VOC		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
12S	0.02	0.07	0.02	0.07	0.02	0.07
13S	0.01	0.04	0.01	0.04	0.01	0.04

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 & 4.1.1.2; State-enforceable only]

5.1.2. Emissions from the cooling towers shall not exceed the limitations set forth below:

Source	PM		PM ₁₀ ¹	
	lb/hr	tpy	lb/hr	tpy
10S	0.77	3.37	0.77	3.37
17S	0.41	1.80	0.41	1.80

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Table 4.1.1.1; State-enforceable only]

5.2. Monitoring Requirements

5.2.1. Reserved.

5.3. Testing Requirements

5.3.1. Reserved.

5.4. Recordkeeping Requirements

5.4.1. Reserved.

5.5. Reporting Requirements

5.5.1. Reserved.

5.6. Compliance Plan

5.6.1. Reserved.

6.0 Backup Generator Requirements [7S]

6.1 Limitations and Standards

6.1.1. Emissions from the backup generator, 7S, shall not exceed the following limitations:

Pollutant	Hourly limit in lb/hr	Annual limit in tpy
PM	0.08	0.02
PM ₁₀ ¹	0.08	0.02
NO _x	8.17	2.04
VOC	0.07	0.02
SO ₂	0.31	0.08
CO	1.93	0.48
VOC HAP	0.01	0.002
Total HAP	0.01	0.002

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 and 4.1.1.2; State-enforceable only]

6.1.2. The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart IIII (backup generator 7S) including but not limited to the following:

Emissions from the Backup Generator (7S) shall not exceed the following:

NO _x +NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
4.0	3.5	0.20

[40 C.F.R. §60.4205(b); 45CSR13, R13-2864, 4.1.11.1; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 over the entire life of the engine.

[40 C.F.R. §60.4206; 45CSR13, R13-2864, 4.1.11.2; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.4. The nonroad diesel fuel that is used in the backup generator must have a sulfur content less than 15 parts per million. The nonroad diesel fuel must have a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

[40 C.F.R. §60.4207(b); 45CSR13, R13-2864, 4.1.11.3; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.5. a. If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under Condition 6.1.5.c. of this permit:

1. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

2. Change only those emission-related settings that are permitted by the manufacturer; and
 3. Meet the requirements of 40 CFR part 1068, as they apply to you.
- b. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Condition 6.1.2. of this permit, you must comply by purchasing an engine certified to the emission standards in Condition 6.1.2. for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 6.1.5.c. of this permit.
- c. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[40 C.F.R. §§ 60.4211(a), (c), (g), and (g)(3); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

- 6.1.6. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
- (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) You may operate your emergency stationary ICE for the purposes specified in paragraph (f)(2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
 - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2) of this condition.

[40 C.F.R. §60.4211(f); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.2. Monitoring Requirements

- 6.2.1. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

[40 C.F.R. §60.4209(b); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.3. Testing Requirements

- 6.3.1. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.3.3]

6.4. Recordkeeping Requirements

- 6.4.1. Reserved.

6.5. Reporting Requirements

- 6.5.1. The permittee shall comply with all applicable reporting requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.5.3]

6.6. Compliance Plan

- 6.6.1. Reserved.

Fact Sheet



***For **Draft/Proposed** Renewal Permitting Action Under 45CSR30 and
Title V of the Clean Air Act***

Permit Number: **R30-03500049-2025**
Application Received: **January 24, 2024**
Plant Identification Number: **03-054-035-00049**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Mailing Address: **P.O. Box 220, Millwood, WV 25262**

Physical Location: Millwood, Jackson County, West Virginia
UTM Coordinates: [472.2427.2](#) km Easting • 4,307 km Northing • Zone 17
Directions: From US-33 E, turn left onto WV 68 S. Continue on WV 68 S for 0.4 miles. Turn right onto WV 2 S. Continue for approximately 6 miles. Turn right onto Jack Burlingame Road.

Facility Description

The Armstrong World Industries Millwood plant is a slag wool manufacturing facility covered under SIC Code 3296. It typically manufactures slag wool from silicomanganese slag. The plant receives the slag via truck or railcar, stores the slag in outdoor piles, and then transfers the slag to a belt conveyor via front-end loader. The slag is then transferred to a submerged Electric Arc Furnace (EAF) where the slag is melted using graphite electrodes. The molten slag is then transferred to one of two spinners which spin the molten slag into slag wool fibers. The wool fibers are then collected in one of two collection chambers, further processed into slag wool bales, and then shipped off site.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions ¹	Actual Emissions ²
Carbon Monoxide (CO)	241.4	75.02
Nitrogen Oxides (NO _x)	23.9	0.22
Particulate Matter (PM _{2.5})	94.7	16.84
Particulate Matter (PM ₁₀)	99.0	18.59
Total Particulate Matter (TSP)	110.8	47.79
Sulfur Dioxide (SO ₂)	245.0	53.24
Volatile Organic Compounds (VOC)	25.2	0.78
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions ¹	Actual Emissions ²
Manganese Compounds	9.4	5.57
Total HAPs excluding Mn	0.0	Not Reported

Some of the above HAPs may be counted as PM or VOCs.

¹ Potential emissions are from Table 1 of Attachment I in the renewal application.

² Actual emissions are from the State and Local Emissions Inventory System (SLEIS) Summary Report Total Emissions by Source.

Title V Program Applicability Basis

This facility has the potential to emit 241.4 tpy of CO and 245.0 tpy of SO₂. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Armstrong World Industries, Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

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

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

Federal and State:	45CSR6	Open burning prohibited
	45CSR7	PM limits on manufacturing processes
	45CSR10	Emissions of sulfur dioxides
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Construction permits
	45CSR16	New Source Performance Standards
information	WV Code § 22-5-4 (a) (15)	The Secretary can request any pertinent such as annual emission inventory reporting.
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for HAPs
	40 C.F.R. Part 60 Subpart IIII	Stationary Compression Ignition Engines NSPS

	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63 Subpart ZZZZ	RICE MACT
	40 C.F.R. Part 64	Compliance Assurance Monitoring (CAM)
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors

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

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

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2864D	September 23, 2019	

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

Determinations and Justifications

This is the second renewal of the Title V Permit. There were no changes to the existing emission units and control devices or the approved compliance assurance monitoring (CAM) plans. Therefore, there were no changes to CAM applicability or the existing CAM plans.

The following changes have occurred since the most recent Title V permit was issued:

Title V Permit Boilerplate changes:

- **Condition 2.1.3.** – This condition was updated to delete the word “such” which was removed from 45CSR30 effective March 31, 2023. The citation was changed from “45CSR§30-2.12” to “45CSR§30-2.39” because the definition of “Secretary” was renumbered from a previous version of 45CSR30.
- **Condition 2.11.4** – The citation was changed from “45CSR§30-2.39” to “45CSR§30-2.40” because it was renumbered from a previous version of 45CSR30.
- **Conditions 2.17., 3.5.7. and 3.5.8.a.1.** – These conditions were deleted and replaced with “Reserved” because the emergency provisions under 45CSR§30-5.7 were removed from 45CSR30 effective March 31, 2023.
- **Condition 2.22.1** – “45CSR38” was removed from the citation because this rule has been repealed.

- **Conditions 3.1.6. and 3.3.1.** – The citation was revised to refer to the current version of the WV Code.
- **Condition 3.3.1.b.** – This condition was updated to include the following additional language: “If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit shall be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.”
- **Condition 3.5.3.** – This condition was updated to include the current EPA mailing address.
- **Condition 3.5.4.** – This condition was updated because the requirement to submit a certified emissions statement was removed from 45CSR30 effective March 31, 2023.
- **Condition 3.5.8.a.2.** – This condition was updated to replace the word “telefax” with “email” according to the change in 45CSR30 effective March 31, 2023.

Updated Permit Language Due to Rule/Regulation Language Changes:

- **Conditions 6.1.5.a.3., 6.1.6., 6.1.6.2. and 6.1.6.3.** – These conditions were amended to match the current version of 40 CFR 60 Subpart III.

Changes requested in the permit renewal application:

- **Condition 1.1.** – The Emission Units table was revised to add to the Emission Unit Description for Emission Units 12S and 13S, change the Design Capacity for Emission Unit 13S from 500 gallons to 1,000 gallons and remove Emission Unit 18S.
- **Conditions 3.7.2.b. and 3.7.2.c.** – These conditions were revised to delete the information related to Emission Unit 18S.
- **Condition 4.0.** – The reference to Emission Unit 18S was deleted.
- **Condition 4.1.1.** – Table 4.1.1.1. was revised to change the VOC emission limits for Emission Units 3S and 4S from 0.39 lb/hr and 1.71 tpy to 0.38 lb/hr and 1.65 tpy, delete Emission Unit 18S and delete footnote 3 regarding Emission Unit 18S. Table 4.1.1.1.2. was revised to delete Emission Unit 18S.
- **Conditions 4.1.7. and 4.1.8.** – This condition was revised to include an ATV-type vehicle equipped with a spray rig to be used in lieu of a water truck.
- **Conditions 4.1.10. and 4.2.2.** – These conditions were revised to delete the reference to 18S in the notation.
- **Condition 4.2.12.** – This condition was deleted because ~~in it~~ was for Emission Unit 18S and is now listed as “Reserved.”
- ~~**Condition 4.5.4.(1)** – This condition was deleted because in was for Emission Unit 18S and is now listed as “Reserved.”~~

Non-Applicability Determinations

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

- a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.

- b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral.
- c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart.
- d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral ~~Wood~~-Wool Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
- e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. **45CSR19 and 45CSR21 WV NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
- h. **45CSR27 - WV Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

Request for Variances or Alternatives

None.

Insignificant Activities

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

Comment Period

Beginning Date: (Date of Notice Publication)

Ending Date: (Publication Date PLUS 30 Days)

Point of Contact

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

Dan Roberts
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/926-0499 ext. 41902
Daniel.p.roberts@wv.gov

Procedure for Requesting Public Hearing

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

Response to Comments (Statement of Basis)

Not applicable.



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Re: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>

Sun, Nov 24, 2024 at 9:31 AM

To: Michael Zeiders <mzeiders@libertyenviro.com>, "Logan M. Martin" <Immartin@armstrongceilings.com>

Cc: Gavin Biebuyck <gbiebuyck@libertyenviro.com>, "McCumbers, Carrie" <Carrie.McCumbers@wv.gov>, Joseph R Kessler <joseph.r.kessler@wv.gov>

Mr. Zeiders,

Good morning. I tried to call your office number on Friday afternoon and left a message. To answer your question in your email, you will need to complete the Application for NSR Permits and Title V Operating Permit Revision form found on the DAQ's website at <https://dep.wv.gov/daq/permitting/Documents/Application-05-24-2010.pdf>. You will check the boxes to request an NSR Class I Administrative Update and a Title V minor modification. You must also complete Attachment S: Title V Revision Information found at <https://dep.wv.gov/daq/permitting/Documents/AttachmentS04-21-08.pdf>. Complete these and have them signed by a responsible official or authorized representative and then just use copies of the applicable attachments from the Title V application (Plot Plan, PFD, Equipment Table, Emission Unit for for 13S, Emissions Inventory, MSDS, etc.).

Most all of the proposed changes will fit under the umbrella of the Class I Administrative Update / Title V Minor Modification, but I have concerns on how to incorporate the new binder (Drakeol 35) and the addition of metallurgical coke. First, the current binder (Xiameter (R) Mem-1727) is only mentioned in the R30-03500049-2019 renewal application in Attachment I - Emissions Inventory in a footnote to Table 3 and is not mentioned by name in NSR permit R13-2864D. Therefore, I believe that as long as the VOC content and application rates are equal to or less than the original binder, that you can use the new binder because the potential to emit, which is listed in the permit, will not change. If you would like a written confirmation in the future for this or any additional new binders, you can submit a PDF (Permit Determination Form) to obtain an official decision from the DAQ. If the binder name is actually listed in the permit, then you would have to file a Class I (or II) Administrative Update every time a new binder is added.

Second, the evaluation of small adds (< or = to 0.5% of throughput) of metallurgical coke to the slag to adjust the carbon content has not been addressed before in any of the applications, permits, etc. that I have reviewed. It appears that a maximum of 876 TPY of metallurgical coke could be added, but there is no explanation on how this change may affect the currently calculated emissions. If there would be any increase in emissions of any regulated pollutant, then this change would not be able to be incorporated into this Class I administrative update and would have to be addressed through a different permitting action at a later time.

When you do submit the application, please reference in the email and cover letter that you are requesting to have the NSR Class I Administrative Update assigned to me. I have spoken with Joe Kessler, NSR Program Manager, and let him know that we have been working on this and to expect the application.

I will be out of the office on vacation this coming week, but will be checking my emails and staying up to speed and available to answer any questions that may arise. The best way to get in touch with me will be my cell phone at 304-767-1222. If I am not able to answer, please leave a message and I will get back to you as soon as I can.

Sincerely,

Dan Roberts

WV Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV

(304) 926-0499 ext. 41902

daniel.p.roberts@wv.gov

On Fri, Nov 22, 2024 at 3:56 PM Michael Zeiders <mzeiders@libertyenviro.com> wrote:

Thanks Logan.

I'll give Dan a call.

Sincerely,



Michael D. Zeiders

Project Manager

Direct: 610.288.1540 **Office:** 610.375.9301

mzeiders@libertyenviro.com

505 Penn Street, Suite 400 Reading PA 19601



ENVIRONMENT | ENERGY | GEOTECH

From: Logan M. Martin <LMMartin@armstrongceilings.com>

Sent: Friday, November 22, 2024 3:09 PM

To: Daniel P Roberts <daniel.p.roberts@wv.gov>

Cc: Gavin Biebuyck <gbiebuyck@libertyenviro.com>; Michael Zeiders <mzeiders@libertyenviro.com>

Subject: FW: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

Hey guys,

I just wanted to get you all in touch with Mr.Roberts.

I don't think I was explaining the questions that you were asking Mike very well so instead of being the middle man just figured this would be easier.

We just need to have the changes made by next Thursday preferably but at the latest by the 4th of next month.

I will be out of office on Monday but will be in on Tuesday and Wednesday so I will reach back out to everyone.

Thanks!

Logan

From: Michael Zeiders <mzeiders@libertyenviro.com>
Sent: Friday, November 22, 2024 10:49 AM
To: Logan M. Martin <LMMartin@armstrongceilings.com>
Cc: Gavin Biebuyck <gbiebuyck@libertyenviro.com>
Subject: RE: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

*** This email originated from outside of Armstrong World Industries.**

Logan,

He is requesting that you submit an R13 administrative update to update your NSR permit. If he's willing to be flexible and just let us submit Title V forms, this could be fairly straightforward. I will take a look at the information that he sent. If you do talk to him today, let him know that the R13 permit markup that he sent appears to be corrupted. I can't open it.

Sincerely,



**Michael D.
Zeiders**

*Project
Manager*

Direct: 610.288.1540 **Office:**
610.375.9301

mzeiders@libertyenviro.com

505 Penn Street, Suite 400
Reading PA 19601



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From: Logan M. Martin <LMMartin@armstrongceilings.com>
Sent: Friday, November 22, 2024 9:03 AM
To: Michael Zeiders <mzeiders@libertyenviro.com>; Gavin Biebuyck <gbiebuyck@libertyenviro.com>
Subject: FW: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

May need your all's help with this.

I sent him my cell number so I am expecting him to reach out to me today.

Thanks

Logan

From: Roberts, Daniel P <daniel.p.roberts@wv.gov>
Sent: Thursday, November 21, 2024 2:45 PM
To: Logan M. Martin <LMMartin@armstrongceilings.com>
Subject: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

You don't often get email from daniel.p.roberts@wv.gov. [Learn why this is important](#)

*** This email originated from outside of Armstrong World Industries.**

Mr. Martin,

Good afternoon. I am working on your Title V renewal application and need to touch base with you. I tried the number listed in the application (304-206-2847) and talked to Matt and he gave me another number (717-201-9268) that didn't work. Can you provide me with a current number to reach you at?

The reason I need to speak with you is that most of the changes which were proposed with the renewal application must be changed in your current NSR permit R13-2864D first. Luckily, they may be done through an NSR Class I Administrative Update application/Title V minor modification which will not require any fee or newspaper notification. You would just need to complete the basic application and copy the applicable parts of the Title V application to attach to it. I have spoken with Joe Kessle, the NSR Program Manager, and have requested to have that application assigned to me since I am already up to speed on this and can get it approved quickly. But time is of the essence.

I have attached the Title V draft proposed permit and fact sheet with the deletions marked in red and struck out and the additions noted in blue and underlined. I have also attached a draft modified NSR permit R13-2864D.

Please call me at your earliest convenience to discuss what needs to be done and the timing.

Sincerely,

Dan Roberts

WV Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV

(304) 926-0499 ext. 41902

daniel.p.roberts@wv.gov



Roberts, Daniel P <daniel.p.roberts@wv.gov>

RE: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

1 message

Michael Zeiders <mzeiders@libertyenviro.com> Fri, Nov 22, 2024 at 3:56 PM
To: "Logan M. Martin" <LMMartin@armstrongceilings.com>, Daniel P Roberts <daniel.p.roberts@wv.gov>
Cc: Gavin Biebuyck <gbiebuyck@libertyenviro.com>

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Sincerely,



Michael D. Zeiders
Project Manager

Direct: 610.288.1540 **Office:** 610.375.9301

mzeiders@libertyenviro.com

505 Penn Street, Suite 400 Reading PA 19601



ENVIRONMENT | ENERGY | GEOTECH

From: Logan M. Martin <LMMartin@armstrongceilings.com>
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Subject: FW: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

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I will be out of office on Monday but will be in on Tuesday and Wednesday so I will reach back out to everyone.

Thanks!

Logan

From: Michael Zeiders <mzeiders@libertyenviro.com>

Sent: Friday, November 22, 2024 10:49 AM

To: Logan M. Martin <LMMartin@armstrongceilings.com>

Cc: Gavin Biebuyck <gbiebuyck@libertyenviro.com>

Subject: RE: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

* This email originated from outside of Armstrong World Industries.

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**Michael D.
Zeiders**

*Project
Manager*

Direct: 610.288.1540 **Office:**
610.375.9301

mzeiders@libertyenviro.com

505 Penn Street, Suite 400
Reading PA 19601



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From: Logan M. Martin <LMMartin@armstrongceilings.com>
Sent: Friday, November 22, 2024 9:03 AM
To: Michael Zeiders <mzeiders@libertyenviro.com>; Gavin Biebuyck <gbiebuyck@libertyenviro.com>
Subject: FW: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

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Thanks

Logan

From: Roberts, Daniel P <daniel.p.roberts@wv.gov>
Sent: Thursday, November 21, 2024 2:45 PM
To: Logan M. Martin <LMMartin@armstrongceilings.com>
Subject: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

You don't often get email from daniel.p.roberts@wv.gov. [Learn why this is important](#)

*** This email originated from outside of Armstrong World Industries.**

Mr. Martin,

Good afternoon. I am working on your Title V renewal application and need to touch base with you. I tried the number listed in the application (304-206-2847) and talked to Matt and he gave me another number (717-201-9268) that didn't work. Can you provide me with a current number to reach you at?

The reason I need to speak with you is that most of the changes which were proposed with the renewal application must be changed in your current NSR permit R13-2864D first. Luckily, they may be done through an NSR Class I Administrative Update application/Title V minor modification which will not require any fee or newspaper notification. You would just need to complete the basic application and copy the applicable parts of the Title V application to attach to it. I have spoken with Joe Kessle, the NSR Program Manager, and have requested to have that application assigned to me since I am already up to speed on this and can get it approved quickly. But time is of the essence.

I have attached the Title V draft proposed permit and fact sheet with the deletions marked in red and struck out and the additions noted in blue and underlined. I have also attached a draft modified NSR permit R13-2864D.

Please call me at your earliest convenience to discuss what needs to be done and the timing.

Sincerely,

Dan Roberts

WV Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV

(304) 926-0499 ext. 41902

daniel.p.roberts@wv.gov



Roberts, Daniel P <daniel.p.roberts@wv.gov>

FW: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

1 message

Logan M. Martin <LMMartin@armstrongceilings.com>

Fri, Nov 22, 2024 at 3:09 PM

To: Daniel P Roberts <daniel.p.roberts@wv.gov>

Cc: Gavin Biebuyck <gbiebuyck@libertyenviro.com>, Michael Zeiders <mzeiders@libertyenviro.com>

Hey guys,

I just wanted to get you all in touch with Mr.Roberts.

I don't think I was explaining the questions that you were asking Mike very well so instead of being the middle man just figured this would be easier.

We just need to have the changes made by next Thursday preferably but at the latest by the 4th of next month.

I will be out of office on Monday but will be in on Tuesday and Wednesday so I will reach back out to everyone.

Thanks!

Logan

From: Michael Zeiders <mzeiders@libertyenviro.com>**Sent:** Friday, November 22, 2024 10:49 AM**To:** Logan M. Martin <LMMartin@armstrongceilings.com>**Cc:** Gavin Biebuyck <gbiebuyck@libertyenviro.com>**Subject:** RE: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

* This email originated from outside of Armstrong World Industries.

Logan,

He is requesting that you submit an R13 administrative update to update your NSR permit. If he's willing to be flexible and just let us submit Title V forms, this could be fairly straightforward. I will take a look at the information that he sent. If you do talk to him today, let him know that the R13 permit markup that he sent appears to be corrupted. I can't open it.

Sincerely,



Michael D. Zeiders

Project Manager

Direct: 610.288.1540 **Office:** 610.375.9301

mzeiders@libertyenviro.com

505 Penn Street, Suite 400 Reading PA 19601



ENVIRONMENT | ENERGY | GEOTECH

From: Logan M. Martin <LMMartin@armstrongceilings.com>

Sent: Friday, November 22, 2024 9:03 AM

To: Michael Zeiders <mzeiders@libertyenviro.com>; Gavin Biebuyck <gbiebuyck@libertyenviro.com>

Subject: FW: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

May need your all's help with this.

I sent him my cell number so I am expecting him to reach out to me today.

Thanks

Logan

From: Roberts, Daniel P <daniel.p.roberts@wv.gov>
Sent: Thursday, November 21, 2024 2:45 PM
To: Logan M. Martin <LMMartin@armstrongceilings.com>
Subject: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

You don't often get email from daniel.p.roberts@wv.gov. [Learn why this is important](#)

*** This email originated from outside of Armstrong World Industries.**

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[Charleston, WV](#)

(304) 926-0499 ext. 41902

daniel.p.roberts@wv.gov



Roberts, Daniel P <daniel.p.roberts@wv.gov>

RE: Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

1 message

Logan M. Martin <LMMartin@armstrongceilings.com>
To: "Roberts, Daniel P" <daniel.p.roberts@wv.gov>

Fri, Nov 22, 2024 at 8:36 AM

Call me at 304-532-0993 and leave a voicemail if I don't answer.

Thank you

Logan

From: Roberts, Daniel P <daniel.p.roberts@wv.gov>**Sent:** Thursday, November 21, 2024 2:45 PM**To:** Logan M. Martin <LMMartin@armstrongceilings.com>**Subject:** Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

You don't often get email from daniel.p.roberts@wv.gov. [Learn why this is important](#)

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[Charleston, WV](#)

(304) 926-0499 ext. 41902

daniel.p.roberts@wv.gov



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Draft/Proposed - Armstrong World Industries, Inc. - Armstrong Millwood Plant - R30-03500049-2025

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>
To: "McCumbers, Carrie" <Carrie.McCumbers@wv.gov>

Thu, Nov 21, 2024 at 2:53 PM

Carrie,

Hey. I have attached copies of the draft/proposed permit, fact sheet and notice for the above referenced facility's renewal application. Let me know if you have any questions or need anything else.

I have tried to contact Logan Martin, EHS Manager, regarding the modifications that need to be done to their current NSR permit R13-2864D, but have not heard back from him. Most of it can clearly be handled through a Class I AU and I have already spoken with Joe. I'll keep you posted.

Thanks,
Dan

3 attachments**concurrent notice R30-03500049-2025.docx**
18K**DPFactSheet R30-03500049-2025 11-21-24 CLEAN.docx**
89K**DPPermit R30-03500049-2025 11-21-24 CLEAN.docx**
289K

West Virginia Department of Environmental Protection

*Harold D. Ward
Cabinet Secretary*

Permit to Operate



Pursuant to
Title V
of the Clean Air Act

Issued to:
Armstrong World Industries, Inc.
Armstrong Millwood Plant
R30-03500049-2025

Laura M. Crowder
Director, Division of Air Quality

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

Permit Number: **R30-03500049-2025**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Permittee Mailing Address: **P.O. Box 220, Millwood, WV 25262**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 C Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Millwood, Jackson County, West Virginia
Facility Mailing Address:	141 Sensenich Drive, Millwood, WV 25262
Telephone Number:	304-273-3900
Type of Business Entity:	Corporation
Facility Description:	Slag wool manufacturing facility
SIC Codes:	3296
UTM Coordinates:	427.2 km Easting \$ 4,307 km Northing \$ Zone 17

Permit Writer: Dan Roberts

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

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1S	1-2E	Raw Material Transfer and Electric Arc Furnace (EAF)	2011	40,000 lb/hr	Scrubber 1C & Dust Collector 2C
3S	3-4E	Spinner Collection Chamber #1	2011	34,500 lb/hr	Baghouse 3C
4S	3-4E	Spinner Collection Chamber #2	2011		Baghouse 4C
6S	6E	Hydrated Lime Storage Silo	2011	3,300 cfm	Filter 6C
7S	7E	Backup Generator	2011	500 kWe	N/A
8S	Fugitive	Haulroads	2011	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	175,000 tpy	N/A
10S	10E	Cooling Tower #1	2011	1,500 GPM	N/A
11S	Fugitive	Railcar Unloading	2011	300 TPH	N/A
12S	Fugitive	Diesel Storage Tank #1 – Emergency Generator	2011	900 Gal	N/A
13S	Fugitive	Diesel Storage Tank #2 – Front End Loader	2011	1,000 Gal	N/A
15S	8E	Slag Wool Processing Line #1	2011	28,000 lb/hr (based on a 24-hour average)	Baghouse 7C
16S	8E	Slag Wool Processing Line #2	2011		Baghouse 7C
17S	17E	Cooling Tower #2	2011	800 GPM	N/A

¹ Control Device abbreviations: WS – Wet Suppression

1.2 Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2864D	September 23, 2019

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 other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.39.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM₁₀	Particulate Matter less than 10µm in diameter
CES	Certified Emission Statement	pph	Pounds per Hour
C.F.R. or CFR	Code of Federal Regulations	ppm	Parts per Million
CO	Carbon Monoxide	PSD	Prevention of Significant Deterioration
C.S.R. or CSR	Codes of State Rules	psi	Pounds per Square Inch
DAQ	Division of Air Quality	SIC	Standard Industrial Classification
DEP	Department of Environmental Protection	SIP	State Implementation Plan
FOIA	Freedom of Information Act	SO₂	Sulfur Dioxide
HAP	Hazardous Air Pollutant	TAP	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	TPY	Tons per Year
HP	Horsepower	TRS	Total Reduced Sulfur
lbs/hr or lb/hr	Pounds per Hour	TSP	Total Suspended Particulate
LDAR	Leak Detection and Repair	USEPA	United States Environmental Protection Agency
m	Thousand	UTM	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	VEE	Visual Emissions Evaluation
mm	Million	VOC	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour		
NA or N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.

[45CSR§30-6.4.]

2.7. Minor Permit Modifications

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.

[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.

[45CSR§30-6.5.b.]

2.9. Emissions Trading

- 2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.

[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
- b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
- c. The change shall not qualify for the permit shield.
- d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.40]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

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

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
- b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

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

[45CSR§30-5.1.f.2.]

2.17. Reserved

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

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

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

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

[45CSR§30-4.2.]

2.21. Permit Shield

- 2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

[45CSR§30-5.6.a.]

- 2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§305.6.c.]

2.22. Credible Evidence

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

[45CSR§30-5.3.e.3.B.]

2.23. Severability

- 2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

[45CSR§305.1.e.]

2.24. Property Rights

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

[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

- 2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.
- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
 - b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
 - c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1 Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. [45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. [40 C.F.R. §61.145(b) and 45CSR34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. [45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. [45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. [W.Va. Code § 22-5-4(a)(15)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.

[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

3.2. Monitoring Requirements

- 3.2.1. Reserved.

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a sourcespecific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a sourcespecific 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 shall be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 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 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language.
 2. The result of the test for each permit or rule condition.
 3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 2254(a)(15-16) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.]

- 3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. and 5.1.c.3.D.]
- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]
- 3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

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

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

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

- 3.5.4. **Fees.** The permittee shall pay fees on an annual basis in accordance with 45CSR§30-8.
[45CSR§30-8.]
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the

certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
[R3 APD Permits@epa.gov](mailto:R3_APD_Permits@epa.gov)

[45CSR§30-5.3.e.]

- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

- 3.5.7. **Reserved.**

- 3.5.8. **Deviations.**

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
1. Reserved.
 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 3. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 4. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 5. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.
[45CSR§30-5.1.c.3.B.]

- 3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

- 3.6.1. Reserved.

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.
- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.
 - a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.
 - b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral.
 - c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart.
 - d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combo of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
 - e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
 - f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
 - g. **45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.

- h. **45CSR27 - Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

4.0 Manufacturing Process Sources Requirements [1S, 3S, 4S, 6S, 9S, 11S, 15S, 16S]

4.1. Limitations and Standards

4.1.1. Emissions from the facility shall not exceed the limitations set forth in Tables 4.1.1.1 and 4.1.1.2:

Table 4.1.1.1.

Source	PM		PM ₁₀ ¹		NO _x		VOC		SO ₂		CO	
	lb/hr	tpy	lb/hr	Tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.00	55.00 ²	240.90
3S	7.09	31.06	7.09	31.06	--	--	0.38	1.65	--	--	--	--
4S	7.09	31.06	7.09	31.06	--	--	0.38	1.65	--	--	--	--
6S	1.13	4.95	1.13	4.95	--	--	--	--	--	--	--	--
9S	--	1.98	--	0.97	--	--	--	--	--	--	--	--
11S	0.02	0.10	0.01	0.05	--	--	--	--	--	--	--	--
15S/16S	2.39	10.47	2.39	10.47	--	--	--	--	--	--	--	--

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

²Hourly CO emission limits from the EAF are 55 pounds per hour based on a rolling 30 day average and 100 pounds per hour based on a rolling 24 hour average.

Table 4.1.1.2

Source	Mn		VOC HAP		Total HAP	
	lb/hr	Tpy	lb/hr	Tpy	lb/hr	tpy
1S	0.28	1.25	--	--	0.28	1.25
3S	0.78	3.40	--	--	0.78	3.40
4S	0.78	3.40	--	--	0.78	3.40
6S	--	--	--	--	--	--
9S	0.02	0.22	--	--	0.02	0.22
11S	0.01	0.01	--	--	0.01	0.01
15S/16S	0.26	1.15	--	--	0.26	1.15

Compliance with the PM emission limits shall demonstrate compliance with the less stringent PM emission limits of 45CSR§7-4.1.

[45CSR13, R13-2864, 4.1.1 and 4.1.9.2, Tables 4.1.1.1 and 4.1.1.2, 45CSR§7-4.1.]

4.1.2. The total annual SO₂ emissions from the Submerged Electric Arc Furnace (1S) shall not exceed 245 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.2]

4.1.3. The Furnace Dry Scrubber (1C) shall be designed, installed, operated and maintained so as to ensure compliance with the emission limits of 4.1.1. Operation of the scrubber is only required when necessary to meet the emission limits of 4.1.1.

[45CSR13, R13-2864, 4.1.3]

4.1.4. For the purpose of complying with the PM/PM₁₀/PM_{2.5} emission limits of condition 4.1.1 of this permit, all of the dust collectors shall be operated according to the following requirements:

The permittee has determined the optimal ranges for the pressure drop across baghouses 2C, 3C, 4C and 7C. The permittee shall maintain on site, and update as necessary, a certified report listing the operating ranges.

[45CSR13, R13-2864, 4.1.4]

- 4.1.5. Manganese content of the slag entering the furnace shall not exceed 10.95% (equivalent to 14.14% MnO).
[45CSR13, R13-2864, 4.1.5]
- 4.1.6. The total annual Mn emissions from the facility shall not exceed 9.6 tons per year based on a rolling 12 month total basis.
[45CSR13, R13-2864, 4.1.12.]
- 4.1.7. Fugitive particulate emissions resulting from use of haulroads and mobile work areas shall be minimized by the following:

- a. The permittee shall maintain a water truck (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) on site and in good operating condition, and shall utilize same to apply a either water or a mixture of water and an environmentally acceptable dust control additive, hereinafter referred to as solution, as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from unpaved haulroads and other unpaved work areas where mobile equipment is used. The spraybar shall be equipped with commercially available spray nozzles, of sufficient size and number, so as to provide adequate coverage to the area being treated.

The pump delivering the solution, shall be of sufficient size and capacity so as to be capable of delivering to the spray nozzle(s) an adequate quantity of solution, and at a sufficient pressure, so as to assure that the treatment process will minimize the atmospheric entrainment of fugitive particulate emissions generated from the unpaved haulroads and work areas where mobile equipment is used.

- b. All unpaved haulroads, access roads, stockpile and work areas shall be kept clean and in good condition by replacing base material and/or grading as required.
- c. If tracking of solids by vehicular traffic from access and/or haulroads onto any public road or highway occurs and generates or has the potential to generate fugitive particulate emissions, the registrant shall properly operate and maintain an underbody truck wash, rumble strips or employ other suitable measures to maintain effective fugitive dust control of the premises and minimize the emission of particulate matter.

[45CSR13, R13-2864, 4.1.6]

- 4.1.8. The permittee shall ensure that the water trucks (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) and/or water sprays are properly equipped with winterization systems capable of operating in a manner such that all such fugitive dust control systems remain effective and functional, to the maximum extent practicable, during winter months and cold weather. At all times, including periods of cold weather, the registrant shall comply with the water trucks (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) and/or water sprays requirements of this permit.
[45CSR13, R13-2864, 4.1.7]

- 4.1.9. Total slag throughput to the EAF shall not exceed 175,200 tons per year on a rolling 12 month total.
[45CSR13, R13-2864, 4.1.8]
- 4.1.10. 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 for 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§7-3.1 & 45CSR§7-3.2, 45CSR13, R13-2864, 4.1.9.1 (1S, 3S, 4S, 15S, 16S)]
- 4.1.11. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process that pursuant to Condition 4.1.13. is required to have a full enclosure and be equipped with a particulate matter control device.
[45CSR§7-3.7.] (6S)
- 4.1.12. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.
[45CSR§7-4.12.]
- 4.1.13. 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., 45CSR13, R13-2864, 4.1.9.3]
- 4.1.14. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.
[45CSR§7-5.2., 45CSR13, R13-2864, 4.1.9.4]
- 4.1.15. 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. of 45CSR10.
[45CSR§10-4.1., 45CSR13, R13-2864, 4.1.10.] (1S)
- 4.1.16. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.10., 45CSR13, R13-2864, 4.1.13]

4.2. Monitoring Requirements

- 4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturers recommendations concerning maintenance and performance.
[45CSR13, R13-2864, 4.2.1]

- 4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, R13-2864, 4.2.2] (1S, 3S, 4S, 6S, 15S, 16S)

- 4.2.3. The permittee shall install, maintain and operate instrumentation to continuously monitor and record at least once per operating day the control device parameters (1C, 2C, 3C, 4C and 7C) as determined by conditions 4.1.3 and 4.1.4 of this permit at all times that the emission source(s) is/are in operation.

[45CSR13, R13-2864, 4.2.3]

[40 C.F.R. § 64.3(b)(4)(iii); 45CSR§30-5.1.c.] (2C, 7C)

- 4.2.4. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of SO₂, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 2 as appropriate, and Performance Specification 4, 4a or 4b (CO) as appropriate.

[45CSR13, R13-2864, 4.2.4]

- 4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.15 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier. Alternatively, the permittee may obtain a fuel sample of each shipment and perform analytical testing to determine the sulfur content.

[45CSR13, R13-2864, 4.2.5]

- 4.2.6. To show compliance with the SO₂ limit in condition 4.1.2 of this permit, monthly SO₂ emissions from the submerged electric arc furnace shall be calculated (using SO₂ CEMS) by the 15th of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.7]

- 4.2.7. In order to determine compliance with conditions 4.1.1. and 4.1.5 of this permit, the permittee shall obtain representative samples from each shipment of slag from each supplier for the first week of operation (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) to be analyzed for the Manganese content (percent Manganese by weight). The manganese content from each type of slag shall be averaged for the week in order to determine a baseline manganese content for that suppliers slag. After the first week of samples, the permittee shall continue to collect the weeks worth of samples (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) at least once per month to either confirm the existing or reestablish a new baseline Mn level for that supplier. If the permittee adds a new slag supplier, the permittee shall collect samples for each shipment for one week in order to establish the baseline Mn content for that supplier.

If the baseline Mn content of the slag from any supplier exceeds the Mn level permitted in condition 4.1.5 of this permit, Armstrong shall maintain a record documenting, any time that specific slag is used in the furnace, that the Mn content of the slag blend entering the furnace does not exceed the Mn level permitted in Condition 4.1.5 of this permit.

[45CSR13, R13-2864, 4.2.9]

- 4.2.8. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of CO, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 4, 4a or 4b as appropriate.

[45CSR13, R13-2864, 4.2.6]

- 4.2.9. The permittee shall maintain monthly records of slag throughput to the EAF.

[45CSR13, R13-2864, 4.2.11]

- 4.2.10. To show compliance with the Mn emission limit in condition 4.1.6. of this permit, monthly Mn emissions from the facility shall be calculated (mass balance) by the 15th day of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.12]

- 4.2.11. To show compliance with the CO limit in condition 4.1.1 of this permit, monthly CO emissions from the submerged electric arc furnace shall be calculated (using CO CEMS) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.10]

- 4.2.12. **Reserved.**

- 4.2.13. **CAM Indicator Range for 2C** – While the Raw Material Transfer and EAF is operating, the static pressure drop across the Furnace Dust Collector (2C) shall be greater than or equal to 1.0 and less than or equal to 7.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.
[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (1S)
- 4.2.14. **CAM Indicator Range for 7C** – While the Slag Wool Processing Lines #1 or #2 (or both simultaneously) are operating, the static pressure drop across the Fiber Line Baghouse (7C) shall be greater than or equal to 0.5 and less than or equal to 9.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.
[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (15S, 16S)
- 4.2.15. **Excursion Definition for the Raw Material Transfer and EAF** – For the purposes of 40 C.F.R. Part 64, an excursion for the Raw Material Transfer and EAF (1S) is a static pressure drop across the Furnace Dust Collector (2C) outside of the indicator range specified in permit condition 4.2.13. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.
[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (1S)
- 4.2.16. **Excursion Definition for the Slag Wool Processing Lines #1 and #2** – For the purposes of 40 C.F.R. Part 64, an excursion for the Slag Wool Processing Lines #1 and #2 (15S and 16S) is a static pressure drop across the Fiber Line Baghouse (7C) outside of the indicator range specified in permit condition 4.2.14. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.
[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (15S, 16S)
- 4.2.17. **Commencement of operation** – The permittee shall conduct the monitoring required under 40 C.F.R. Part 64 upon issuance of this permit that includes such monitoring.
[40 C.F.R. § 64.7(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)
- 4.2.18. **Proper Maintenance** – At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
[40 C.F.R. § 64.7(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)
- 4.2.19. **Continued Operation** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 C.F.R. Part 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 C.F.R. § 64.7(c); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.20. Response to Excursions or Exceedances

- (1) Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (2) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. § 64.7(d); 45CSR§30-5.1.c.] (1S, 15S, 16S)

- 4.2.21. **Documentation of Need for Improved Monitoring** – After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. § 64.7(e); 45CSR§30-5.1.c.] (1S, 15S, 16S)

- 4.2.22. **Quality Improvement Plan (QIP)** – Based on the results of a determination made under §64.7(d)(2) (Response to excursions or exceedances, permit condition 4.2.20.(2)), the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, then it shall be developed, implemented, and modified as required according to 40 C.F.R. §§ 64.8(b) through (e). Refer to permit condition 4.5.4.(2)c. for the reporting required when a QIP is implemented. Notwithstanding the Administrator or the Director requiring the permittee to develop a QIP, the permittee proposed an accumulation of exceedances or excursions exceeding 10 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP.

[40 C.F.R. § 64.8; 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.3. Testing Requirements

- 4.3.1. The permittee shall complete the following performance testing:

The permittee shall perform or have performed EPA approved stack tests to determine emissions of NO_x, VOCs, PM and PM₁₀ from the submerged electric arc furnace.

The permittee shall perform or have performed EPA approved stack tests to determine emissions of PM and PM₁₀ from one of the spinner collection chambers.

The permittee shall perform or have performed EPA approved stack tests to determine emissions of Manganese from one of the spinner collection chambers and the submerged electric arc furnace.

[45CSR13, R13-2864, 4.3.1]

- 4.3.2. Ongoing compliance shall be demonstrated by repeating the above testing (condition 4.3.1.) according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Director's Request
Initial	Between 10% and 50% of limits	Once/5 years
Initial	Between 50% and 90% limits	Once/3 years
Initial	≥90% of limits	Annual
Annual	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Annual	After two successive tests indicate emission rates <90% of limits	Once/3 years
Annual	≥90% of limits	Annual
Once/3 years	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Once/3 years	After two successive tests indicate emission rates <90% of limits	Once/3 years
Once/3 years	≥90% of limits	Annual
Once/5 years	After two successive tests indicate emission rates <10% of limits	Upon Director's Request
Once/5 years	≤50% of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	≥90% of limits	Annual

[45CSR13, R13-2864, 4.3.2]

- 4.3.3. **Quality Assurance / Quality Control Practice** – For the Furnace Dust Collector (2C) and Fiber Line Baghouse (7C), the differential pressure sensing devices shall be electrically tested semi-annually to verify correct readings and that accurate data is being sent to the data logging system. The reading shall be within 0.15 in. of water column. If a reading differs in a value greater than 0.15 in. water column, a vendor shall be utilized as expeditiously as practicable to calibrate the differential pressure sensing device. A vendor shall be scheduled for a regular calibration visit every 3 years. Records of the testing and calibrations shall be maintained in accordance with conditions 3.4.1. and 3.4.2.

[40 C.F.R. § 64.3(b)(3); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.4. Recordkeeping Requirements

4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-2864, 4.4.2.]

4.4.2. **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.

[45CSR13, R13-2864, 4.4.3.]

4.4.3. In order to determine compliance with condition 4.1.5 of this permit, the permittee shall keep monthly records of the Manganese content of the slag. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.4]

4.4.4. The permittee shall maintain monthly records of slag wool production from the facility. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.2.8. and 4.4.5]

4.4.5. In order to demonstrate compliance with the requirements of 4.2.2 of this permit, records of the Method 22 testing and any necessary Method 9 testing shall be retained on site by the permittee for at least five (5) years. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.6]

4.4.6. In order to determine compliance with the requirements of conditions 4.1.15 and 4.2.5 of this permit, the permittee shall maintain records of the fuel oil sulfur content. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.7]

4.4.7. In order to determine compliance with the requirements of condition 4.1.4 of this permit, the permittee shall maintain daily records of the pressure drop across each baghouse. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.8]

- 4.4.8. In order to determine compliance with condition 4.2.9 of this permit, the permittee shall maintain monthly records of slag throughput to the EAF. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.9]

- 4.4.9. **General recordkeeping requirements for 40 C.F.R. Part 64 (CAM).** The permittee shall comply with the recordkeeping requirements specified in permit conditions 3.4.1. and 3.4.2. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 (condition 4.2.22.) and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

[40 C.F.R. § 64.9(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.5. Reporting Requirements

- 4.5.1. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

[45CSR13, R13-2864, 4.5.1]

- 4.5.2. With regard to testing required by section 4.3 of this permit, results shall be submitted to the Director no more than 60 days after the date the testing takes place.

[45CSR13, R13-2864, 4.5.2]

- 4.5.3. The permittee shall comply with all applicable reporting requirements of 45CSR7, 45CSR10, and 45CSR13.

[45CSR13, R13-2864, 4.5.3]

- 4.5.4. **General reporting requirements for 40 C.F.R. Part 64 (CAM)**

(1) Reserved.

- (2) A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:

- a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
- b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

- c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. § 64.9(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.6. Compliance Plan

- 4.6.1. Reserved.

5.0 Storage Tanks [12S and 13S] and Cooling Tower [10S and 17S]

5.1 Limitations and Standards

5.1.1. Emissions from the storage tanks shall not exceed the limitations set forth below:

Source	VOC		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
12S	0.02	0.07	0.02	0.07	0.02	0.07
13S	0.01	0.04	0.01	0.04	0.01	0.04

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 & 4.1.1.2; State-enforceable only]

5.1.2. Emissions from the cooling towers shall not exceed the limitations set forth below:

Source	PM		PM ₁₀ ¹	
	lb/hr	tpy	lb/hr	tpy
10S	0.77	3.37	0.77	3.37
17S	0.41	1.80	0.41	1.80

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Table 4.1.1.1; State-enforceable only]

5.2 Monitoring Requirements

5.2.1. Reserved.

5.3 Testing Requirements

5.3.1. Reserved.

5.4 Recordkeeping Requirements

5.4.1. Reserved.

5.5 Reporting Requirements

5.5.1. Reserved.

5.6 Compliance Plan

5.6.1. Reserved.

6.0 Backup Generator Requirements [7S]

6.1 Limitations and Standards

6.1.1. Emissions from the backup generator, 7S, shall not exceed the following limitations:

Pollutant	Hourly limit in lb/hr	Annual limit in tpy
PM	0.08	0.02
PM ₁₀ ¹	0.08	0.02
NO _x	8.17	2.04
VOC	0.07	0.02
SO ₂	0.31	0.08
CO	1.93	0.48
VOC HAP	0.01	0.002
Total HAP	0.01	0.002

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 and 4.1.1.2; State-enforceable only]

6.1.2. The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart IIII (backup generator 7S) including but not limited to the following:

Emissions from the Backup Generator (7S) shall not exceed the following:

NO _x +NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
4.0	3.5	0.20

[40 C.F.R. §60.4205(b); 45CSR13, R13-2864, 4.1.11.1; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 over the entire life of the engine.

[40 C.F.R. §60.4206; 45CSR13, R13-2864, 4.1.11.2; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.4. The nonroad diesel fuel that is used in the backup generator must have a sulfur content less than 15 parts per million. The nonroad diesel fuel must have a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

[40 C.F.R. §60.4207(b); 45CSR13, R13-2864, 4.1.11.3; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.5. a. If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under Condition 6.1.5.c. of this permit:

1. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

2. Change only those emission-related settings that are permitted by the manufacturer; and
 3. Meet the requirements of 40 CFR part 1068, as they apply to you.
- b. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Condition 6.1.2. of this permit, you must comply by purchasing an engine certified to the emission standards in Condition 6.1.2. for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 6.1.5.c. of this permit.
- c. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[40 C.F.R. §§ 60.4211(a), (c), (g), and (g)(3); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

- 6.1.6. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3), is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
- (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) You may operate your emergency stationary ICE for the purposes specified in paragraph (f)(2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
 - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2) of this condition.

[40 C.F.R. §60.4211(f); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.2. Monitoring Requirements

- 6.2.1. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

[40 C.F.R. §60.4209(b); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.3. Testing Requirements

- 6.3.1. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.3.3]

6.4. Recordkeeping Requirements

- 6.4.1. Reserved.

6.5. Reporting Requirements

- 6.5.1. The permittee shall comply with all applicable reporting requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.5.3]

6.6. Compliance Plan

- 6.6.1. Reserved.

Fact Sheet



***For **Draft/Proposed** Renewal Permitting Action Under 45CSR30 and
Title V of the Clean Air Act***

Permit Number: **R30-03500049-2025**
Application Received: **January 24, 2024**
Plant Identification Number: **03-054-035-00049**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Mailing Address: **P.O. Box 220, Millwood, WV 25262**

Physical Location: Millwood, Jackson County, West Virginia
UTM Coordinates: 472.2 km Easting • 4,307 km Northing • Zone 17
Directions: From US-33 E, turn left onto WV 68 S. Continue on WV 68 S for 0.4 miles. Turn right onto WV 2 S. Continue for approximately 6 miles. Turn right onto Jack Burlingame Road.

Facility Description

The Armstrong World Industries Millwood plant is a slag wool manufacturing facility covered under SIC Code 3296. It typically manufactures slag wool from silicomanganese slag. The plant receives the slag via truck or railcar, stores the slag in outdoor piles, and then transfers the slag to a belt conveyor via front-end loader. The slag is then transferred to a submerged Electric Arc Furnace (EAF) where the slag is melted using graphite electrodes. The molten slag is then transferred to one of two spinners which spin the molten slag into slag wool fibers. The wool fibers are then collected in one of two collection chambers, further processed into slag wool bales, and then shipped off site.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions ¹	Actual Emissions ²
Carbon Monoxide (CO)	241.4	75.02
Nitrogen Oxides (NO _x)	23.9	0.22
Particulate Matter (PM _{2.5})	94.7	16.84
Particulate Matter (PM ₁₀)	99.0	18.59
Total Particulate Matter (TSP)	110.8	47.79
Sulfur Dioxide (SO ₂)	245.0	53.24
Volatile Organic Compounds (VOC)	25.2	0.78
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions ¹	Actual Emissions ²
Manganese Compounds	9.4	5.57
Total HAPs excluding Mn	0.0	Not Reported

Some of the above HAPs may be counted as PM or VOCs.

¹ Potential emissions are from Table 1 of Attachment I in the renewal application.

² Actual emissions are from the State and Local Emissions Inventory System (SLEIS) Summary Report Total Emissions by Source.

Title V Program Applicability Basis

This facility has the potential to emit 241.4 tpy of CO and 245.0 tpy of SO₂. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Armstrong World Industries, Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

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

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

Federal and State:	45CSR6	Open burning prohibited
	45CSR7	PM limits on manufacturing processes
	45CSR10	Emissions of sulfur dioxides
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Construction permits
	45CSR16	New Source Performance Standards
information	WV Code § 22-5-4 (a) (15)	The Secretary can request any pertinent such as annual emission inventory reporting.
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for HAPs
	40 C.F.R. Part 60 Subpart IIII	Stationary Compression Ignition Engines NSPS

	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63 Subpart ZZZZ	RICE MACT
	40 C.F.R. Part 64	Compliance Assurance Monitoring (CAM)
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors

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

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

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2864D	September 23, 2019	

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

Determinations and Justifications

This is the second renewal of the Title V Permit. There were no changes to the existing emission units and control devices or the approved compliance assurance monitoring (CAM) plans. Therefore, there were no changes to CAM applicability or the existing CAM plans.

The following changes have occurred since the most recent Title V permit was issued:

Title V Permit Boilerplate changes:

- **Condition 2.1.3.** – This condition was updated to delete the word “such” which was removed from 45CSR30 effective March 31, 2023. The citation was changed from “45CSR§30-2.12” to “45CSR§30-2.39” because the definition of “Secretary” was renumbered from a previous version of 45CSR30.
- **Condition 2.11.4** – The citation was changed from “45CSR§30-2.39” to “45CSR§30-2.40” because it was renumbered from a previous version of 45CSR30.
- **Conditions 2.17., 3.5.7. and 3.5.8.a.1.** – These conditions were deleted and replaced with “Reserved” because the emergency provisions under 45CSR§30-5.7 were removed from 45CSR30 effective March 31, 2023.
- **Condition 2.22.1** – “45CSR38” was removed from the citation because this rule has been repealed.

- **Conditions 3.1.6. and 3.3.1.** – The citation was revised to refer to the current version of the WV Code.
- **Condition 3.3.1.b.** – This condition was updated to include the following additional language: “If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit shall be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.”
- **Condition 3.5.3.** – This condition was updated to include the current EPA mailing address.
- **Condition 3.5.4.** – This condition was updated because the requirement to submit a certified emissions statement was removed from 45CSR30 effective March 31, 2023.
- **Condition 3.5.8.a.2.** – This condition was updated to replace the word “telefax” with “email” according to the change in 45CSR30 effective March 31, 2023.

Updated Permit Language Due to Rule/Regulation Language Changes:

- **Conditions 6.1.5.a.3., 6.1.6., 6.1.6.2. and 6.1.6.3.** – These conditions were amended to match the current version of 40 CFR 60 Subpart III.

Changes requested in the permit renewal application:

- **Condition 1.1.** – The Emission Unit table was revised to add to the Emission Unit Description for Emission Units 12S and 13S, change the Design Capacity for Emission Unit 13S from 500 gallons to 1,000 gallons and remove Emission Unit 18S.
- **Conditions 3.7.2.b. and 3.7.2.c.** – These conditions were revised to delete the information related to Emission Unit 18S.
- **Condition 4.0.** – The reference to Emission Unit 18S was deleted.
- **Condition 4.1.1.** – Table 4.1.1.1. was revised to change the VOC emission limits for Emission Units 3S and 4S from 0.39 lb/hr and 1.71 tpy to 0.38 lb/hr and 1.65 tpy, delete Emission Unit 18S and delete footnote 3 regarding Emission Unit 18S. Table 4.1.1.1. was revised to delete Emission Unit 18S.
- **Conditions 4.1.7. and 4.1.8.** – This condition was revised to include an ATV-type vehicle equipped with a spray rig to be used in lieu of a water truck.
- **Conditions 4.1.10. and 4.2.2.** – These conditions were revised to delete the reference to 18S in the notation.
- **Condition 4.2.12.** – This condition was deleted because in was for Emission Unit 18S and is now listed as “Reserved.”
- **Condition 4.5.4.(1)** – This condition was deleted because in was for Emission Unit 18S and is now listed as “Reserved.”

Non-Applicability Determinations

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

- a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.

- b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral.
- c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart.
- d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
- e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. **45CSR19 and 45CSR21 WV NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
- h. **45CSR27 - WV Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

Request for Variances or Alternatives

None.

Insignificant Activities

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

Comment Period

Beginning Date: (Date of Notice Publication)

Ending Date: (Publication Date PLUS 30 Days)

Point of Contact

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

Dan Roberts
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/926-0499 ext. 41902
Daniel.p.roberts@wv.gov

Procedure for Requesting Public Hearing

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

Response to Comments (Statement of Basis)

Not applicable.

NOTICE OF COMMENT PERIOD FOR DRAFT/PROPOSED OPERATING PERMIT RENEWAL

Title V of the Federal Clean Air Act and the state Air Pollution Control Act requires that all major sources and certain minor sources have a permit to operate which states all requirements (e.g. emission limitations, monitoring requirements, etc.) established by regulations promulgated under the aforementioned programs. The Division of Air Quality (DAQ) has determined that the draft/proposed permit renewal referenced herein meets this requirement.

The DAQ is providing notice to the general public of its preliminary determination to issue an operating permit renewal to the following company for operation of the referenced slag wool manufacturing facility:

Armstrong World Industries, Inc.
Armstrong Millwood Plant
Plant ID No.: 035-00049
141 Sensenich Drive
Millwood, WV 25262

This notice solicits comments from the public and affected state(s) concerning the above preliminary determination and provides an opportunity for such parties to review the basis for the proposed approval and the "draft" permit renewal. This notice also solicits comments from the U.S. EPA concerning the same preliminary determination and provides an opportunity for the U.S. EPA to concurrently review the basis for the proposed approval as a "proposed" permit.

All written comments submitted by the public and affected state(s) pursuant to this notice must be received by the DAQ within thirty (30) days of the date of publication of this notice. Under concurrent review, written comments submitted by the U.S. EPA must be received by the DAQ within forty-five (45) days from the date of publication of this notice or from the date the U.S. EPA receives this draft/proposed permit renewal, whichever is later. In the event the 30th/45th day is a Saturday, Sunday, or legal holiday, the comment period will be extended until 5:00 p.m. on the following regularly scheduled business day. The public shall have 135 days from the date of publication of this notice to file petitions for concurrently reviewed permits. Upon notice by the U.S. EPA to the DAQ, prior to the end of the 45 day notice period, the U.S. EPA may choose to hold the 30 day comment period on the draft permit and the 45 day comment period on the proposed permit sequentially. During the public comment period any interested person may submit written comments on the draft permit and, if no public hearing has been scheduled, may request a public hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Director of the DAQ shall grant such a request for a hearing if she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located, after 30 day notice is given. The DAQ will consider all written comments prior to final action on the permit.

Copies of the Permit Application, DAQ Fact Sheet, and Draft/Proposed Permit Renewal may be downloaded from the DAQ's web site at:
<https://dep.wv.gov/daq/permitting/titlevpermits/Pages/default.aspx>.

Comments and questions concerning this matter should be addressed to:

WV Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Contact: Dan Roberts
(304) 926-0499 ext.: 41902
Daniel.p.roberts@wv.gov



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Title V Renewal Application for Armstrong World Industries, Inc.'s Armstrong Millwood Plant

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>
To: Immartin@armstrongceilings.com

Thu, Nov 21, 2024 at 2:44 PM

Mr. Martin,

Good afternoon. I am working on your Title V renewal application and need to touch base with you. I tried the number listed in the application (304-206-2847) and talked to Matt and he gave me another number (717-201-9268) that didn't work. Can you provide me with a current number to reach you at?

The reason I need to speak with you is that most of the changes which were proposed with the renewal application must be changed in your current NSR permit R13-2864D first. Luckily, they may be done through an NSR Class I Administrative Update application/Title V minor modification which will not require any fee or newspaper notification. You would just need to complete the basic application and copy the applicable parts of the Title V application to attach to it. I have spoken with Joe Kessle, the NSR Program Manager, and have requested to have that application assigned to me since I am already up to speed on this and can get it approved quickly. But time is of the essence.


I have attached the Title V draft proposed permit and fact sheet with the deletions marked in red and struck out and the additions noted in blue and underlined. I have also attached a draft modified NSR permit R13-2864D.

Please call me at your earliest convenience to discuss what needs to be done and the timing.


Sincerely,

Dan Roberts
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV
(304) 926-0499 ext. 41902
daniel.p.roberts@wv.gov

3 attachments

 **DPFactSheet R30-03500049-2025 11-21-24.docx**
90K

 **DPPermit R30-03500049-2025 11-21-24.docx**
293K

 **035-00049_PERM_13-2864D with my notes.wpd**
571K

West Virginia Department of Environmental Protection

*Harold D. Ward
Cabinet Secretary*

Permit to Operate



Pursuant to
Title V
of the Clean Air Act

Issued to:
Armstrong World Industries, Inc.
Armstrong Millwood Plant
R30-03500049-2024

Laura M. Crowder
Director, Division of Air Quality

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

Permit Number: **R30-03500049-2024**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Permittee Mailing Address: **P.O. Box 220, Millwood, WV 25262**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 C Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Millwood, Jackson County, West Virginia
Facility Mailing Address:	141 Sensenich Drive, Millwood, WV 25262
Telephone Number:	304-273-3900
Type of Business Entity:	Corporation
Facility Description:	Slag wool manufacturing facility
SIC Codes:	3296
UTM Coordinates:	427.2 km Easting \$ 4,307 km Northing \$ Zone 17

Permit Writer: Dan Roberts

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

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1S	1-2E	Raw Material Transfer and Electric Arc Furnace (EAF)	2011	40,000 lb/hr	Scrubber 1C & Dust Collector 2C
3S	3-4E	Spinner Collection Chamber #1	2011	34,500 lb/hr	Baghouse 3C
4S	3-4E	Spinner Collection Chamber #2	2011		Baghouse 4C
6S	6E	Hydrated Lime Storage Silo	2011	3,300 cfm	Filter 6C
7S	7E	Backup Generator	2011	500 kWe	N/A
8S	Fugitive	Haulroads	2011	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	175,000 tpy	N/A
10S	10E	Cooling Tower #1	2011	1,500 GPM	N/A
11S	Fugitive	Railcar Unloading	2011	300 TPH	N/A
12S	Fugitive	Diesel Storage Tank #1 – Emergency Generator	2011	900 Gal	N/A
13S	Fugitive	Diesel Storage Tank #2 – Front End Loader	2011	500 1,000 Gal	N/A
15S	8E	Slag Wool Processing Line #1	2011	28,000 lb/hr (based on a 24-hour average)	Baghouse 7C
16S	8E	Slag Wool Processing Line #2	2011		Baghouse 7C
17S	17E	Cooling Tower #2	2011	800 GPM	N/A
18S	18E	Propane-fueled Sand Dryer	2017	2,000 lb/hr sand- 5 gal/hr propane	None

¹ Control Device abbreviations: WS – Wet Suppression

1.2 Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2864D	September 23, 2019

2.0 General Conditions

2.1. Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or ~~such~~ other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12 39.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM₁₀	Particulate Matter less than 10µm in diameter
CES	Certified Emission Statement	pph	Pounds per Hour
C.F.R. or CFR	Code of Federal Regulations	ppm	Parts per Million
CO	Carbon Monoxide	PSD	Prevention of Significant Deterioration
C.S.R. or CSR	Codes of State Rules	psi	Pounds per Square Inch
DAQ	Division of Air Quality	SIC	Standard Industrial Classification
DEP	Department of Environmental Protection	SIP	State Implementation Plan
FOIA	Freedom of Information Act	SO₂	Sulfur Dioxide
HAP	Hazardous Air Pollutant	TAP	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	TPY	Tons per Year
HP	Horsepower	TRS	Total Reduced Sulfur
lbs/hr or lb/hr	Pounds per Hour	TSP	Total Suspended Particulate
LDAR	Leak Detection and Repair	USEPA	United States Environmental Protection Agency
m	Thousand	UTM	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	VEE	Visual Emissions Evaluation
mm	Million	VOC	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
mmft³/hr or mmcf/hr	Million Cubic Feet Burned per Hour		
NA or N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.

[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.

[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.

[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.

[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
- b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
- c. The change shall not qualify for the permit shield.
- d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.-39 40]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

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

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
- b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

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

[45CSR§30-5.1.f.2.]

2.17. ~~Reserved~~ Emergency

~~2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.~~

~~[45CSR§30-5.7.a.]~~

~~2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.~~

~~[45CSR§30-5.7.b.]~~

~~2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:~~

~~a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;~~

~~b. The permitted facility was at the time being properly operated;~~

~~c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and~~

~~d. Subject to the requirements of 45CSR§30-5.1.e.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.e.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.~~

~~[45CSR§30-5.7.c.]~~

~~2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.~~

~~[45CSR§30-5.7.d.]~~

~~2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.~~

~~[45CSR§305.7.e.]~~

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

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

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

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

[45CSR§30-4.2.]

2.21. Permit Shield

- 2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

[45CSR§30-5.6.a.]

- 2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§305.6.c.]

2.22. Credible Evidence

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

[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

- 2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

[45CSR§305.1.e.]

2.24. Property Rights

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

[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

- 2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
- b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
- c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1 Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. [45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. [40 C.F.R. §61.145(b) and 45CSR34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. [45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. [45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. [W.Va. Code § 22-5-4(a)(~~14~~ 15)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications [R13-2864](#), [R13-2864A](#), [R13-2864B](#), [R13-2864C](#), [R13-2864D](#) 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.

[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

3.2. Monitoring Requirements

- 3.2.1. Reserved.

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a sourcespecific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a sourcespecific 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 shall be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 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 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language.
 2. The result of the test for each permit or rule condition.
 3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 2254(a)(~~14-15~~ 15-16) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.]

- 3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. and 5.1.c.3.D.]
- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]
- 3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

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

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air ~~Section~~, [RCRA and Toxics Branch](#) (3ED21)
[Four Penn Center](#)
~~1650 Arch Street~~ [1600 John F. Kennedy Boulevard](#)
Philadelphia, PA 19103-~~2029~~ [2852](#)

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

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

- 3.5.4. ~~Certified emissions statement~~ **Fees.** The permittee shall ~~submit a certified emissions statement and~~ pay fees on an annual basis in accordance with ~~the submittal requirements of the Division of Air Quality~~ [45CSR§30-8.](#)
[45CSR§30-8.]
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The

annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

- 3.5.7. ~~Reserved. Emergencies. For reporting emergency situations, refer to Section 2.17 of this permit.~~

- 3.5.8. **Deviations.**

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
- ~~Reserved. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.~~
 - Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or ~~telefax~~ email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 - Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

4. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
5. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

- b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.

[45CSR§30-5.1.c.3.B.]

- 3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.

[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

- 3.6.1. Reserved.

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

- a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.

- ~~b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral. In addition, the permittee installed a small propane fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart OOO) because dryers are not an “affected facility” as listed by the regulation.~~

- ~~e. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart. In addition, the permittee installed a small propane fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is~~

~~not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.~~

- d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
- e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. **45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
- h. **45CSR27 - Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

4.0 Manufacturing Process Sources Requirements [1S, 3S, 4S, 6S, 9S, 11S, 15S, 16S, ~~18S~~]

4.1. Limitations and Standards

4.1.1. Emissions from the facility shall not exceed the limitations set forth in Tables 4.1.1.1 and 4.1.1.2:

Table 4.1.1.1.

Source	PM		PM ₁₀ ¹		NO _x		VOC		SO ₂		CO	
	lb/hr	tpy	lb/hr	Tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.00	55.00 ²	240.90
3S	7.09	31.06	7.09	31.06	--	--	0.39 0.38	1.71 1.65	--	--	--	--
4S	7.09	31.06	7.09	31.06	--	--	0.39 0.38	1.71 1.65	--	--	--	--
6S	1.13	4.95	1.13	4.95	--	--	--	--	--	--	--	--
9S	--	1.98	--	0.97	--	--	--	--	--	--	--	--
11S	0.02	0.10	0.01	0.05	--	--	--	--	--	--	--	--
15S/16S	2.39	10.47	2.39	10.47	--	--	--	--	--	--	--	--
18S³	0.1	0.44	0.1	0.44	0.07	0.28	0.01	0.02	--	--	0.03	0.16

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

²Hourly CO emission limits from the EAF are 55 pounds per hour based on a rolling 30 day average and 100 pounds per hour based on a rolling 24 hour average.

~~³Hourly emissions for the Propane-fueled Sand Dryer (18S) are calculated based on burning 5 gal/hr of propane; Annual emissions for the Propane-fueled Sand Dryer (18S) are based on operating for 8,760 hr/yr.~~

Table 4.1.1.2

Source	Mn		VOC HAP		Total HAP	
	lb/hr	Tpy	lb/hr	Tpy	lb/hr	tpy
1S	0.28	1.25	--	--	0.28	1.25
3S	0.78	3.40	--	--	0.78	3.40
4S	0.78	3.40	--	--	0.78	3.40
6S	--	--	--	--	--	--
9S	0.02	0.22	--	--	0.02	0.22
11S	0.01	0.01	--	--	0.01	0.01
15S/16S	0.26	1.15	--	--	0.26	1.15
18S	--	--	--	--	--	--

Compliance with the PM emission limits shall demonstrate compliance with the less stringent PM emission limits of 45CSR§7-4.1.

[45CSR13, R13-2864, 4.1.1 and 4.1.9.2, Tables 4.1.1.1 and 4.1.1.2, 45CSR§7-4.1.]

4.1.2. The total annual SO₂ emissions from the Submerged Electric Arc Furnace (1S) shall not exceed 245 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.2]

- 4.1.3. The Furnace Dry Scrubber (1C) shall be designed, installed, operated and maintained so as to ensure compliance with the emission limits of 4.1.1. Operation of the scrubber is only required when necessary to meet the emission limits of 4.1.1.

[45CSR13, R13-2864, 4.1.3]

- 4.1.4. For the purpose of complying with the PM/PM₁₀/PM_{2.5} emission limits of condition 4.1.1 of this permit, all of the dust collectors shall be operated according to the following requirements:

The permittee has determined the optimal ranges for the pressure drop across baghouses 2C, 3C, 4C and 7C. The permittee shall maintain on site, and update as necessary, a certified report listing the operating ranges.

[45CSR13, R13-2864, 4.1.4]

- 4.1.5. Manganese content of the slag entering the furnace shall not exceed 10.95% (equivalent to 14.14% MnO).

[45CSR13, R13-2864, 4.1.5]

- 4.1.6. The total annual Mn emissions from the facility shall not exceed 9.6 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.12.]

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

- a. The permittee shall maintain a water truck ([or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig](#)) on site and in good operating condition, and shall utilize same to apply a either water or a mixture of water and an environmentally acceptable dust control additive, hereinafter referred to as solution, as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from unpaved haulroads and other unpaved work areas where mobile equipment is used. The spraybar shall be equipped with commercially available spray nozzles, of sufficient size and number, so as to provide adequate coverage to the area being treated.

The pump delivering the solution, shall be of sufficient size and capacity so as to be capable of delivering to the spray nozzle(s) an adequate quantity of solution, and at a sufficient pressure, so as to assure that the treatment process will minimize the atmospheric entrainment of fugitive particulate emissions generated from the unpaved haulroads and work areas where mobile equipment is used.

- b. All unpaved haulroads, access roads, stockpile and work areas shall be kept clean and in good condition by replacing base material and/or grading as required.
- c. If tracking of solids by vehicular traffic from access and/or haulroads onto any public road or highway occurs and generates or has the potential to generate fugitive particulate emissions, the registrant shall properly operate and maintain an underbody truck wash, rumble strips or employ other suitable measures to maintain effective fugitive dust control of the premises and minimize the emission of particulate matter.

[45CSR13, R13-2864, 4.1.6]

- 4.1.8. The permittee shall ensure that the water trucks (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) and/or water sprays are properly equipped with winterization systems capable of operating in a manner such that all such fugitive dust control systems remain effective and functional, to the maximum extent practicable, during winter months and cold weather. At all times, including periods of cold weather, the registrant shall comply with the water trucks (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) and/or water sprays requirements of this permit.
[45CSR13, R13-2864, 4.1.7]
- 4.1.9. Total slag throughput to the EAF shall not exceed 175,200 tons per year on a rolling 12 month total.
[45CSR13, R13-2864, 4.1.8]
- 4.1.10. 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 for 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§7-3.1 & 45CSR§7-3.2, 45CSR13, R13-2864, 4.1.9.1 (1S, 3S, 4S, 15S, 16S, ~~18S~~)]
- 4.1.11. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process that pursuant to Condition 4.1.13. is required to have a full enclosure and be equipped with a particulate matter control device.
[45CSR§7-3.7.] (6S)
- 4.1.12. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.
[45CSR§7-4.12.]
- 4.1.13. 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., 45CSR13, R13-2864, 4.1.9.3]
- 4.1.14. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.
[45CSR§7-5.2., 45CSR13, R13-2864, 4.1.9.4]
- 4.1.15. 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. of 45CSR10.
[45CSR§10-4.1., 45CSR13, R13-2864, 4.1.10.] (1S)

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

[45CSR§13-5.10., 45CSR13, R13-2864, 4.1.13]

4.2. Monitoring Requirements

- 4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturers recommendations concerning maintenance and performance.

[45CSR13, R13-2864, 4.2.1]

- 4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, R13-2864, 4.2.2] *(1S, 3S, 4S, 6S, 15S, 16S, ~~18S~~)*

- 4.2.3. The permittee shall install, maintain and operate instrumentation to continuously monitor and record at least once per operating day the control device parameters (1C, 2C, 3C, 4C and 7C) as determined by conditions 4.1.3 and 4.1.4 of this permit at all times that the emission source(s) is/are in operation.

[45CSR13, R13-2864, 4.2.3]

[40 C.F.R. § 64.3(b)(4)(iii); 45CSR§30-5.1.c.] *(2C, 7C)*

- 4.2.4. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of SO₂ from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 2 as appropriate, and Performance Specification 4, 4a or 4b (CO) as appropriate.

[45CSR13, R13-2864, 4.2.4]

- 4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.15 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier. Alternatively, the

permittee may obtain a fuel sample of each shipment and perform analytical testing to determine the sulfur content.

[45CSR13, R13-2864, 4.2.5]

- 4.2.6. To show compliance with the SO₂ limit in condition 4.1.2 of this permit, monthly SO₂ emissions from the submerged electric arc furnace shall be calculated (using SO₂ CEMS) by the 15th of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.7]

- 4.2.7. In order to determine compliance with conditions 4.1.1. and 4.1.5 of this permit, the permittee shall obtain representative samples from each shipment of slag from each supplier for the first week of operation (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) to be analyzed for the Manganese content (percent Manganese by weight). The manganese content from each type of slag shall be averaged for the week in order to determine a baseline manganese content for that suppliers slag. After the first week of samples, the permittee shall continue to collect the weeks worth of samples (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) at least once per month to either confirm the existing or reestablish a new baseline Mn level for that supplier. If the permittee adds a new slag supplier, the permittee shall collect samples for each shipment for one week in order to establish the baseline Mn content for that supplier.

If the baseline Mn content of the slag from any supplier exceeds the Mn level permitted in condition 4.1.5 of this permit, Armstrong shall maintain a record documenting, any time that specific slag is used in the furnace, that the Mn content of the slag blend entering the furnace does not exceed the Mn level permitted in Condition 4.1.5 of this permit.

[45CSR13, R13-2864, 4.2.9]

- 4.2.8. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of CO, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 4, 4a or 4b as appropriate.

[45CSR13, R13-2864, 4.2.6]

- 4.2.9. The permittee shall maintain monthly records of slag throughput to the EAF.

[45CSR13, R13-2864, 4.2.11]

- 4.2.10. To show compliance with the Mn emission limit in condition 4.1.6. of this permit, monthly Mn emissions from the facility shall be calculated (mass balance) by the 15th day of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.12]

- 4.2.11. To show compliance with the CO limit in condition 4.1.1 of this permit, monthly CO emissions from the submerged electric arc furnace shall be calculated (using CO CEMS) by the 15th date of the subsequent

month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.10]

~~4.2.12. To show compliance with the emission limits given in condition 4.1.1. of this permit, the permittee shall keep a monthly record of hours of operation and propane fuel usage for the Sand Dryer (18S). These monthly records shall be used to calculate a twelve month rolling average hourly fuel usage rate which should not exceed 5gal/hr of propane consumption.~~

~~[45CSR13, R13-2864, 4.2.13.]~~ [Reserved.](#)

4.2.13. **CAM Indicator Range for 2C** – While the Raw Material Transfer and EAF is operating, the static pressure drop across the Furnace Dust Collector (2C) shall be greater than or equal to 1.0 and less than or equal to 7.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.

[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (1S)

4.2.14. **CAM Indicator Range for 7C** – While the Slag Wool Processing Lines #1 or #2 (or both simultaneously) are operating, the static pressure drop across the Fiber Line Baghouse (7C) shall be greater than or equal to 0.5 and less than or equal to 9.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.

[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (15S, 16S)

4.2.15. **Excursion Definition for the Raw Material Transfer and EAF** – For the purposes of 40 C.F.R. Part 64, an excursion for the Raw Material Transfer and EAF (1S) is a static pressure drop across the Furnace Dust Collector (2C) outside of the indicator range specified in permit condition 4.2.13. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.

[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (1S)

4.2.16. **Excursion Definition for the Slag Wool Processing Lines #1 and #2** – For the purposes of 40 C.F.R. Part 64, an excursion for the Slag Wool Processing Lines #1 and #2 (15S and 16S) is a static pressure drop across the Fiber Line Baghouse (7C) outside of the indicator range specified in permit condition 4.2.14. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.

[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (15S, 16S)

4.2.17. **Commencement of operation** – The permittee shall conduct the monitoring required under 40 C.F.R. Part 64 upon issuance of this permit that includes such monitoring.

[40 C.F.R. § 64.7(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.18. **Proper Maintenance** – At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

[40 C.F.R. § 64.7(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

- 4.2.19. **Continued Operation** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 C.F.R. Part 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 C.F.R. § 64.7(c); 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

4.2.20. **Response to Excursions or Exceedances**

- (1) Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (2) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. § 64.7(d); 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

- 4.2.21. **Documentation of Need for Improved Monitoring** – After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. § 64.7(e); 45CSR§30-5.1.c.] *(1S, 15S, 16S)*

- 4.2.22. **Quality Improvement Plan (QIP)** – Based on the results of a determination made under §64.7(d)(2) (Response to excursions or exceedances, permit condition 4.2.20.(2)), the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, then it shall be developed, implemented, and modified as required according to 40 C.F.R. §§ 64.8(b) through (e). Refer to permit condition 4.5.4.(2)c. for the reporting required when a QIP is implemented. Notwithstanding the

Administrator or the Director requiring the permittee to develop a QIP, the permittee proposed an accumulation of exceedances or excursions exceeding 10 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP.

[40 C.F.R. § 64.8; 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.3. Testing Requirements

4.3.1. The permittee shall complete the following performance testing:

The permittee shall perform or have performed EPA approved stack tests to determine emissions of NO_x, VOCs, PM and PM₁₀ from the submerged electric arc furnace.

The permittee shall perform or have performed EPA approved stack tests to determine emissions of PM and PM₁₀ from one of the spinner collection chambers.

The permittee shall perform or have performed EPA approved stack tests to determine emissions of Manganese from one of the spinner collection chambers and the submerged electric arc furnace.

[45CSR13, R13-2864, 4.3.1]

4.3.2. Ongoing compliance shall be demonstrated by repeating the above testing (condition 4.3.1.) according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Director's Request
Initial	Between 10% and 50% of limits	Once/5 years
Initial	Between 50% and 90% limits	Once/3 years
Initial	≥90% of limits	Annual
Annual	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Annual	After two successive tests indicate emission rates <90% of limits	Once/3 years
Annual	≥90% of limits	Annual
Once/3 years	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Once/3 years	After two successive tests indicate emission rates <90% of limits	Once/3 years
Once/3 years	≥90% of limits	Annual
Once/5 years	After two successive tests indicate emission rates <10% of limits	Upon Director's Request
Once/5 years	≤50% of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	≥90% of limits	Annual

[45CSR13, R13-2864, 4.3.2]

- 4.3.3. **Quality Assurance / Quality Control Practice** – For the Furnace Dust Collector (2C) and Fiber Line Baghouse (7C), the differential pressure sensing devices shall be electrically tested semi-annually to verify correct readings and that accurate data is being sent to the data logging system. The reading shall be within 0.15 in. of water column. If a reading differs in a value greater than 0.15 in. water column, a vendor shall be utilized as expeditiously as practicable to calibrate the differential pressure sensing device. A vendor shall be scheduled for a regular calibration visit every 3 years. Records of the testing and calibrations shall be maintained in accordance with conditions 3.4.1. and 3.4.2.
[40 C.F.R. § 64.3(b)(3); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.4. Recordkeeping Requirements

- 4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, R13-2864, 4.4.2.]

- 4.4.2. **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.

[45CSR13, R13-2864, 4.4.3.]

- 4.4.3. In order to determine compliance with condition 4.1.5 of this permit, the permittee shall keep monthly records of the Manganese content of the slag. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.4.4]

- 4.4.4. The permittee shall maintain monthly records of slag wool production from the facility. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.2.8. and 4.4.5]

- 4.4.5. In order to demonstrate compliance with the requirements of 4.2.2 of this permit, records of the Method 22 testing and any necessary Method 9 testing shall be retained on site by the permittee for at least five (5) years. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.4.6]

- 4.4.6. In order to determine compliance with the requirements of conditions 4.1.15 and 4.2.5 of this permit, the permittee shall maintain records of the fuel oil sulfur content. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.4.7]
- 4.4.7. In order to determine compliance with the requirements of condition 4.1.4 of this permit, the permittee shall maintain daily records of the pressure drop across each baghouse. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.4.8]
- 4.4.8. In order to determine compliance with condition 4.2.9 of this permit, the permittee shall maintain monthly records of slag throughput to the EAF. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.
[45CSR13, R13-2864, 4.4.9]
- 4.4.9. **General recordkeeping requirements for 40 C.F.R. Part 64 (CAM).** The permittee shall comply with the recordkeeping requirements specified in permit conditions 3.4.1. and 3.4.2. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 (condition 4.2.22.) and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
[40 C.F.R. § 64.9(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.5. Reporting Requirements

- 4.5.1. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
[45CSR13, R13-2864, 4.5.1]
- 4.5.2. With regard to testing required by section 4.3 of this permit, results shall be submitted to the Director no more than 60 days after the date the testing takes place.
[45CSR13, R13-2864, 4.5.2]
- 4.5.3. The permittee shall comply with all applicable reporting requirements of 45CSR7, 45CSR10, and 45CSR13.
[45CSR13, R13-2864, 4.5.3]
- 4.5.4. **General reporting requirements for 40 C.F.R. Part 64 (CAM)**

- ~~(1) On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit CAM monitoring reports with the quarterly excess emissions reports. A copy of the CAM monitoring reports generated within the semi-~~

~~annual monitoring report period shall be included with the semi-annual monitoring report under permit condition 3.5.6. Incorporation by reference within the semi-annual monitoring report is not acceptable.~~
Reserved.

- (2) A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:
- a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
 - b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
 - c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. § 64.9(a); 45CSR§30-5.1.c.] (*1S, 15S, 16S*)

4.6. Compliance Plan

- 4.6.1. Reserved.

5.0 Storage Tanks [12S and 13S] and Cooling Tower [10S and 17S]

5.1 Limitations and Standards

5.1.1. Emissions from the storage tanks shall not exceed the limitations set forth below:

Source	VOC		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
12S	0.02	0.07	0.02	0.07	0.02	0.07
13S	0.01	0.04	0.01	0.04	0.01	0.04

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 & 4.1.1.2; State-enforceable only]

5.1.2. Emissions from the cooling towers shall not exceed the limitations set forth below:

Source	PM		PM ₁₀ ¹	
	lb/hr	tpy	lb/hr	tpy
10S	0.77	3.37	0.77	3.37
17S	0.41	1.80	0.41	1.80

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Table 4.1.1.1; State-enforceable only]

5.2 Monitoring Requirements

5.2.1. Reserved.

5.3 Testing Requirements

5.3.1. Reserved.

5.4 Recordkeeping Requirements

5.4.1. Reserved.

5.5 Reporting Requirements

5.5.1. Reserved.

5.6 Compliance Plan

5.6.1. Reserved.

6.0 Backup Generator Requirements [7S]

6.1 Limitations and Standards

6.1.1. Emissions from the backup generator, 7S, shall not exceed the following limitations:

Pollutant	Hourly limit in lb/hr	Annual limit in tpy
PM	0.08	0.02
PM ₁₀ ¹	0.08	0.02
NO _x	8.17	2.04
VOC	0.07	0.02
SO ₂	0.31	0.08
CO	1.93	0.48
VOC HAP	0.01	0.002
Total HAP	0.01	0.002

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 and 4.1.1.2; State-enforceable only]

6.1.2. The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart IIII (backup generator 7S) including but not limited to the following:

Emissions from the Backup Generator (7S) shall not exceed the following:

NO _x +NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
4.0	3.5	0.20

[40 C.F.R. §60.4205(b); 45CSR13, R13-2864, 4.1.11.1; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 over the entire life of the engine.

[40 C.F.R. §60.4206; 45CSR13, R13-2864, 4.1.11.2; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.4. The nonroad diesel fuel that is used in the backup generator must have a sulfur content less than 15 parts per million. The nonroad diesel fuel must have a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

[40 C.F.R. §60.4207(b); 45CSR13, R13-2864, 4.1.11.3; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.5. a. If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under Condition 6.1.5.c. of this permit:

1. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;
 2. Change only those emission-related settings that are permitted by the manufacturer; and
 3. Meet the requirements of 40 CFR parts ~~89, 94 and/or~~ 1068, as they apply to you.
- b. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Condition 6.1.2. of this permit, you must comply by purchasing an engine certified to the emission standards in Condition 6.1.2. for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 6.1.5.c. of this permit.
- c. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[40 C.F.R. §§ 60.4211(a), (c), (g), and (g)(3); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

- 6.1.6. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, ~~emergency demand response~~, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) ~~of this condition~~, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) ~~of this condition~~, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
- (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) You may operate your emergency stationary ICE for the purposes specified in paragraph (f)(2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2) of this condition.

[40 C.F.R. §60.4211(f); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.2. Monitoring Requirements

6.2.1. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

[40 C.F.R. §60.4209(b); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.3. Testing Requirements

6.3.1. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.3.3]

6.4. Recordkeeping Requirements

6.4.1. Reserved.

6.5. Reporting Requirements

6.5.1. The permittee shall comply with all applicable reporting requirements of 40 CFR 60 Subpart IIII.
[45CSR13, R13-2864, 4.5.3]

6.6. Compliance Plan

6.6.1. Reserved.

Fact Sheet



***For **Draft/Proposed** Renewal Permitting Action Under 45CSR30 and
Title V of the Clean Air Act***

Permit Number: **R30-03500049-2024**
Application Received: **January 24, 2024**
Plant Identification Number: **03-054-035-00049**
Permittee: **Armstrong World Industries, Inc.**
Facility Name: **Armstrong Millwood Plant**
Mailing Address: **P.O. Box 220, Millwood, WV 25262**

Physical Location: Millwood, Jackson County, West Virginia
UTM Coordinates: 472.2 km Easting • 4,307 km Northing • Zone 17
Directions: From US-33 E, turn left onto WV 68 S. Continue on WV 68 S for 0.4 miles. Turn right onto WV 2 S. Continue for approximately 6 miles. Turn right onto Jack Burlingame Road.

Facility Description

The Armstrong World Industries Millwood plant is a slag wool manufacturing facility covered under SIC Code 3296. It typically manufactures slag wool from silicomanganese slag. The plant receives the slag via truck or railcar, stores the slag in outdoor piles, and then transfers the slag to a belt conveyor via front-end loader. The slag is then transferred to a submerged Electric Arc Furnace (EAF) where the slag is melted using graphite electrodes. The molten slag is then transferred to one of two spinners which spin the molten slag into slag wool fibers. The wool fibers are then collected in one of two collection chambers, further processed into slag wool bales, and then shipped off site.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]				
Regulated Pollutants	2019 MM01 vs 2024		2017 vs 2023	
	Potential Emissions ¹		Actual Emissions ²	
Carbon Monoxide (CO)	241.54	241.4	147.5	75.02
Nitrogen Oxides (NO _x)	24.22	23.9	0.25	0.22
Particulate Matter (PM _{2.5})	95.10	94.7	23.3	16.84
Particulate Matter (PM ₁₀)	99.45	99.0	25.0	18.59
Total Particulate Matter (TSP)	111.19	110.8	32.1	47.79
Sulfur Dioxide (SO ₂)	245.10	245.0	22.6	53.24
Volatile Organic Compounds (VOC)	25.35	25.2	0.83	0.78

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	2019 MM01 vs 2024		2017 vs 2023	
	Potential Emissions ¹		Actual Emissions ²	
Manganese Compounds	9.27	9.4	0.74	5.57
Total HAPs excluding Mn	0.03	0.0	Not Reported	

Some of the above HAPs may be counted as PM or VOCs.

¹ Potential emissions are from Table 1 of Attachment I in the renewal application, but have been modified to exclude the suggested changes in the application concerning VOC limits for 3S and 4S; PM limits for 5S and 6S; and all emission limits for 7S.

² Actual emissions are from the State and Local Emissions Inventory System (SLEIS) Summary Report Total Emissions by Source.

Title V Program Applicability Basis

This facility has the potential to emit ~~241.54~~ 241.4 tpy of CO and ~~245.10~~ 245.0 tpy of SO₂. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Armstrong World Industries, Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

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

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

Federal and State:	45CSR6	Open burning prohibited
	45CSR7	PM limits on manufacturing processes
	45CSR10	Emissions of sulfur dioxides
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Construction permits

information	45CSR16	New Source Performance Standards
	WV Code § 22-5-4 (a) (15)	The Secretary can request any pertinent such as annual emission inventory reporting.
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for HAPs
	40 C.F.R. Part 60 Subpart III	Stationary Compression Ignition Engines NSPS
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 63 Subpart ZZZZ	RICE MACT
	40 C.F.R. Part 64	Compliance Assurance Monitoring (CAM)
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors

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

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

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2864D	September 23, 2019	

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

Determinations and Justifications

This is the second renewal of the Title V Permit. There were no changes to the existing emission units and control devices or the approved compliance assurance monitoring (CAM) plans. Therefore, there were no changes to CAM applicability or the existing CAM plans.

The following changes have occurred since the most recent Title V permit was issued:

Title V Permit Boilerplate changes:

- **Condition 2.1.3.** – This condition was updated to delete the word “such” which was removed from 45CSR30 effective March 31, 2023. The citation was changed from “45CSR§30-2.12” to “45CSR§30-2.39” because the definition of “Secretary” was renumbered from a previous version of 45CSR30.
- **Condition 2.11.4** – The citation was changed from “45CSR§30-2.39” to “45CSR§30-2.40” because it was renumbered from a previous version of 45CSR30.

- **Conditions 2.17., 3.5.7. and 3.5.8.a.1.** – These conditions were deleted and replaced with “Reserved” because the emergency provisions under 45CSR§30-5.7 were removed from 45CSR30 effective March 31, 2023.
- **Condition 2.22.1** – “45CSR38” was removed from the citation because this rule has been repealed.
- **Conditions 3.1.6. and 3.3.1.** – The citation was revised to refer to the current version of the WV Code.
- **Condition 3.3.1.b.** – This condition was updated to include the following additional language: “If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit shall be revised in accordance with 45CSR§30-6.4. or 45CSR§30-6.5 as applicable.”
- **Condition 3.5.3.** – This condition was updated to include the current EPA mailing address.
- **Condition 3.5.4.** – This condition was updated because the requirement to submit a certified emissions statement was removed from 45CSR30 effective March 31, 2023.
- **Condition 3.5.8.a.2.** – This condition was updated to replace the word “telefax” with “email” according to the change in 45CSR30 effective March 31, 2023.

Updated Permit Language Due to Rule/Regulation Language Changes:

- **Conditions 6.1.5.a.3., 6.1.6., 6.1.6.2. and 6.1.6.3.** – These conditions were amended to match the current version of 40 CFR 60 Subpart IIII.
-

Changes requested in the permit renewal application:

- **Condition 1.1.** – The Emission Unit table was revised to add to the Emission Unit Description for Emission Units 12S and 13S, change the Design Capacity for Emission Unit 13S from 500 gallons to 1,000 gallons and remove Emission Unit 18S.
- **Conditions 3.7.2.b. and 3.7.2.c.** – These conditions were revised to delete the information related to Emission Unit 18S.
- **Condition 4.0.** – The reference to Emission Unit 18S was deleted.
- **Condition 4.1.1.** – Table 4.1.1.1. was revised to change the VOC emission limits for Emission Units 3S and 4S from 0.39 lb/hr and 1.71 tpy to 0.38 lb/hr and 1.65 tpy, delete Emission Unit 18S and delete footnote 3 regarding Emission Unit 18S. Table 4.1.1.1. was revised to delete Emission Unit 18S.
- **Conditions 4.1.7. and 4.1.8.** – This condition was revised to include an ATV-type vehicle equipped with a spray rig to be used in lieu of a water truck.
- **Conditions 4.1.10. and 4.2.2.** – These conditions were revised to delete the reference to 18S in the notation.
- **Condition 4.2.12.** – This condition was deleted because in was for Emission Unit 18S and is now listed as “Reserved.”
- **Condition 4.5.4.(1)** – This condition was deleted because in was for Emission Unit 18S and is now listed as “Reserved.”

Non-Applicability Determinations

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

- a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.
- b. ~~**40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral. *In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart OOO) because dryers are not an “affected facility” as listed by the regulation.*~~
- e. ~~**40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart. *In addition, the permittee installed a small propane-fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.*~~
- d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combo of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
- e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. **45CSR19 and 45CSR21 WV NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
- h. **45CSR27 - WV Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

Request for Variances or Alternatives

None.

Insignificant Activities

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

Comment Period

Beginning Date: (Date of Notice Publication)

Ending Date: (Publication Date PLUS 30 Days)

Point of Contact

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

Dan Roberts
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
304/926-0499 ext. 41902
Daniel.p.roberts@wv.gov

Procedure for Requesting Public Hearing

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

Response to Comments (Statement of Basis)

Not applicable.

image

West Virginia Department of Environmental Protection

Austin Caperton
Cabinet Secretary

Division of Air Quality

Class II
Administrative

R13-2864D

*This permit is issued in accordance with the West Virginia Air Pollution
Control Act*

*(West Virginia Code §§ 22-5-1 et seq.) and 45 C.S.R. 13 — Permits for
Construction, Modification, Relocation and Operation of Stationary
Sources of Air Pollutants,*

*Notification Requirements, Temporary Permits, General Permits and
Procedures for Evaluation. The permittee identified at the 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:

Armstrong World Industries, Inc.
Millwood Plant
035-00049

Laura M. Crowder
Director, Division of Air Quality

Issued: September 23, 2019

This permit supersedes and replaces R13-2864C.

Facility Location: Millwood, Jackson County, West Virginia

Mailing Address: 141 Sensenich Drive

Millwood, WV 25262

Facility Description: Slag Wool Manufacturing Facility

NAICS Codes: 327993 - Mineral Wool Manufacturing

UTM Coordinates: 427.2 km Easting • 4,307 km Northing • Zone 17

Permit Type: Class II Administrative Update

Description of

Change: This update corrects mistakes in the NSR permit (R13-2864C). Armstrong submitted several corrections to their Title V permit in a recent renewal application (approved 7/29/19). The changes are addressed through this NSR permit update (R13-2864D). No new constructions or modifications are being proposed (only corrections to mistakes in R13-2864C).

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

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

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1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1S	1-2E	Raw Material Transfer and EAF	2011	40,000 lb/hr	1C & 2C
3S	3-4E	Spinner Collection Chamber #1	2011	34,500 lb/hr	3C
4S	3-4E	Spinner Collection Chamber #2	2011		4C
6S	6E	Hydrated Lime Storage Silo	2011	3,300 cfm	6C
7S	7E	Backup Generator	2011	500 kWe	N
8S	Fugitive	Haulroads	2010	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	175,000 tpy	N
10S	10E	Cooling Tower #1	2011	1,500 GPM	N
11S	Fugitive	Railcar Unloading	2011	300 TPH	N
12S	Fugitive	Diesel Storage Tank #1	2011	900 Gal	N
13S	Fugitive	Diesel Storage Tank #2	2011	500 Gal change to 1,000 Gal	N
15S	8E	Slag Wool Processing Line #1	2011	28,000 lb/hr (based on a 24-hour average)	7C
16S	8E	Slag Wool Processing Line #2	2011		7C
17S	17E	Cooling Tower #2	2011	800 GPM	N
18S	18E	Propane-fueled Sand Dryer	2017	2,000 lb/hr sand 5 gal/hr propane	None

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

2.3. Authority

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

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

2.4. Term and Renewal

2.4.1. This permit 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 Application R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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§§13-5-10 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.

2.12. Emergency

2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are not met.

2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and,

d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emission, and corrective actions taken.

2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

2.12.5. The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

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

2.14. Suspension of Activities

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

2.15. Property Rights

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

2.16. Severability

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

2.17. Transferability

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

2.18. Notification Requirements

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

2.19. Credible Evidence

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

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.

[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no

person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.

[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.

[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

[Reserved]

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or 45CSR§13-5.4 as applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or 45CSR§13-5.4 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language;
2. The result of the test for each permit or rule condition; and,
3. A statement of compliance or noncompliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

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

3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§4. *State-Enforceable only.*]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class 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:

DAQ:

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

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assistance Division
Air Section (3ED21)
1650 Arch Street
Philadelphia, PA 19103-2029

¹For 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. Emissions from the facility shall not exceed the limitations set forth in Tables 4.1.1.1. and 4.1.1.2.:

Table 4.1.1.1.

Source	PM		PM ₁₀ ¹		NO _x		VOC		SO ₂		CO	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.00	55.00 ²	240.90
3S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--

4S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
6S	1.13	4.95	1.13	4.95	--	--	--	--	--	--	--	--
7S	0.08	0.02	0.08	0.02	8.17	2.04	0.07	0.02	0.31	0.08	1.93	0.48
9S	--	1.98	--	0.97	--	--	--	--	--	--	--	--
10S	0.77	3.37	0.77	3.37	--	--	--	--	--	--	--	--
11S	0.02	0.10	0.01	0.05	--	--	--	--	--	--	--	--
12S	--	--	--	--	--	--	0.02	0.07	--	--	--	--
13S	--	--	--	--	--	--	0.01	0.04	--	--	--	--
15S	2.39	10.47	2.39	10.47	--	--	--	--	--	--	--	--
16S												
17S	0.41	1.80	0.41	1.80	--	--	--	--	--	--	--	--
18S ⁽³⁾	0.1	0.44	0.1	0.44	0.07	0.28	0.01	0.02	--	--	0.03	0.16
Total	21.68	96.63	21.67	95.58	13.24	24.22	5.89	25.47	56.25	245.08	56.97	241.54

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter .

²Hourly CO emission limits from the EAF are 55 pounds per hour based on a rolling 30 day average and 100 pounds per hour based on a rolling 24 hour average.

⁽³⁾Hourly emissions for the Propane-fueled Sand Dryer (18S) are calculated based on burning 5 gal/hr of propane; Annual emissions for the Propane-fueled Sand Dryer (18S) are based on operating for 8,760 hr/yr.

Table 4.1.1.2

Source	Mn		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	0.28	1.25	--	--	0.28	1.25
3S	0.78	3.40	--	--	0.78	3.40
4S	0.78	3.40	--	--	0.78	3.40
6S	--	--	--	--	--	--
7S	--	--	0.01	0.002	0.01	0.002
9S	0.02	0.22	--	--	0.02	0.22
10S	--	--	--	--	--	--
11S	0.01	0.01	--	--	0.01	0.01
12S	--	--	0.02	0.07	0.02	0.07
13S	--	--	0.01	0.04	0.01	0.04
15S	0.26	1.15	--	--	0.26	1.15
16S						
17S	--	--	--	--	--	--
18S	--	--	--	--	--	--
Total	2.13	9.43	0.04	0.11	2.17	9.54

4.1.2. The total annual SO₂ emissions from the Submerged Electric Arc Furnace (1S) shall not exceed 245 tons per year based on a rolling 12 month total basis.

4.1.3. The Furnace Dry Scrubber (1C) shall be designed, installed, operated and maintained so as to ensure compliance with the emission limits of 4.1.1. Operation of the scrubber is only *required* when necessary to meet the emission limits of 4.1.1.

4.1.4. For the purpose of complying with the PM/PM₁₀/PM_{2.5} emission limits of condition 4.1.1 of this permit, all of the dust collectors shall be operated according to the following requirements:

4.1.4.1. Withing 180 days of initial startup, the permittee shall determine the optimal ranges for the pressure drop across baghouses 2C, 3C, 4C and 7C. The permittee shall maintain on site, and update as necessary, a certified report listing the operating ranges.

4.1.5. Manganese content of the slag entering the furnace shall not exceed 10.95% (equivalent to 14.14% MnO).

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

a. The permittee shall maintain a water truck (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) on site and in good operating condition, and shall utilize same to apply a either water or a mixture of water and an environmentally acceptable dust control additive, hereinafter referred to as solution, as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from unpaved haulroads and other unpaved work areas where mobile equipment is used. The spraybar shall be equipped with commercially available spray nozzles, of sufficient size and number, so as to provide adequate coverage to the area being treated.

The pump delivering the solution, shall be of sufficient size and capacity so as to be capable of delivering to the spray nozzle(s) an adequate quantity of solution, and at a sufficient pressure, so as to assure that the treatment process will minimize the atmospheric entrainment of fugitive particulate emissions generated from the unpaved haulroads and work areas where mobile equipment is used.

b. All unpaved haulroads, access roads, stockpile and work areas shall be kept clean and in good condition by replacing base material and/or grading as required.

c. If tracking of solids by vehicular traffic from access and/or haulroads onto any public road or highway occurs and generates or has the potential to generate fugitive particulate emissions, the registrant shall properly operate and maintain an underbody truck wash, rumble strips or employ other suitable measures to maintain effective fugitive dust control of the premises and minimize the emission of particulate matter.

4.1.7. The permittee shall ensure that the water trucks (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) and/or water sprays are properly equipped with winterization systems capable of operating in a manner such that all such fugitive dust control systems remain effective and functional, to the maximum extent practicable, during winter months and cold weather. At all times, including periods of cold weather, the registrant shall comply with the water trucks (or other equivalent substitute such as an ATV-type vehicle equipped with a spray rig) and/or water sprays requirements of this permit

4.1.8. Total slag throughput to the EAF shall not exceed 175,200 tons per year on a rolling 12 month total.

4.1.9. The permittee shall comply with all applicable requirements of 45CSR7 including but not limited to the following:

4.1.9.1. Opacity from any process source operation shall not exceed 20% except for opacity which is less than 40% for a period or periods aggregating no more than 5 minutes in any 60 minute period.

[45CSR§7-3.1 &45CSR§7-3.2]

4.1.9.2. 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.

[45CSR§7-4.1.]

4.1.9.3. 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.]

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

[45CSR§7-5.2.]

4.1.10. The permittee shall comply with all applicable requirements of 45CSR10 including but not limited to the following:

4.1.10.1. The in stack SO₂ concentration from the EAF shall not exceed 2,000 ppm.

[45CSR§10-4.1.]

4.1.11. The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart IIII (backup generator 7S) including but not limited to the following:

4.1.11.1. Emissions from the Backup Generator (7S) shall not exceed the following:

NO _x +NMHC (g/hp-hr)	CO (g/hp-hr)	PM (g/hp-hr)
6.4	3.5	0.20

[40 CFR§60-4204(b)]

4.1.11.2. The permittee shall operate and maintain the backup generator (7S) according to the manufacturers written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer over the entire life of the engine.

[40 CFR§60-4206]

4.1.11.3. The nonroad diesel fuel that is used in the backup generator must have a sulfur content less than

15 parts per million.

[40 CFR§60-4207(b)]

4.1.12. The total annual Mn emissions from the facility shall not exceed 9.6 tons per year based on a rolling 12 month total basis.

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

4.2. Monitoring Requirements

4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturers recommendations concerning maintenance and performance.

4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

4.2.3. The permittee shall install, maintain and operate instrumentation to continuously monitor and record at least once per operating day the control device parameters (1C, 2C, 3C, 4C and 7C) as determined by conditions 4.1.3 and 4.1.4 of this permit at all times that the emission source(s) is/are in operation.

4.2.4. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of SO₂, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained compliance with the USEPA Part 60, Appendix B, Performance Specification 2 as appropriate. and Performance Specification 4, 4a or 4b (CO) as appropriate.

4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.11.3 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier. Alternatively, the permittee may obtain a fuel sample of each shipment and perform analytical testing to determine the sulfur content.

4.2.6. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of CO, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained compliance with the USEPA Part 60, Appendix B, Performance Specification 4, 4a or 4b as appropriate.

4.2.7. To show compliance with the SO₂ limit in condition 4.1.2 of this permit, monthly SO₂ emissions from the submerged electric arc furnace shall be calculated (using SO₂ CEMS) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

4.2.8. The permittee shall maintain monthly records of slag wool production.

4.2.9. In order to determine compliance with conditions 4.1.1.2 and 4.1.5 of this permit, the permittee shall obtain representative samples from each shipment of slag from each supplier for the first week of operation (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) to be analyzed for the Manganese content (percent Manganese by weight). The manganese content from each type of slag shall be averaged for the week in order to determine a baseline manganese content for that suppliers slag. After the first week of samples, the permittee shall continue to collect the weeks worth of samples (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) at least once per month to either confirm the existing or re-establish a new baseline Mn level for that supplier. If the permittee adds a new slag supplier, the permittee shall collect samples for each shipment for one week in order to establish the baseline Mn content for that supplier.

If the baseline Mn content of the slag from any supplier exceeds the Mn level permitted in condition 4.1.5 of this permit, Armstrong shall maintain a record documenting, any time that specific slag is used in the furnace, that the Mn content of the slag blend entering the furnace does not exceed the Mn level permitted in Condition 4.1.5 of this permit.

4.2.10. To show compliance with the CO limit in condition 4.1.1 of this permit, monthly CO emissions from the submerged electric arc furnace shall be calculated (using CO CEMS) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

4.2.11. The permittee shall maintain monthly records of slag throughput to the EAF.

4.2.12. To show compliance with the Mn emission limit in condition 4.1.12 of this permit, monthly Mn emissions from the facility shall be calculated (mass balance) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

4.2.13. To show compliance with the emission limits given in condition 4.1.1. of this permit, the permittee shall keep a monthly record of hours of operation and propane fuel usage for the Sand Dryer (18S). These monthly records shall be used to calculate a twelve month rolling average hourly fuel usage rate which should not exceed 5gal/hr of propane consumption.

4.3. Testing Requirements

4.3.1. Within 90 days of reaching nominal production capacity but not later than 180 days from initial startup of the first module, the permittee shall complete the following performance testing:

4.3.1.1. The permittee shall perform or have performed EPA approved stack tests to determine emissions of NO_x, VOCs, PM and PM₁₀ from the submerged electric arc furnace.

4.3.1.2. The permittee shall perform or have performed EPA approved stack tests to determine emissions of PM and PM₁₀ from one of the spinner collection chambers.

4.3.1.3. The permittee shall perform or have performed EPA approved stack tests to determine emissions of Manganese from one of the spinner collection chambers and the submerged electric arc furnace.

4.3.2. After the testing required by 4.3.1 of this permit is completed, ongoing compliance shall be demonstrated by repeating the above testing according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Director's Request
Initial	Between 10% and 50% of limits	Once/5 years
Initial	Between 50% and 90% limits	Once/3 years
Initial	≥90% of limits	Annual
Annual	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Annual	After two successive tests indicate emission rates <90% of limits	Once/3 years
Annual	≥90% of limits	Annual
Once/3 years	After two successive tests indicate emission rates ≤50% of limits	Once/5 years
Once/3 years	After two successive tests indicate emission rates <90% of limits	Once/3 years
Once/3 years	≥90% of limits	Annual
Once/5 years	After two successive tests indicate emission rates < 10% of limits	Upon Directors Request
Once/5 years	≤50% of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	≥90% of limits	Annual

4.3.3. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart IIII.

4.4. Recordkeeping Requirements

4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

4.4.2. Record of Maintenance of Air Pollution Control Equipment. For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

4.4.3. Record of Malfunctions of Air Pollution Control Equipment. For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

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

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

4.4.4. In order to determine compliance with condition 4.1.5 of this permit, the permittee shall keep monthly records of the Manganese content of the slag. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

4.4.5 In order to determine compliance with condition 4.2.8 of this permit, the permittee shall maintain monthly records of slag wool production from the facility. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

4.4.6. In order to demonstrate compliance with the requirements of 4.2.2 of this permit, records of the Method 22 testing and any necessary Method 9 testing shall be retained on site by the permittee for at least five (5) years. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

4.4.7. In order to determine compliance with the requirements of conditions 4.1.11.3 and 4.2.5 of this permit, the permittee shall maintain records of the fuel oil sulfur content. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

4.4.8. In order to determine compliance with the requirements of condition 4.1.4 of this permit, the permittee shall maintain daily records of the pressure drop across each baghouse. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

4.4.9. In order to determine compliance with condition 4.2.11 of this permit, the permittee shall maintain monthly records of slag throughput to the EAF. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

4.5. Reporting Requirements

4.5.1. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

4.5.2. With regard to testing required by section 4.3 of this permit, results shall be submitted to the Director no more than 60 days after the date the testing takes place.

4.5.3. The permittee shall comply with all applicable reporting requirements of 45CSR7, 45CSR10, 45CSR13 and 40 CFR 60 Subpart IIII.

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.

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.



Roberts, Daniel P <daniel.p.roberts@wv.gov>

WV DAQ Title V Permit Renewal Application Complete for Armstrong World Industries, Inc.'s Millwood WV Facility

1 message

Roberts, Daniel P <daniel.p.roberts@wv.gov>

Fri, Mar 29, 2024 at 11:49 AM

To: msmcvay@armstrongceilings.com

Cc: lmmartin@armstrongceilings.com, "mzeiders@libertyenviro.com" <mzeiders@libertyenviro.com>, "McCumbers, Carrie" <Carrie.McCumbers@wv.gov>

RE: Application Status: Complete

Armstrong World Industries, Inc.

Millwood WV

Permit Renewal Application R30-03500049-2024

Mr. McVay,

Your Title V renewal application for a permit to operate the above referenced facility was received by this Division on January 24, 2024. After review of said application, it has been determined that the application is administratively complete as submitted. Therefore, the above referenced facility qualifies for an Application Shield.

The applicant has the duty to supplement or correct the application. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a draft permit.

The submittal of a complete application shall not affect the requirement that any source have all **preconstruction permits** required under the rules of the Division.

If during the processing of this application it is determined that additional information is necessary to evaluate or take final action on this application, a request for such information will be made in writing with a reasonable deadline for a response. Until which time as your renewal permit is issued or denied, please continue to operate this facility in accordance with 45CSR30, section 6.3.c. which states: *If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.* This protection shall cease to apply if, subsequent to the completeness determination made pursuant to

paragraph 6.1.d. of 45CSR30 and as required by paragraph 4.1.b., the applicant fails to submit by the deadline specified in writing any additional information identified as being needed to process the application.

Please remember, **failure of the applicant to timely submit information required or requested to process the application may cause the Application Shield to be revoked.** Should you have any questions regarding this determination, please call me at (304)926-0499 ext. 41902.

Sincerely,

Daniel P. Roberts

WV Department of Environmental Protection

Division of Air Quality

(304) 926-0499 ext. 41902

Daniel.p.roberts@wv.gov



Reply

Reply all

Forward



Roberts, Daniel P <daniel.p.roberts@wv.gov>

**WV DAQ Title V Permit Application Status for Armstrong World Industries, Inc.;
Millwood**

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov> Thu, Jan 25, 2024 at 9:10 AM
To: msmcvay@armstrongceilings.com, lmmartin@armstrongceilings.com, Michael Zeiders <mzeiders@libertyenviro.com>
Cc: Carrie McCumbers <carrie.mccumbers@wv.gov>, Daniel P Roberts <daniel.p.roberts@wv.gov>

RE: Application Status**Armstrong World Industries, Inc.****Millwood****Facility ID No. 035-00049****Application No. R30-03500049-2024**

Dear Mr. McVay,

Your application for a Title V Permit Renewal for Armstrong World Industries, Inc.'s Millwood Facility was received by this Division on January 24, 2024, and was assigned to Dan Roberts

Should you have any questions, please contact the assigned permit writer, Dan Roberts, at 304-926-0499, extension 41902, or Daniel.P.Roberts@wv.gov.

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Armstrong - Millwood renewal

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov>
To: Daniel P Roberts <daniel.p.roberts@wv.gov>

Thu, Jan 25, 2024 at 9:01 AM

Hi Dan,

Here's a dated copy of the application. The email to the company will be going out in a few minutes.

Have a great day!
Stephanie

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281



R30-03500049-2024 Armstrong- Millwood Renewal.pdf
5249K

Division of Air Quality Permit Application Submittal

Please find attached a permit application for :

[Company Name; Facility Location]

- DAQ Facility ID (for existing facilities only):
- Current 45CSR13 and 45CSR30 (Title V) permits associated with this process (for existing facilities only):

• Type of NSR Application (check all that apply):

- Construction
- Modification
- Class I Administrative Update
- Class II Administrative Update
- Relocation
- Temporary
- Permit Determination

• Type of 45CSR30 (TITLE V) Revision (if any)**:

- Title V Initial
- Title V Renewal
- Administrative Update
- Minor Modification
- Significant Modification
- Off Permit Change

****If any box above is checked, include the Title V revision information as ATTACHMENT S to this application.**

• Payment Type:

- Credit Card (Instructions to pay by credit card will be sent in the Application Status email.)
- Check (Make checks payable to: WVDEP – Division of Air Quality)

Mail checks to:
WVDEP – DAQ – Permitting
Attn: NSR Permitting Secretary
601 57th Street, SE
Charleston, WV 25304

Please wait until DAQ emails you the Facility ID Number and Permit Application Number. Please add these identifiers to your check or cover letter with your check.

• If the permit writer has any questions, please contact (all that apply):

Responsible Official/Authorized Representative

- Name:
- Email:
- Phone Number:

Company Contact

- Name:
- Email:
- Phone Number:

Consultant

- Name:
- Email:
- Phone Number:

January 22, 2024

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

**Re: Title V Operating Permit Renewal Application for the Armstrong World Industries, Inc. Millwood, WV Slag Wool Production Plant
Plant ID No. 035-00049
Permit No. R30-03500049-2019**

Dear Ms. Crowder:

Armstrong World Industries, Inc. (Armstrong) operates a slag wool manufacturing facility located in Millwood, Jackson County, West Virginia under Title V Operating Permit No. R30-03500049-2019. Armstrong is submitting the enclosed Title V operating permit renewal application for the Millwood plant. This application is being submitted six months prior to the Title V permit expiration date of July 29, 2024. Armstrong believes that the enclosed submittal provides all the information required by the WV DAQ for technical review of the Title V renewal. As such, Armstrong believes that this submittal constitutes an administratively complete and timely Title V renewal application.

We are attaching one (1) copy of the application which has been signed by a responsible official. Armstrong understands that no application fee is required and that WV DAQ will address the public and affected state notification requirements.

Facility Changes

The changes to the facility over the term of the permit include the following:

1. Minor Modification MM01 (2019) - Removal of EU 5S (Housekeeping Vacuum System, never installed) and 14S (Glycol Storage Tank, removed). Corrections and clarification regarding the capacities of EU 7S (Emergency Generator, 500kWe) and EU 12S (Diesel Tank, 900 gallons). The potential to emit (PTE) for EU 7S and 12S were updated to reflect the revised capacities. The combined capacity for EU 15S and 16S (packaging lines) was clarified to state that it is 28,000 lbs/hr on a 24-hour average rather than instantaneous basis. Volatile organic compound (VOC)

PTE for EU 3S and 4S (Spinner Collection Chambers #1 and 2 were updated to reflect the use of new surfactant/binder materials. The volumetric flow rate of the fabric filter controlling emissions from EU6S (Hydrated Lime Storage Silo) was updated from 1,500 cfm to 3,300 cfm and the PTE was revised accordingly. (R13-2864D, MM01);

2. Removal of a temporary propane fired sand dryer (EU-18S). Armstrong is requesting that Condition 4.2.12 be deleted (requires tracking of propane usage and hours of operation).
3. Armstrong is requesting that the capacity of diesel storage tank #2 (Emission Unit 13S) be revised to 1,000 gallons (Table 1.1). Potential emissions to remain unchanged (EPA Tanks shows 1.8 lbs/yr VOC/HAP emissions from the diesel tank).

Other changes that are requested in this permit renewal include:

The current operating permit makes repeated references to a “water truck” to be used for road dust suppression (Conditions 4.1.7 and 4.1.8). Armstrong would like to clarify that the site does not own or operate a water truck. An ATV-type vehicle equipped with a spray rig is used for dust suppression on an as-needed basis. Armstrong trusts that this meets the requirements of a water truck.

Per the advice of WVDEP (Denton McDermitt, email 9/3/2020) Armstrong is requesting that the non-applicable permit condition 4.5.4(1) be deleted from the permit. Per Mr. McDermitt:

“The quarterly excess emissions reports are leftover language from when I originally developed the CAM “boilerplate” conditions for an electric utility company in our state. The power plant was subject to 45CSR2 and CAM applied to the weight emission standard for PM. Opacity was elected as a CAM parameter in their case. I linked the CAM reports to the applicable quarterly excess emissions reports (45CSR2-9.3.a.). The CAM Regulation in 40 CFR 64.9(a)(1) refers to 70.6(a)(3)(iii), which is Title V permit content for reporting. 70.6(a)(3)(iii)(A) requires reporting at least every 6 months. Since the CAM-affected emission units 1S, 15S, and 16S are not subject to 45CSR2, the quarterly excess emissions report is not applicable. You should submit the CAM report every 6 months with the semi-annual monitoring report. I apologize for leaving this non-applicable language in your permit. The next time you modify the permit, I suggest asking the permit writer to remove it and provide the writer with this explanation.”

Armstrong is evaluating a new binder material (Drakeol 35 Min Oil USP) to be used in EU 3S and 4S (Spinner Collection Chambers #1 and 2). The material is similar in composition application rate to the existing binder (Xiameter (R) Mem-1727 Thread Finish) and no changes to VOC PTE are expected. An SDS is provided in Attachment K. Armstrong may also evaluate alternative binders similar in nature and VOC content in the future.

Armstrong is also evaluating small (< or = 0.5% of throughput) adds of metallurgical coke to adjust slag carbon content. Armstrong has historically used small amounts of coke at startup but these adds are being evaluated to improve product quality by increased metal removal via tap-off.

Air Quality Regulatory Changes

Compliance Assurance Monitoring

The Compliance Assurance Monitoring (CAM) provisions of 40 CFR 64 require sources with control devices with pre-control emissions greater than major source thresholds to submit a CAM plan. The Millwood facility’s control devices/CAM status is as follows:

EUID	EU Description	CDID	Control Device Description	Pollutant	Emissions	CAM Applicability
1S	Raw Material Transfer and EAF	1C	EAF Scrubber	SO2	Post-Control > 100 TPY	N/A. Scrubber not required to meet emission limit.
1S	Raw Material Transfer and EAF	2C	EAF Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	Applicable
3S	Spinner Collection Chamber #1	3C	Spinner #1 Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	N/A. Inherent process equipment, used for the collection of wool fibers from the spinner.
4S	Spinner Collection Chamber #2	4C	Spinner #2 Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	N/A. See above.
5S	Housekeeping Vacuum System	5C	Housekeeping Vacuum System	PM/PM10/PM2.5	N/D	N/A. This system was never installed.
6S	Hydrated Lime Silo	6C	Hydrated Lime Storage Silo	PM/PM10/PM2.5	Pre-Control < 100tpy	N/A. Due to the relatively small size of this bin vent (3,300 cfm), pre-control emissions are assumed to be less than 100 tpy.
15S/16S	Slag Wool Processing Lines #1 and 2	7C	Slag Wool Processing Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	Applicable

Armstrong CAM for the affected fabric filters (2C and 7C) as part of the prior Title V permit renewal and these requirements have been incorporated into the permit.

Startup, Shutdown and Maintenance

The WVDEP recently promulgated regulations at §45-1 allowing for the establishment of alternative emission limitations during startup, shutdown, or maintenance (SSM) activities. The current permit requires compliance with numerous emission limits. Armstrong believes that good operating practices, in conjunction with operation of the existing control devices ensure that that the

facility's emission units can meet the existing emission limits during periods of system startup and shutdown. Armstrong is therefore not requesting an alternative emission limit during SSM conditions under this regulation.

Facility Compliance Status

NOV/Draft Consent Assessment

On February 26, 2018, WVDEP issued a Notice of Violation(s) ("NOV") to Armstrong in regards to emissions testing for: (1) failure to provide the Director with a testing protocol for approval 30 days prior to testing and failure to notify the Director of intent to test 15 days prior to testing; (2) failure to conduct condensable PM emissions testing on the EAF; (3) failure to test the Spinners for PM emissions; and (4) failure to demonstrate ongoing compliance with the required periodic PM testing schedule. Armstrong has since conducted the required testing and is in receipt of a draft consent assessment from WVDEP. Because the NOV was for a was a one-time issue - late testing that has since been completed - this matter is not a current "noncompliance" issue and therefore AWI is certifying compliance with all permit limits.

If you have any questions regarding the enclosed Title V application, please feel free to contact Mr. Michael D. Zeiders, Liberty Environmental, Inc. at (610) 375-9301, or me at 304-206-2847.

Sincerely,



Logan M. Martin
EHS Manager
Armstrong World Industries, Inc.

cc: J. Ackiewicz - Armstrong Corporate EHS
M. Zeiders - Liberty Environmental





Title V Permit Renewal Application

Armstrong World Industries, Inc.

Millwood, West Virginia

Title V Permit R30-03500049-2019

Submitted to:



West Virginia Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

Prepared by:



Liberty Environmental, Inc.

505 Penn Street, Suite 400

Reading, PA 19601

(610) 375-9301

JANUARY 2024

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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

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

www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

Form with 10 numbered sections: 1. Name of Applicant, 2. Facility Name or Location, 3. DAQ Plant ID No., 4. Federal Employer ID No. (FEIN), 5. Permit Application Type, 6. Type of Business Entity, 7. Is the Applicant the..., 8. Number of onsite employees, 9. Governmental Code, 10. Business Confidentiality Claims.

00049

11. Mailing Address		
Street or P.O. Box: P.O. Box 220		
City: Millwood	State: WV	Zip: 25262
Telephone Number: 304-273-3900	Fax Number: () -	

12. Facility Location (Physical Address)		
Street: 141 Sensenich Drive	City: Millwood	County: Jackson
UTM Easting: 427.2 km	UTM Northing: 4,307 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
Directions: From US-33 E, turn left onto WV 68 S. Continue on WV 68 S for 0.4 miles. Turn right onto WV 2 S. Continue for approximately 6 miles. Turn Right onto Jack Burlingame Road		
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is facility located within a nonattainment area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, for what air pollutants?	
Is facility located within 50 miles of another state? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the affected state(s). Ohio	
Is facility located within 100 km of a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the area(s).	
If no, do emissions impact a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.		

13. Contact Information		
Responsible Official: Matt McVay		Title: Plant Manager
Street or P.O. Box: P.O. Box 220		
City: Millwood	State: WV	Zip: 25262
Telephone Number: 304-273-3948	Cell Number: () -	
E-mail address: msmcvay@armstrongceilings.com		
Environmental Contact: Logan Martin		Title: EHS Manager
Street or P.O. Box: P.O. Box 220		
City: Millwood	State: WV	Zip: 25262
Telephone Number: 304-206-2847	Cell Number: () -	
E-mail address: lmmartin@armstrongceilings.com		
Application Preparer: Michael D. Zeiders		Title: Project Manager
Company: Liberty Environmental, Inc.		
Street or P.O. Box: 505 Penn St.		
City: Reading	State: PA	Zip: 19601
Telephone Number: 610-375-9301	Cell Number: () -	
E-mail address: mzeiders@libertyenviro.com		

14. Facility Description

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

Process	Products	NAICS	SIC
Slag wool insulation materials manufacturing	Slag wool	327993	3296

Provide a general description of operations.

The Armstrong World Industries Millwood plant is a slag wool manufacturing facility. It typically manufactures slag wool from silicon manganese slag. The plant receives the slag via truck or railcar, stores the slag in outdoor piles, and then transfers the slag to a belt conveyor via front-end loader. The slag is then transferred to a submerged Electric Arc Furnace (EAF) where the slag is melted using graphite electrodes. The molten slag is then transferred to one and or both spinners which spin the molten slag into slag wool fibers. The wool fibers are then collected in one of two collection chambers, further processed into slag wool bales, and then shipped off site.

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

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

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

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input checked="" type="checkbox"/> Section 111 NSPS	<input checked="" type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input checked="" type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> Cross-State Air Pollution Rule (45CSR43)	

19. Non Applicability Determinations
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</p> <p>3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.</p> <p>a. 40 CFR 60 Subpart CC - Standards of Performance for Glass Manufacturing Plants. The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.</p> <p>b. 40 CFR 60 Subpart 000-Standards of Performance for Nonmetallic Mineral Processing Plants. Slag does not meet the definition of nonmetallic mineral. In addition, the permittee installed a small propane fired sand dryer (EUID 188) permitted under R13-2864C. The source is used for drying batches (2,000 lbs/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart 000) because dryers are not an "affected facility" as listed by the regulation.</p>
<input type="checkbox"/> Permit Shield

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

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

- c. 40 CFR 60 Subpart UUU - Standards of Performance for Calciners and Dryers in Mineral Industries. The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60. 731 and is therefore not subject to this subpart. ~~In addition, the permittee installed a small propane fired sand dryer (EUID 188) permitted under R13-2864C. The source is used for drying batches (2,000 lblhr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.~~
- d. 40 CFR 63 Subpart DDD-National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production. The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as "In addition, the EAF is not classified as wool production NESHAP" at 40 CFR 63 Subpart DDD is not applicable.
- e. 40 CFR 63 Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. 45CSR17 -WV Fugitive emissions from material handling. Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. 45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations. The Millwood plant is not located in affected areas.
- h. 45CSR27 - Emissions of Toxic Air Pollutants. The Millwood plant does not operate any "chemical processing units" and does not use listed chemicals.

Permit Shield

20. Facility-Wide Applicable Requirements

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

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. §61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. §61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health -Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in SubpartB:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

Permit Shield

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

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

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

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

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.

[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

Permit Shield

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

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

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

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

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.
[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.
[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

Permit Shield

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

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

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

3.2. Monitoring Requirements

3.2.1. Reserved.

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary’s delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.

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

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

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

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.
2. The result of the test for each permit or rule condition.
3. A statement of compliance or non-compliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.
[45CSR§30-5.1.c.2.A.; 45CSR13, R13-2864, 4.4.1.]

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

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

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

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken. [45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.[45CSR§§30-4.4. and 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30- 5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31. [45CSR§30-5.1.c.3.E.]

3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

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

US EPA:

Section Chief
U. S. Environmental Protection Agency,
Region III Enforcement and Compliance
Assurance Division Air Section (3ED21)
1650 Arch Street
Philadelphia, PA 19103-2029

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

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

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

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

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

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. [45CSR§30-8.]

DAQ:

DEPAirQualityReports@wv.gov

US EPA:

R3_APD_Permits@epa.gov

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30- 4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ: DEPAirQualityReports@wv.gov
[45CSR§30-5.1.c.3.A.]

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

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

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

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

3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken. [45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary. [45CSR§30-5.1.c.3.B.]

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement. [45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

3.6.1. Reserved.

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.

b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral. ~~In addition, the permittee installed a small propane fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart OOO) because dryers are not an “affected facility” as listed by the regulation.~~

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

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

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

- c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart. ~~In addition, the permittee installed a small propane fired sand dryer (EUID 18S) permitted under R13 2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.~~
- d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
- e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1, if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. **45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
- h. **45CSR27 - Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

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

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

21. Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit <i>(if any)</i>
R30-03500049-2019	07/29/2019	Not applicable
R13-2864D	09/23/2019	Not applicable
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Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	See Attachment I
Nitrogen Oxides (NO _x)	
Lead (Pb)	
Particulate Matter (PM _{2.5}) ¹	
Particulate Matter (PM ₁₀) ¹	
Total Particulate Matter (TSP)	
Sulfur Dioxide (SO ₂)	
Volatile Organic Compounds (VOC)	
Hazardous Air Pollutants ²	Potential Emissions
Regulated Pollutants other than Criteria and HAP	Potential Emissions

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

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input checked="" type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input checked="" type="checkbox"/>	<p>19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:</p> <p><u>12S Diesel Storage Tank #1 (VOC emissions: 0.02 lb/hr, 0.07 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>13S Diesel Storage Tank #2 (VOC emissions: 0.01 lb/hr, 0.04 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>Surfactant/Binder - tote storage and handling. Emissions assumed negligible due to low vapor pressures</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p> <p><u>12S Diesel Storage Tank #1 (VOC emissions: 0.02 lb/hr, 0.07 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>13S Diesel Storage Tank #2 (VOC emissions: 0.01 lb/hr, 0.04 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>Surfactant/Binder - tote storage and handling. Emissions assumed negligible due to low vapor pressures</u></p>
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input type="checkbox"/>	26. Fire suppression systems.
<input type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.

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

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

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

Section 6: Certification of Information

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

Note: This Certification must be signed by a responsible official as defined in 45CSR§30-2.38.

a. Certification of Truth, Accuracy and Completeness

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

b. Compliance Certification


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

Responsible official (type or print)

Name: Matt McVay

Title: Plant Manager

Responsible official's signature:

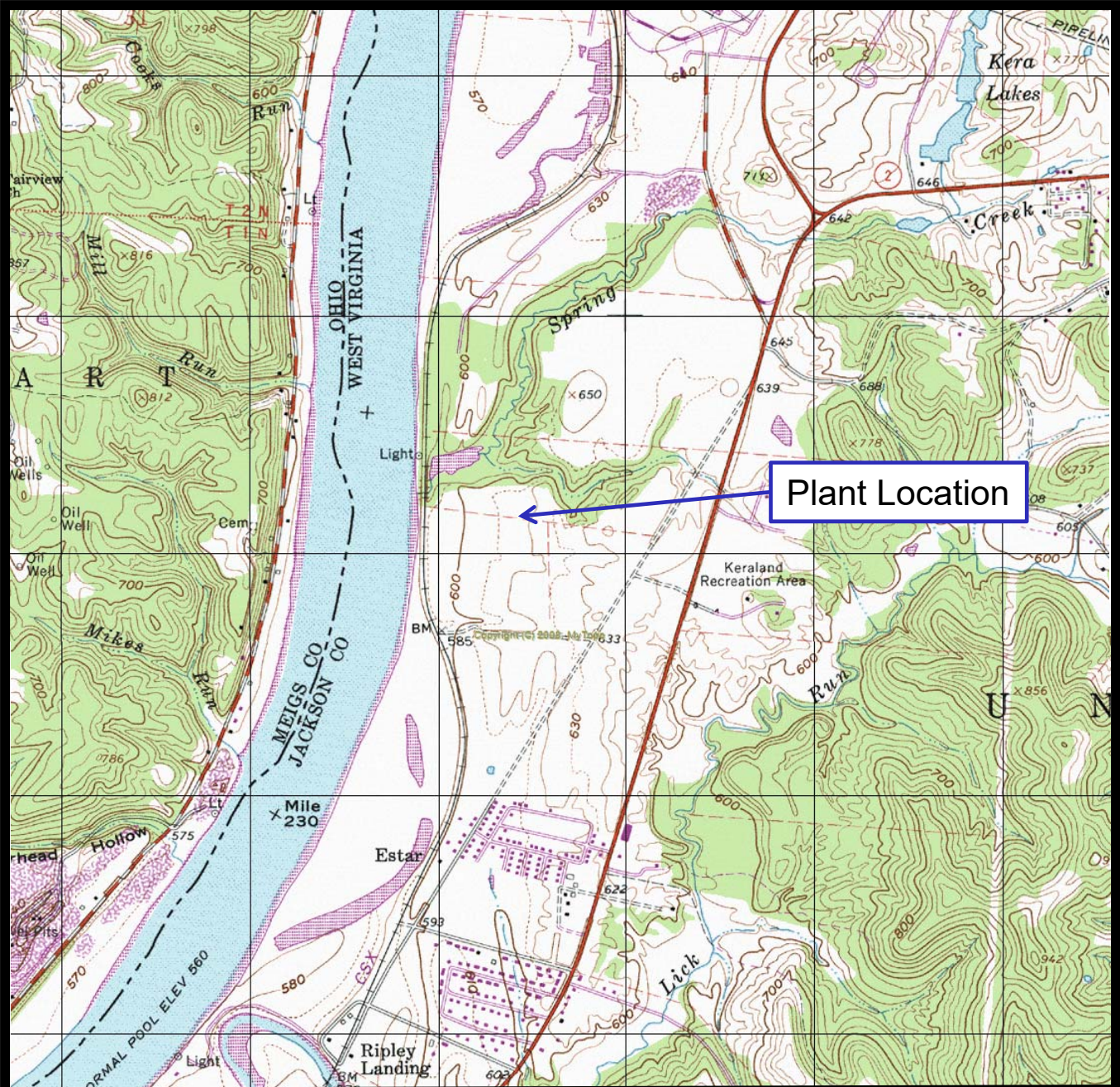
Signature:  Signature Date: 1.24.2024
(Must be signed and dated in blue ink or have a valid electronic signature)

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

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

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

**ATTACHMENT A
SITE LOCATION MAP**



505 PENN STREET
 SUITE 400
 READING, PA 19601
 PHONE: 610-375-9301



ATTACHMENT A: AREA MAP

MILLWOOD SLAG WOOL MANUFACTURING FACILITY

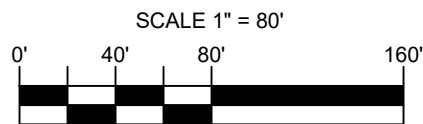
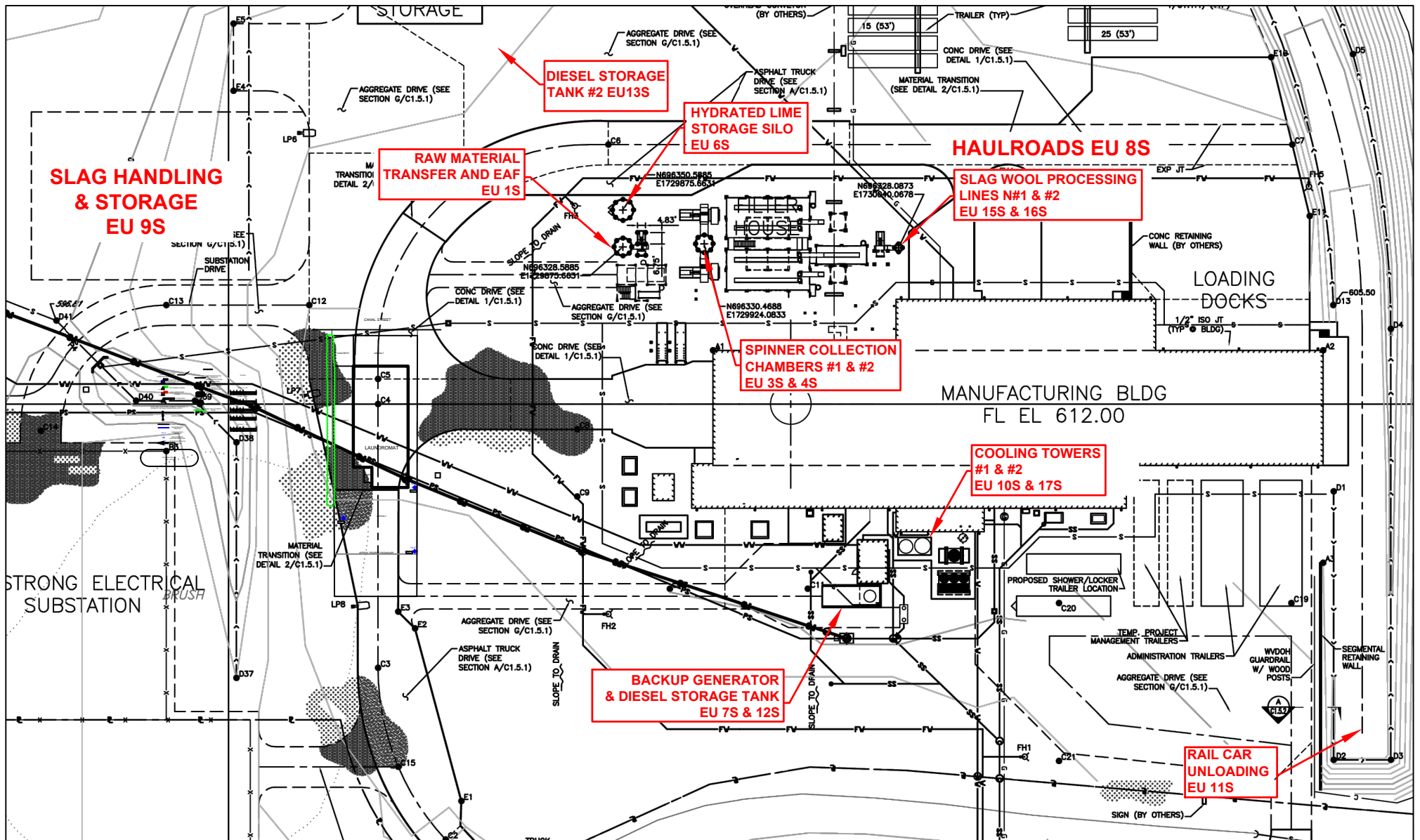
ARMSTRONG WORLD INDUSTRIES

USGS MAP QUADRANGLE: RAVENSWOOD, WV

SCALE : 1" = 2000 FEET



**ATTACHMENT B
PLOT PLAN**



Attachment B - Plot Plan

Armstrong World Industries, Inc.
Millwood Plant

Millwood, Jackson County, West Virginia

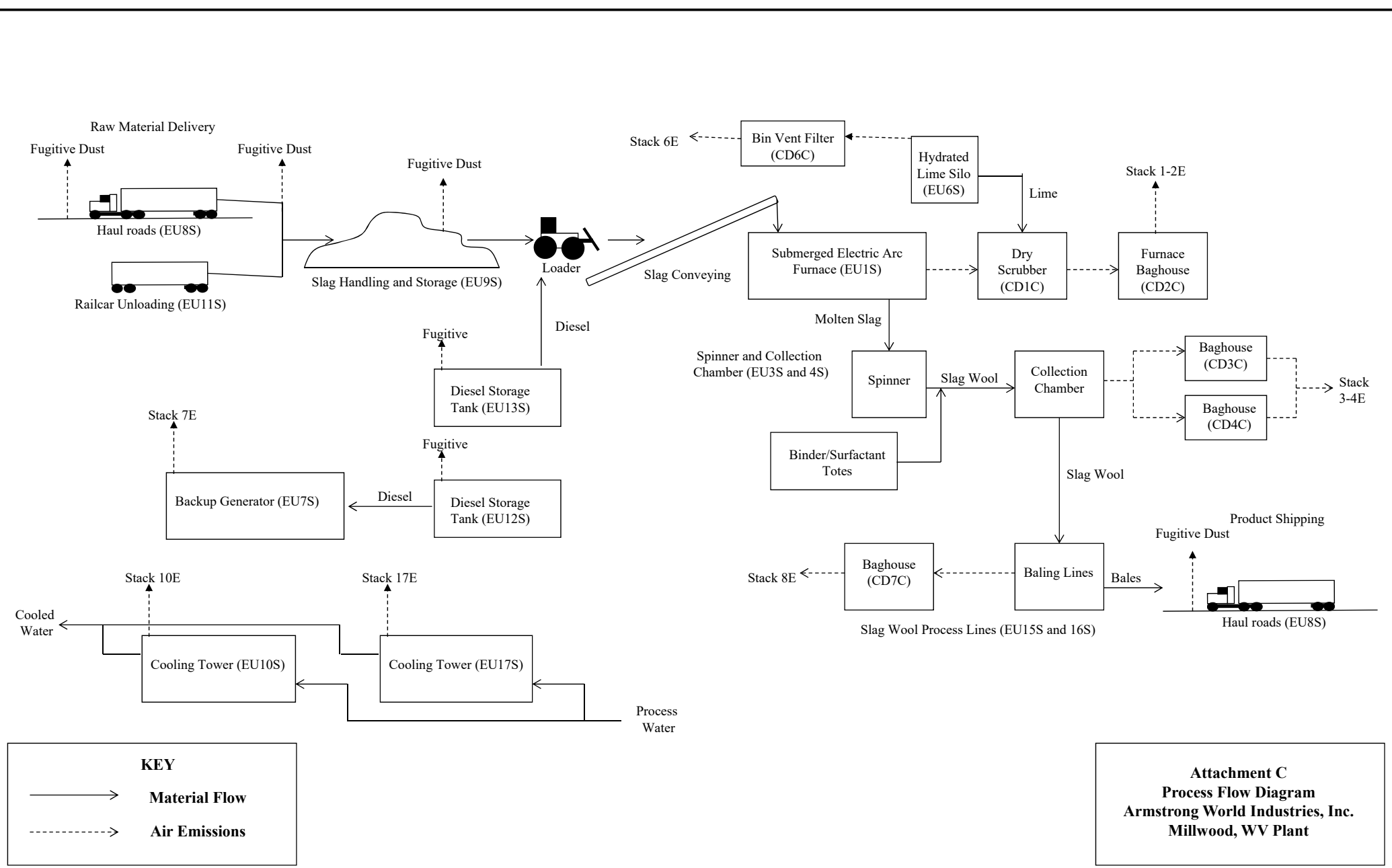
505 Penn St. Suite 400
 Reading, PA 19601
 Phone: 610-375-9301
 www.libertyenviro.com

PROJECT NO.: 180425
 DATE: JANUARY 10, 2024

REV: 1
 SCALE: 1" = 80'

PREPARED BY: JRY
 APPROVED BY: GLB

ATTACHMENT C
PROCESS FLOW DIAGRAM



KEY

—————> **Material Flow**

- - - - -> **Air Emissions**

Attachment C
Process Flow Diagram
Armstrong World Industries, Inc.
Millwood, WV Plant

**ATTACHMENT D
TITLE V EQUIPMENT TABLE**

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

Emission Unit ID ¹	Emission Point ID ¹	Emission Unit Description	Year Installed/ Modified	Design Capacity	Control Device ¹
1S	1-2E	Raw Material Transfer and EAF	2011	40,000 lb/hr	1C & 2C
3S	3-4E	Spinner Collection Chamber #1	2011	34,500 lb/hr	3C
4S	3-4E	Spinner Collection Chamber #2			4C
6S	6E	Hydrated Lime Silo	2011	3,300 cfm	6C
7S	7E	Backup Generator	2011	500 kWe	N/A
8S	Fugitive	Haulroads	2011	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	175,000 tpy	N/A
10S	10E	Cooling Tower #1	2011	1,500 gpm	N/A
11S	Fugitive	Railcar Unloading	2011	300 tph	N/A
12S	Fugitive	Diesel Storage Tank #1 – Emergency Generator	2011	900 Gal	N/A
13S	Fugitive	Diesel Storage Tank #2 – Front End Loader	2011	500 -1,000 Gal	N/A
15S	8E	Slag Wool Processing Line #1	2011	28,000 lb/hr (based on 24 hour average)	7C
16S	8E	Slag Wool Processing Line #2	2011		7C
17S	17E	Cooling Tower #2	2011	800 gpm	N/A
18S	18E	Propane Fueled Sand Dryer	2018	2,000 lb/hr sand 5 gal/hr propane	N/A

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

ATTACHMENT E
EMISSION UNIT FORMS

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 1S	Emission unit name: Raw Material Transfer and EAF	List any control devices associated with this emission unit: 1C & 2C
------------------------------------	---	---

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

The slag is transferred from the storage piles via conveyers, hoppers, and a bucket elevator to the Electric Arc Furnace (EAF). The resistive heating created from electricity traveling between three cylindrical electrodes melts the slag. Two molten layers form, a molten metallic layer and the molten slag layer. The melted slag flows out of the furnace to the spinners. The emissions from Raw Material Transfer and the EAF are controlled by the Furnace Dust Collector (2C) and SO₂ from the EAF is controlled by the Dry Lime Scrubber (1C).

Manufacturer: Tenova Pyromet	Model number: Custom	Serial number: Various
--	--------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 40,000 lb/hr slag feed rate to EAF

Maximum Hourly Throughput: 40,000 lb/hr slag	Maximum Annual Throughput: 175,200 tpy slag	Maximum Operating Schedule: 8760 hrs/yr
--	---	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)*	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Attachment I "Emissions Inventory".

* CO emission rates following the 2023 performance testing results are being evaluated and CO potential emissions may be revised.

Applicable Requirements

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

4.0 Manufacturing Process Sources Requirements [1S, 3S, 4S, 6S, 9S, 11S, 15S, 16S, ~~18S~~]

4.1. Limitations and Standards

4.1.1. Emissions from the facility shall not exceed the limitations set forth in Tables 4.1.1.1 and 4.1.1.2:

Table 4.1.1.1

Source	PM		PM ₁₀		NO _x		VOC		SO ₂		CO	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.00	55.00 ²	240.90
3S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
4S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
6S	1.13	4.95	1.13	4.95	--	--	--	--	--	--	--	--
9S	--	1.98	--	0.97	--	--	--	--	--	--	--	--
11S	0.02	0.10	0.01	0.05	--	--	--	--	--	--	--	--
15S/16S	2.39	10.47	2.39	10.47	--	--	--	--	--	--	--	--
18S³	0.1	0.44	0.1	0.44	0.07	0.28	0.01	0.02	--	--	0.03	0.16

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

²Hourly CO emission limits from the EAF are 55 pounds per hour based on a rolling 30 day average and 100 pounds per hour based on a rolling 24 hour average.

³Hourly emissions for the Propane fueled Sand Dryer (18S) are calculated based on burning 5 gal/hr of propane; Annual emissions for the Propane fueled Sand Dryer (18S) are based on operating for 8,760 hr/yr.

Table 4.1.1.2

Source	Mn		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	0.28	1.25	--	--	0.28	1.25
3S	0.78	3.40	--	--	0.78	3.40
4S	0.78	3.40	--	--	0.78	3.40
6S	--	--	--	--	--	--
9S	0.02	0.22	--	--	0.02	0.22
11S	0.01	0.01	--	--	0.01	0.01
15S/16S	0.26	1.15	--	--	0.26	1.15
18S	--	--	--	--	--	--

Compliance with the PM emission limits shall demonstrate compliance with the less stringent PM emission limits of 45CSR§7-4.1.

[45CSR13, R13-2864, 4.1.1 and 4.1.9.2, Tables 4.1.1.1 and 4.1.1.2, 45CSR§7-4.1.]

4.1.2.

The total annual SO₂ emissions from the Submerged Electric Arc Furnace (1S) shall not exceed 245 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.2]

4.1.3. The Furnace Dry Scrubber (1C) shall be designed, installed, operated and maintained so as to ensure compliance with the emission limits of 4.1.1. Operation of the scrubber is only required when necessary to meet the emission limits of 4.1.1.

[45CSR13, R13-2864, 4.1.3]

4.1.4. For the purpose of complying with the PM/PM₁₀/PM_{2.5} emission limits of condition 4.1.1 of this permit, all of the dust collectors shall be operated according to the following requirements:

The permittee has determined the optimal ranges for the pressure drop across baghouses 2C, 3C, 4C and 7C. The permittee shall maintain on site, and update as necessary, a certified report listing the operating ranges.

[45CSR13, R13-2864, 4.1.4]

4.1.5. Manganese content of the slag entering the furnace shall not exceed 10.95% (equivalent to 14.14% MnO).

[45CSR13, R13-2864, 4.1.5]

4.1.6. The total annual Mn emissions from the facility shall not exceed 9.6 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.12.]

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

a. The permittee shall maintain a water truck on site and in good operating condition, and shall utilize same to apply either water or a mixture of water and an environmentally acceptable dust control additive, hereinafter referred to as solution, as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from unpaved haulroads and other unpaved work areas where mobile equipment is used. The spraybar shall be equipped with commercially available spray nozzles, of sufficient size and number, so as to provide adequate coverage to the area being treated.

The pump delivering the solution, shall be of sufficient size and capacity so as to be capable of delivering to the spray nozzle(s) an adequate quantity of solution, and at a sufficient pressure, so as to assure that the treatment process will minimize the atmospheric entrainment of fugitive particulate emissions generated from the unpaved haulroads and work areas where mobile equipment is used.

b. All unpaved haulroads, access roads, stockpile and work areas shall be kept clean and in good condition by replacing base material and/or grading as required.

c. If tracking of solids by vehicular traffic from access and/or haulroads onto any public road or highway occurs and generates or has the potential to generate fugitive particulate emissions, the registrant shall properly operate and maintain an underbody truck wash, rumble strips or employ other suitable measures to maintain effective fugitive dust control of the premises and minimize the emission of particulate matter.

[45CSR13, R13-2864, 4.1.6]

4.1.8. The permittee shall ensure that the water trucks and/or water sprays are properly equipped with winterization systems capable of operating in a manner such that all such fugitive dust control systems remain effective and functional, to the maximum extent practicable, during winter months and cold weather. At all times, including periods of cold weather, the registrant shall comply with the water trucks and/or water sprays requirements of this permit.

[45CSR13, R13-2864, 4.1.7]

4.1.9. Total slag throughput to the EAF shall not exceed 175,200 tons per year on a rolling 12 month total.

[45CSR13, R13-2864, 4.1.8]

4.1.10. 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 for 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§7-3.1 & 45CSR§7-3.2, 45CSR13, R13-2864, 4.1.9.1 (1S, 3S, 4S, 15S, 16S, 18S)]

4.1.11. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process that pursuant to Condition 4.1.13. is required to have a full enclosure and be equipped with a particulate matter control device.

[45CSR§7-3.7.] (6S)

4.1.12. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.

[45CSR§7-4.12.]

4.1.13. 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., 45CSR13, R13-2864, 4.1.9.3]**

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

[45CSR§7-5.2., 45CSR13, R13-2864, 4.1.9.4]

4.1.15. 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. of 45CSR10.

[45CSR§10-4.1., 45CSR13, R13-2864, 4.1.10.] (1S)

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

[45CSR§13-5.10., 45CSR13, R13-2864, 4.1.13]

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

4.2. Monitoring Requirements

4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturers recommendations concerning maintenance and performance.

[45CSR13, R13-2864, 4.2.1]

4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, R13-2864, 4.2.2] (1S, 3S, 4S, 6S, 15S, 16S, 18S)

4.2.3. The permittee shall install, maintain and operate instrumentation to continuously monitor and record at least once per operating day the control device parameters (1C, 2C, 3C, 4C and 7C) as determined by conditions

4.1.3 and 4.1.4 of this permit at all times that the emission source(s) is/are in operation.

[45CSR13, R13-2864, 4.2.3] [40 C.F.R. § 64.3(b)(4)(iii); 45CSR§30-5.1.c.] (2C, 7C)

4.2.4. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of SO₂, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 2 as appropriate, and Performance Specification 4, 4a or 4b (CO) as appropriate.

[45CSR13, R13-2864, 4.2.4]

4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.15 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier. Alternatively, the permittee may obtain a fuel sample of each shipment and perform analytical testing to determine the sulfur content. **[45CSR13, R13-2864, 4.2.5]**

4.2.6. To show compliance with the SO₂ limit in condition 4.1.2 of this permit, monthly SO₂

emissions from the submerged electric arc furnace shall be calculated (using SO₂ CEMS) by the 15th of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.7]

4.2.7. In order to determine compliance with conditions 4.1.1. and 4.1.5 of this permit, the permittee shall obtain representative samples from each shipment of slag from each supplier for the first week of operation (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) to be analyzed for the Manganese content (percent Manganese by weight). The manganese content from each type of slag shall be averaged for the week in order to determine a baseline manganese content for that suppliers slag. After the first week of samples, the permittee shall continue to collect the weeks worth of samples (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) at least once per month to either confirm the existing or reestablish a new baseline Mn level for that supplier. If the permittee adds a new slag supplier, the permittee shall collect samples for each shipment for one week in order to establish the baseline Mn content for that supplier.

If the baseline Mn content of the slag from any supplier exceeds the Mn level permitted in condition 4.1.5 of this permit, Armstrong shall maintain a record documenting, any time that specific slag is used in the furnace, that the Mn content of the slag blend entering the furnace does not exceed the Mn level permitted in Condition 4.1.5 of this permit.

[45CSR13, R13-2864, 4.2.9]

4.2.8. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of CO, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 4, 4a or 4b as appropriate.

[45CSR13, R13-2864, 4.2.6]

4.2.9. The permittee shall maintain monthly records of slag throughput to the EAF.

[45CSR13, R13-2864, 4.2.11]

4.2.10. To show compliance with the Mn emission limit in condition 4.1.6. of this permit, monthly Mn emissions from the facility shall be calculated (mass balance) by the 15th day of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.12]

4.2.11. To show compliance with the CO limit in condition 4.1.1 of this permit, monthly CO emissions from the submerged electric arc furnace shall be calculated (using CO CEMS) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.10]

~~4.2.12. To show compliance with the emission limits given in condition 4.1.1. of this permit, the permittee shall keep a monthly record of hours of operation and propane fuel usage for the Sand Dryer (18S). These monthly records shall be used to calculate a twelve month rolling average hourly fuel usage rate which should not exceed 5 gal/hr of propane consumption.~~

~~**[45CSR13, R13-2864, 4.2.13.]**~~

4.2.13. **CAM Indicator Range for 2C** – While the Raw Material Transfer and EAF is operating, the static pressure drop across the Furnace Dust Collector (2C) shall be greater than or equal to 1.0 and

less than or equal to 7.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.

[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (1S)

4.2.14. **CAM Indicator Range for 7C** – While the Slag Wool Processing Lines #1 or #2 (or both simultaneously) are operating, the static pressure drop across the Fiber Line Baghouse (7C) shall be greater than or equal to 0.5 and less than or equal to 9.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.

[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (15S, 16S)

4.2.15. **Excursion Definition for the Raw Material Transfer and EAF** – For the purposes of 40 C.F.R. Part 64, an excursion for the Raw Material Transfer and EAF (1S) is a static pressure drop across the Furnace Dust Collector (2C) outside of the indicator range specified in permit condition 4.2.13. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.

[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (1S)

4.2.16. **Excursion Definition for the Slag Wool Processing Lines #1 and #2** – For the purposes of 40 C.F.R. Part 64, an excursion for the Slag Wool Processing Lines #1 and #2 (15S and 16S) is a static pressure drop across the Fiber Line Baghouse (7C) outside of the indicator range specified in permit condition 4.2.14. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.

[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (15S, 16S)

4.2.17. **Commencement of operation** – The permittee shall conduct the monitoring required under 40 C.F.R. Part 64 upon issuance of this permit that includes such monitoring.

[40 C.F.R. § 64.7(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.18. **Proper Maintenance** – At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

[40 C.F.R. § 64.7(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.19. **Continued Operation** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 C.F.R. Part 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 C.F.R. § 64.7(c); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.20. **Response to Excursions or Exceedances**

(1) Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its

normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. § 64.7(d); 45CSR§30-5.1.c.] (IS, IS5, I6S)

4.2.21. Documentation of Need for Improved Monitoring – After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. § 64.7(e); 45CSR§30-5.1.c.] (IS, IS5, I6S)

4.2.22. Quality Improvement Plan (QIP) – Based on the results of a determination made under §64.7(d)(2) (Response to excursions or exceedances, permit condition 4.2.20.(2)), the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, then it shall be developed, implemented, and modified as required according to 40 C.F.R. §§ 64.8(b) through (e). Refer to permit condition 4.5.4.(2)c. for the reporting required when a QIP is implemented. Notwithstanding the Administrator or the Director requiring the permittee to develop a QIP, the permittee proposed an accumulation of exceedances or excursions exceeding 10 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP.

[40 C.F.R. § 64.8; 45CSR§30-5.1.c.] (IS, IS5, I6S)

4.3. Testing Requirements

4.3.1. The permittee shall complete the following performance testing:

4.3.1.1. The permittee shall perform or have performed EPA approved stack tests to determine emissions of NO_x, VOCs, PM and PM₁₀ from the submerged electric arc furnace.

4.3.1.2. The permittee shall perform or have performed EPA approved stack tests to determine emissions of PM and PM₁₀ from one of the spinner collection chambers.

4.3.1.3. The permittee shall perform or have performed EPA approved stack tests to determine emissions of Manganese from one of the spinner collection chambers and the submerged electric arc furnace.

[45CSR13, R13-2864, 4.3.1]

4.3.2. Ongoing compliance shall be demonstrated by repeating the above testing (condition 4.3.1.) according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Director's Request

Initial	Between 10% and 50% of limits	Once/5 years
Initial	Between 50% and 90% limits	Once/3 years
Initial	≥90% of limits	Annual
Annual	After two successive tests indicate emission rates ≤50% of	Once/5 years
Annual	After two successive tests indicate emission rates <90% of	Once/3 years
Annual	≥90% of limits	Annual
Once/3 years	After two successive tests indicate emission rates ≤50% of	Once/5 years
Once/3 years	After two successive tests indicate emission rates <90% of	Once/3 years
Once/3 years	≥90% of limits	Annual
Once/5 years	After two successive tests indicate emission rates <10% of limits	Upon Director's Request
Once/5 years	≤50% of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	≥90% of limits	Annual

[45CSR13, R13-2864, 4.3.2]

4.3.3. **Quality Assurance / Quality Control Practice** – For the Furnace Dust Collector (2C) and Fiber LineBaghouse (7C), the differential pressure sensing devices shall be electrically tested semi-annually to verify correct readings and that accurate data is being sent to the data logging system. The reading shall be within 0.15 in. of water column. If a reading differs in a value greater than 0.15 in. water column, a vendor shall be utilized as expeditiously as practicable to calibrate the differential pressure sensing device. A vendor shall be scheduled for a regular calibration visit every 3 years. Records of the testing and calibrations shall be maintained in accordance with conditions 3.4.1. and 3.4.2.

[40 C.F.R. § 64.3(b)(3); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.4. Recordkeeping Requirements

4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-2864, 4.4.2.]

4.4.2. **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.

[45CSR13, R13-2864, 4.4.3.]

4.4.3. In order to determine compliance with condition 4.1.5 of this permit, the permittee shall keep monthly records of the Manganese content of the slag. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.4]

4.4.4. The permittee shall maintain monthly records of slag wool production from the facility. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative. **[45CSR13, R13-2864, 4.2.8. and 4.4.5]**

4.4.5. In order to demonstrate compliance with the requirements of 4.2.2 of this permit, records of the Method 22 testing and any necessary Method 9 testing shall be retained on site by the permittee for at least five (5) years. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.6]

4.4.6. In order to determine compliance with the requirements of conditions 4.1.15 and 4.2.5 of this permit, the permittee shall maintain records of the fuel oil sulfur content. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.7]

4.4.7. In order to determine compliance with the requirements of condition 4.1.4 of this permit, the permittee shall maintain daily records of the pressure drop across each baghouse. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.8]

4.4.8. In order to determine compliance with condition 4.2.9 of this permit, the permittee shall maintain monthly records of slag throughput to the EAF. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.9]

4.4.9. **General recordkeeping requirements for 40 C.F.R. Part 64 (CAM).** The permittee shall comply with the recordkeeping requirements specified in permit conditions 3.4.1. and 3.4.2. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 (condition 4.2.22.) and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40

C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

[40 C.F.R. § 64.9(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.5. Reporting Requirements

4.5.1. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

[45CSR13, R13-2864, 4.5.1]

4.5.2. With regard to testing required by section 4.3 of this permit, results shall be submitted to the Director no more than 60 days after the date the testing takes place.

[45CSR13, R13-2864, 4.5.2]

4.5.3. The permittee shall comply with all applicable reporting requirements of 45CSR7, 45CSR10, and 45CSR13.

[45CSR13, R13-2864, 4.5.3]

4.5.4. **General reporting requirements for 40 C.F.R. Part 64 (CAM)**

~~(1) On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit CAM monitoring reports with the quarterly excess emissions reports. A copy of the CAM monitoring reports generated within the semi-annual monitoring report period shall be included with the semi-annual monitoring report under permit condition 3.5.6. Incorporation by reference within the semi-annual monitoring report is not acceptable.~~

(2) A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:

- a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
- b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. § 64.9(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.6. Compliance Plan

4.6.1. Reserved.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 3S	Emission unit name: Spinner Collection Chamber #1	List any control devices associated with this emission unit: 3C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Spinner Collection Chamber #1 collects slag wool fibers from Spinner #1. Emissions are controlled by the Collection Chamber Baghouse #1 (3C) after the slag wool is treated with surfactants/binders.

Manufacturer: Danser	Model number: 001	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2

Maximum Hourly Throughput: 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2	Maximum Annual Throughput: 151,110 tons/yr slag wool between Spinner Collection Chamber #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 4S	Emission unit name: Spinner Collection Chamber #2	List any control devices associated with this emission unit: 4C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Spinner Collection Chamber #2 collects slag wool fibers from Spinner #2. Emissions are controlled by the Collection Chamber Baghouse #2 (4C) after the slag wool is treated with surfactants/binders..

Manufacturer: Danser	Model number: 002	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2

Maximum Hourly Throughput: 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2	Maximum Annual Throughput: 151,110 tons/yr slag wool between Spinner Collection Chamber #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 6S	Emission unit name: Hydrated Lime Storage Silo	List any control devices associated with this emission unit: 6C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Hydrated Lime Silo is pneumatically filled from the lime tank trucks. The silo is controlled by bin vent filter (6C).

Manufacturer: Dustex	Model number: 11378-G-0021 711021	Serial number: Various
Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 3,300 cf tank capacity

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA	NA	NA
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 7S	Emission unit name: Backup Generator	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The backup diesel-fired generator is an “emergency” generator to be used to provide electricity to the Millwood facility in the event that the grid power is unavailable.

Manufacturer: Caterpillar	Model number: Generator: 500kW Engine Caterpillar Model:C15 Family: 8CPXL15.2ELW	Serial number: Generator: G6B15172 Engine: N/D
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Construction date: 2008	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): Generator: 500kW power output, Engine 762 HP

Maximum Hourly Throughput: 36.2 gal/hr	Maximum Annual Throughput: 18,100 gal/yr @ 500 hr/yr	Maximum Operating Schedule: 500 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: Engine: 762 hp	Type and Btu/hr rating of burners: N/A
--	--

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

ULSD, 36.2 gal/hr, 18,100 gal/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
ULSD	15 ppm	NA	139,000 Btu/gal

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

6.0 Backup Generator Requirements [7S]

6.1 Limitations and Standards

6.1.1. Emissions from the backup generator, 7S, shall not exceed the following limitations:

Pollutant	Hourly limit in lb/hr	Annual limit in tpy
PM	0.08	0.02
PM 1	0.08	0.02
NOx	8.17	2.04
VOC	0.07	0.02
SO2	0.31	0.08
CO	1.93	0.48
VOC HAP	0.01	0.002
Total HAP	0.01	0.002

1All PM10 is assumed to be PM2.5 and all PM, PM10, PM2.5 emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 and 4.1.1.2; State-enforceable only]

6.1.2.

The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart IIII (backup generator 7S) including but not limited to the following:

Emissions from the Backup Generator (7S) shall not exceed the following:

NOx+NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
4.0	3.5	0.20

[40 C.F.R. §60.4205(b); 45CSR13, R13-2864, 4.1.11.1; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1);45CSR34]

6.1.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 over the entire life of the engine.

[40 C.F.R. §60.4206; 45CSR13, R13-2864, 4.1.11.2; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.4. The nonroad diesel fuel that is used in the backup generator must have a sulfur content less than 15 parts per million. The nonroad diesel fuel must have a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

[40 C.F.R. §60.4207(b); 45CSR13, R13-2864, 4.1.11.3; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.5. a. If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under Condition 6.1.5.c. of this permit:

1. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

2. Change only those emission-related settings that are permitted by the manufacturer; and

3. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

b. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Condition 6.1.2. of this permit, you must comply by purchasing an engine certified to the emission standards in Condition 6.1.2. for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 6.1.5.c. of this permit.

c. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[40 C.F.R. §§ 60.4211(a), (c), (g), and (g)(3); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.6. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (1) through (3) of this condition, is prohibited. If you do not operate the engine according to the requirements in paragraphs (1) through (3) of this condition, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for the purposes specified in paragraph (2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (2) of this condition.

[40 C.F.R. §60.4211(f); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

Permit Shield

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

6.2. Monitoring Requirements

6.2.1. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

[40 C.F.R. §60.4209(b); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.3. Testing Requirements

6.3.1. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart IIII.

[45CSR13, R13-2864, 4.3.3]

6.4. Recordkeeping Requirements

6.4.1. Reserved.

6.5. Reporting Requirements

6.5.1. The permittee shall comply with all applicable reporting requirements of 40 CFR 60 Subpart IIII.

[45CSR13, R13-2864, 4.5.3]

6.6. Compliance Plan

6.6.1. Reserved.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 8S	Emission unit name: Fugitive Dust from Traffic	List any control devices associated with this emission unit: NA
------------------------------------	--	--

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

Emissions from unpaved roads of the facility result from traffic of various vehicles used for material transfer hauling.

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 8,880 VMT/yr

Maximum Hourly Throughput: 1.01 VMT/hr	Maximum Annual Throughput: 8,880 VMT/yr	Maximum Operating Schedule: 8760 hrs/yr
--	---	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 9S	Emission unit name: Slag Handling and Storage	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Slag Handling and Storage Emissions include emissions from the transfer of slag material to storage piles and wind erosion from the slag storage piles.

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: NA	Installation date: NA	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): NA

Maximum Hourly Throughput: NA	Maximum Annual Throughput: NA	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>			
Criteria Pollutants	Potential Emissions		
	PPH	TPY	
Carbon Monoxide (CO)	See Attachment I		
Nitrogen Oxides (NO _x)			
Lead (Pb)			
Particulate Matter (PM _{2.5})			
Particulate Matter (PM ₁₀)			
Total Particulate Matter (TSP)			
Sulfur Dioxide (SO ₂)			
Volatile Organic Compounds (VOC)			
Hazardous Air Pollutants	Potential Emissions		
	PPH	TPY	
Regulated Pollutants other than Criteria and HAP	Potential Emissions		
	PPH	TPY	
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>			

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 10S	Emission unit name: Cooling Tower #1	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Cooling Tower #1 is one of two towers used to chill water associated with the EAF continuous cooling process.

Manufacturer: Evertrough	Model number: UII855303-01	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1,500 gpm

Maximum Hourly Throughput: 90,000 gal/hr	Maximum Annual Throughput: 788.4 mmgal/yr	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>			
Criteria Pollutants	Potential Emissions		
	PPH	TPY	
Carbon Monoxide (CO)	See Attachment I		
Nitrogen Oxides (NO _x)			
Lead (Pb)			
Particulate Matter (PM _{2.5})			
Particulate Matter (PM ₁₀)			
Total Particulate Matter (TSP)			
Sulfur Dioxide (SO ₂)			
Volatile Organic Compounds (VOC)			
Hazardous Air Pollutants	Potential Emissions		
	PPH	TPY	
Regulated Pollutants other than Criteria and HAP	Potential Emissions		
	PPH	TPY	
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>			

Applicable Requirements

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

5.1. Limitations and Standards

5.1.1. Emissions from the storage tanks shall not exceed the limitations set forth below:

Source	VOC		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
12S	0.02	0.07	0.02	0.07	0.02	0.07
13S	0.01	0.04	0.01	0.04	0.01	0.04

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 & 4.1.1.2; State-enforceable only]

5.1.2. Emissions from the cooling towers shall not exceed the limitations set forth below:

Source	PM		PM ₁₀ ¹	
	lb/hr	tpy	lb/hr	tpy
10S	0.77	3.37	0.77	3.37
17S	0.41	1.80	0.41	1.80

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Table 4.1.1.1; State-enforceable only]

Permit Shield

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

5.2. Monitoring Requirements

5.2.1. Reserved.

5.3. Testing Requirements

5.3.1. Reserved.

5.4. Recordkeeping Requirements

5.4.1. Reserved.

5.5. Reporting Requirements

5.5.1. Reserved.

5.6. Compliance Plan

5.6.1. Reserved.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 11S	Emission unit name: Railcar Unloading (Fugitive)	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Railcar unloading fugitive emissions result from material transfer operations.

Manufacturer: NA	Model number: NA	Serial number: NA
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Construction date: NA	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 300 tph

Maximum Hourly Throughput: 300 tph	Maximum Annual Throughput: 2,628 mtph	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
	NA	NA
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 12S	Emission unit name: Diesel Storage Tank #1	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

900 gallon diesel storage tank for emergency generator (7S)

Manufacturer: NA	Model number: NA	Serial number: NA
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Construction date: NA	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 900 gallons

Maximum Hourly Throughput: 900 Gallons	Maximum Annual Throughput: N/D	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY

Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)	0.02	0.07
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
VOC HAPs	0.02	0.07
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 10S requirments

Permit Shield

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

See Source 10S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 13S	Emission unit name: Diesel Storage Tank #2	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

~~500~~ 1,000 gallon diesel storage tank for mobile equipment (e.g. front end loader).

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: NA	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): ~~500~~ 1,000 gallons

Maximum Hourly Throughput: 500 1,000 Gallons	Maximum Annual Throughput: N/D	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)	0.01	0.04
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
VOC HAPs	0.01	0.04
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 10S requirements

Permit Shield

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

See Source 10S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 15S	Emission unit name: Slag Wool Processing Line #1	List any control devices associated with this emission unit: 7C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Slag Wool Processing Line #1 includes the infrastructure which transports the slag wool from Spinner Collection Chamber #1, prepares it for baling, and aids in the baling process.

Manufacturer: Balemaster	Model number: 11201A	Serial number: Various
------------------------------------	--------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2

Maximum Hourly Throughput: 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2	Maximum Annual Throughput: 122,640 tons/yr slag wool between Slag Wool Processing Line #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 16S	Emission unit name: Slag Wool Processing Line #2	List any control devices associated with this emission unit: 7C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Slag Wool Processing Line #2 includes the infrastructure which transports the slag wool from Spinner Collection Chamber #2, prepares it for baling, and aids in the baling process.

Manufacturer: Balemaster	Model number: 11202A	Serial number: Various
------------------------------------	--------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2

Maximum Hourly Throughput: 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2	Maximum Annual Throughput: 122,640 tons/yr slag wool between Slag Wool Processing Line #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
--	--	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 17S	Emission unit name: Cooling Tower #2	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Cooling Tower #2 is one of two towers used to chill water associated with the EAF continuous cooling process.

Manufacturer: Evertrough	Model number: U88855303-02	Serial number: Various
------------------------------------	--------------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 800 gpm

Maximum Hourly Throughput: 800 gpm	Maximum Annual Throughput: 420.48 mmgal/yr	Maximum Operating Schedule: 8760 hrs/yr
--	--	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 10S requirements

Permit Shield

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

See Source 10S requirements

Are you in compliance with all applicable requirements for this emission unit? Yes No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT F
SCHEDULE OF COMPLIANCE FORM (NOT APPLICABLE)

ATTACHMENT G
AIR POLLUTION CONTROL DEVICE FORM

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 1C – Dry Lime Scrubber

List all emission units associated with this control device. 1S

Manufacturer: Dustex

Model number: 10357-PFD-1

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
SO ₂	100%	88% (for slag content of 3% by wt.)

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
50,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The Dry Lime Scrubber (1C) provides control of SO₂ for the EAF (1S). Potential pre and post-control SO₂ emissions from the EAF exceed major source thresholds so the scrubber is potentially subject to the CAM requirements of 40 CFR 64. However, 40 CFR 64 specifically exempts emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method. The EAF is equipped with SO₂ CEMS as required by the existing Title V Operating Permit. Therefore this control device is exempt from the CAM Provisions of 40 CFR 64. In addition, the dry scrubber is not required to meet the SO₂ emission limit and not required to be in operation at all times (Condition 4.1.3).

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

SO₂ CEMS

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 2C –
Furnace Dust Collector

List all emission units associated with this control device. 1S

Manufacturer: Dustex

Model number: 11378-A-0201-2

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
50,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

CAM was addressed in the prior (2018) permit renewal application and CAM requirements are incorporated in the current operating permit.

If No, **Provide justification.**

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

Monitoring of pressure drop across the control device.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 3C – Spinner Collection Chamber Baghouse #1

List all emission units associated with this control device. 3S

Manufacturer: Dustex

Model number: 11378-A-0001

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

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

150,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The Spinner Collection Chamber Baghouse #1 (3C) collects slag wool fibers from Spinner Collection Chamber #1 and conveys them to the Slag Wool Processing Lines. The Spinner Collection Chamber Baghouse #1 has potential pre-control emission in excess of the major source threshold and potential post control emissions less than the major source threshold and is therefore potentially subject to the CAM requirements of 40 CFR 64. However 40 CFR 64 applies only to control devices. The Spinner Collection Chamber Baghouse is inherent process equipment used for material handling and is therefore not considered a control device under 40 CFR 64 and is therefore not subject to CAM.

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

Pressure drop across control device.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 4C –
Collection Chamber Baghouse #2

List all emission units associated with this control device. 4S

Manufacturer: Dustex

Model number: 11378-A-0002

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

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

150,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The Spinner Collection Chamber Baghouse #2 (4C) collects slag wool fibers from Spinner Collection Chamber #2 and conveys them to the Slag Wool Processing Lines. The Spinner Collection Chamber Baghouse #2 has potential pre-control emission in excess of the major source threshold and potential post control emissions less than the major source threshold and is therefore potentially subject to the CAM requirements of 40 CFR 64. However 40 CFR 64 applies only to control devices. The Spinner Collection Chamber Baghouse is inherent process equipment used for material handling and is therefore not considered a control device under 40 CFR 64 and is therefore not subject to CAM.

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

Pressure drop across control device.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
6C – Silo Bin Vent Filter

List all emission units associated with this control device.
6S

Manufacturer: Dustex

Model number: 11378-A-0208

Installation date:
2012

Type of Air Pollution Control Device:

- Baghouse/Fabric Filter ___ Venturi Scrubber ___ Multiclone
 ___ Carbon Bed Adsorber ___ Packed Tower Scrubber ___ Single Cyclone
 ___ Carbon Drum(s) ___ Other Wet Scrubber ___ Cyclone Bank
 ___ Catalytic Incinerator ___ Condenser ___ Settling Chamber
 ___ Thermal Incinerator ___ Flare Other (describe) silo bin vent filter
 ___ Wet Plate Electrostatic Precipitator ___ Dry Plate Electrostatic Precipitator

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

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

3,300 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Due to the small size (3,300 cfm) and batch nature of this bin vent's operation, it is assumed that potential pre-control emissions from this operation are less than major source thresholds and the unit is therefore not subject to CAM.

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

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 7C – Fiber Line Baghouse	List all emission units associated with this control device. 15S & 16S
--	--

Manufacturer: Dustex	Model number: 11378-A-0102	Installation date: 2012
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Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
 40,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

CAM was addressed in the prior (2018) permit renewal application and CAM requirements are incorporated in the current operating permit.

If No, **Provide justification.**

The Fiber Line Baghouse (7C) provides control of particulate matter emissions from the Slag Wool Processing Lines (#1 and 2). Pre control emissions are greater than major source thresholds so the dust collector is therefore subject to CAM.

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

Pressure drop across control device.

ATTACHMENT H
COMPLIANCE ASSURANCE MONITORING (CAM) FORM

**ATTACHMENT I
EMISSIONS INVENTORY**

TABLE 1
SUMMARY OF FACILITY-WIDE AIR EMISSIONS
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Emission Unit ID	Emission Point ID	Emission Unit	Control Device	Control Device ID	PM		PM ₁₀		PM _{2.5}		NO _x		VOC		SO ₂		CO		CO ₂		Mn		Total HAPs Excluding Mn	
					lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	1-2E	Raw Material Transfer Operations and Submerged Electric Arc Furnace (EAF)	Dry Scrubber & Furnace Dust Collector	1C & 2C	2.60	11.39	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.02	55.00	240.90	747.39	3273.58	0.28	1.25	NA	NA
3S	3-4E	Spinner Collection Chamber #1	Collection Chamber Baghouse #1	3C	7.09	31.06	7.09	31.06	7.09	31.06	NA	NA	0.38	1.65	NA	NA	NA	NA	NA	NA	0.78	3.40	NA	NA
4S	3-4E	Spinner Collection Chamber #2	Collection Chamber Baghouse #2	4C	7.09	31.06	7.09	31.06	7.09	31.06	NA	NA	0.38	1.65	NA	NA	NA	NA	NA	NA	0.78	3.40	NA	NA
6S	6E	Hydrated Lime Storage Silo	Silo Bin Vent Filter	6C	1.13	4.96	1.13	4.96	1.13	4.96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7S	7E	Backup Generator	None	NA	0.08	0.02	0.08	0.02	0.08	0.02	8.17	2.04	0.07	0.02	0.009	0.002	1.93	0.48	NA	NA	NA	NA	0.008	0.002
8S	Fugitive	Fugitive Dust from Traffic	None	NA	ND	14.56	ND	3.88	ND	0.39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9S	Fugitive	Slag Handling and Storage (Fugitive)	None	NA	ND	1.98	ND	0.97	ND	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02	0.22	NA	NA
10S	10E	Cooling Tower #1	None	NA	0.77	3.37	0.77	3.37	0.77	3.37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11S	Fugitive	Railcar Unloading (Fugitive)	None	NA	0.02	0.10	0.01	0.05	0.002	0.008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	0.01	NA	NA
15S	8E	Slag Wool Processing Line #1																						
16S	8E	Slag Wool Processing Line #2	Fiber Line Baghouse	7C	2.39	10.47	2.39	10.47	2.39	10.47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.26	1.15	NA	NA
17S	17E	Cooling Tower #2	None	NA	0.41	1.80	0.41	1.80	0.41	1.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18S	18E	Propane-Fueled Sand Dryer	None	None	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0	0.00	0.00	NA	NA	NA	NA
Totals					21.6	110.8	21.6	99.0	21.6	94.7	13.2	23.9	5.8	25.2	55.9	245.0	56.9	241.4	747	3,274	2.1	9.4	0.0	0.0

TABLE 2
ELECTRIC ARC FURNACE (EU 1S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Data Sources	Slag Throughput		PM		PM ₁₀		PM _{2.5}		NO _x		VOC		SO ₂		CO		Mn	
	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr ^c	ton/year	lb/hr	ton/year
PM emissions from EAF baghouse based on exhaust flowrate and outlet PM concentration. ^a NO _x , VOC rates from WVDEP Engineering Evaluation/Fact Sheet. ^b CO emissions based on CEMS data collected by AWI at EAF baghouse exhaust. ^c SO ₂ emissions based on worst-case S-content of slag.	40,000	175,200	2.60	11.39	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.02	55.00	240.90	0.285	1.25

^a EAF baghouse exhaust flowrate of 43,275 scfm and PM/PM₁₀/PM_{2.5} outlet concentration of 0.007 gr/scf. Mn/PM ratio of 10.95%.

^b WV DEP R13 Permit 12/2010.

^c 55 lb/hr CO on a 30-day average based on CO CEMS data collected from 10/13 - 9/14.

TABLE 3
SPINNER COLLECTION CHAMBERS (EU 3S & 4S), HOUSEKEEPING BAGHOUSE (EU 5S), LIME SILO (EU 6S), & SLAG WOOL PROCESSING LINES (15S & 16S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

EU ID	Volumetric Flowrate (scfm)	Annual Operating Hours	Outlet PM/PM10 Concentration (gr/dscf)	Mn Constant (% wt PM)	PM/PM ₁₀ /PM _{2.5}		Mn ^c		VOC From Surfactant/Binder			
					lb/hr	tpy	lb/hr	tpy	lb/hr used	% wt VOC	VOC lb/hr/line	tpy
3S	118,193	8,760	0.007	10.95	7.1	31.1	0.78	3.40	37.61	1.00	0.38	1.65
4S	118,193	8,760	0.007	10.95	7.1	31.1	0.78	3.40	37.61	1.00	0.38	1.65
6S	3,300	8,760	0.04	10.95	1.13	4.96	NA	NA	NA	NA	NA	NA
15S ^b												
16S ^b	39,849	8,760	0.007	10.95	2.39	10.47	0.26	1.15	NA	NA	NA	NA

^a PM emissions calculated based on baghouse exhaust flowrates and PM/PM10/PM2.5 outlet concentrations.

^b Exhaust flowrate of Fiber Line Baghouse (Control Device 7C) that controls PM emissions from both slag wool processing lines (15S and 16S).

^c Based on Mn content in slag of 10.95% by weight.

^dBased on Spinner Chamber #1 & #2 combined design capacity (34,500 tph) an application rate of 1 lb surfactant/ton wool, 3.36 lb binder/ton wool and the following VOC contents:

Surfactant:	Rhodasurf L/4 STD	0.5% VOC (Conservatively assumed 1.0% VOC)
Binder:	Xiameter (R) Mem-1727 Thread Finish	(assumed VOC content similar to surfactant)

**TABLE 4
FUGITIVE DUST FROM SLAG HANDLING & STORAGE (EU 9S & EU 11S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

EU ID	Transfer Points	Throughput		PM	PM ₁₀	PM _{2.5}	Mn Content (% wt)	PM		PM ₁₀		PM _{2.5}		Mn	
		ton/hr	ton/yr	Emission Factor ^a (lb/ton)	Emission Factor ^a (lb/ton)	Emission Factor ^a (lb/ton)		Emissions lb/hr	tpy	Emissions lb/hr	tpy	Emissions lb/hr	tpy	Emissions lb/hr	tpy
9S	Transfer to Storage Pile (Truck)	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Loading out from Storage Pile (Front end loader)	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Four Raw Materials Grizzly Hopper Discharge Conveyers [CV-0001 - CV-0004]	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Raw Materials Transfer Conveyer [CV-0005]	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Raw Materials Inclined Conveyer [CV-0006]	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
11S	Railcar Loading	14.00	122,640	0.0017	0.0008	0.0001	11.0	0.024	0.10	0.011	0.05	0.002	0.008	0.003	0.011

Constants and Assumed Variables

	k (particle size multiplier)	constant	U (mean wind speed)	constant	M (moisture content)	constant	Emission Factor (lb/ton)
TSP	0.74	0.0032	6	1.3	3	1.4	0.0017
PM10	0.35	0.0032	6	1.3	3	1.4	0.0008
PM2.5	0.054	0.0032	6	1.3	3	1.4	0.0001

^aEmission factor, constants, and variables per US EPA, AP-42, Section 13.2.4.3 - Aggregate Handling and Storage Piles (11/2006), Equation 1.

TABLE 5
WIND EROSION FOR STORAGE PILES (EU 9S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Pile	Surface Area (acres)	Emission Factor ^a				Emissions							
		PM	PM ₁₀	PM _{2.5}	Mn ^b	PM		PM ₁₀		PM _{2.5}		Mn	
		lb/acre-yr	lb/acre-yr	lb/acre-yr	lb/acre-yr	lb/yr	tons/yr	lb/yr	tons/yr	lb/yr	tons/yr	lb/yr	tons/yr
1	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
2	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
3	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
4	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
5	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
6	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
7	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
8	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
9	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
10	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
Totals						2474.34	1.24	1237.17	0.62	185.58	0.09	270.94	0.14

^aBased on conical pile 7.6 meters high with a base diameter of 23.8 meters.

^bEmission factor as calculated for Construction Permit Application dated 1/27/2011. Emission factors calculated per US EPA, AP-42, Section 13.2.5 (11/2006), Equation 2. - Industrial Wind Erosion, using wind data for the Mason Airport Weather station.

^cPercent Mn weight of slag assumed to be 10.95% of PM (Data from Construction Permit Application dated 01/27/2011).

**TABLE 6
BACKUP DIESEL GENERATOR (EU 75)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

Rated Engine Power (HP)	Maximum Fuel Usage (gal/hr)	Fuel Heating Rate (MMBtu/gal)	Maximum Operation Duration (hrs)	Emissions											
				PM/PM ₁₀ /PM _{2.5} ^a		NO _x		SO ₂		CO		VOC		Total HAPs	
				lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
762	36.2	0.14	500	0.08	2.10E-02	8.17	2.04	9.25E-03	2.31E-03	1.93	0.48	6.61E-02	1.65E-02	8.43E-03	2.11E-03

^aAll particulate matter assumed less than 1 microm per US EPA, AP-42 Chapter 3.3.4.

Emission Factors

Pollutant	Emission Factors		Value (lbs/gal)
	Value	Units	
PM	38.1	g/hr	NA
NO _x	3707	g/hr	NA
SO ₂ ^b	1.21E-05	lb/hp	N/A
CO	877	h/hr	NA
VOC	30	g/hr	NA
Total HAP ^c	0.0017	lb/MMBtu	2.33E-04

^bSO₂ emission factor is based on 100% of engine load using fuel with 15 ppm sulfur content as required by NSPS IIII.

^cEmission Factor per US EPA, AP-42, Section 3.3.4 - Large Stationary Diesel and All Stationary Dual-Fuel Engines (11/2006), Tables 3.4-3 and 3. All others per manufacturer.

MMBtu/gal diesel	g/lb
0.138	453.59

**TABLE 7
FUGITIVE DUST FROM TRAFFIC EMISSIONS ON UNPAVED ROADS (EV 8S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

VMT (Total vehicle miles traveled/yr)	Emissions Factors			Emissions		
	PM (lb/VMT)	PM10 (lb/VMT)	PM2.5 (lb/VMT)	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)
5708.6730	5.1024	1.3598	0.1360	14.5639	3.8812	0.3881

Values of Variables & Constants for Unpaved Roads Fugitive Emissions Calculation								
Particulate matter unit size	Particle size multiplier (k) ^a	% Silt by wt (s) ^b	Empirical constant (a) ^a	W ^c	Empirical constant (b) ^a	E ^b	P ^d	E _{ext} ^e
PM30 (TSP)	4.9	6	0.7	28.2724	0.45	8.2772	140	5.1024
PM10	1.5	6	0.9	28.2724	0.45	2.2058	140	1.3598
PM2.5	0.15	6	0.9	28.2724	0.45	0.2206	140	0.1360

^aConstants from EPA AP-42 Section 13.2.2 (11/2006), Table 13.2.2-2.

^bPlant surface silt content; per EPA AP-42 Section 13.2.2 (11/2006), Table 13.2.2-1.

^cWeighted mean vehicle weight (tons); calculation per Construction Permit Application, Exhibit N-15 (10/2010).

^dNumber of days in a year with at least 0.254 mm (0.01 in) of precipitation; per EPA AP-42 Figure 13.2.2-1.

Constants and Assumed Variables

Vehicle	Average Weight (tons)	Distance (miles/trip)	Roundtrips/day	Miles/yr	Σ(Vehicle Wt{tons}), (VMT{mi}) ^c	W ^c	P ^d
Slag trucks	25.5	0.13	24	1138.8	29039.40	NA	NA
Glycol truck	26.5	0.18	0.04	2.628	69.64	NA	NA
Product truck	26.5	0.21	20	1533	40624.50	NA	NA
Alloy truck	26.5	0.13	0.1	4.745	125.74	NA	NA
Production Mats (Baling wire, stretch wrap, pallets, bag film)	26.5	0.21	4	306.6	8124.90	NA	NA
Production Mats (Mobile Equipment Fuel)	26.5	0.18	4	262.8	6964.20	NA	NA
Production Mats (Electrodes, sand)	26.5	0.13	2	94.9	2514.85	NA	NA
Front End Loader	41.5	0.05	96	1752	72708.00	NA	NA
Plant Trucks	2	0.21	8	613.2	1226.40	NA	NA
Means and Variable Values	NA	NA	NA	5708.6730	161397.6345	28.27235585	140

TABLE 8
COOLING TOWER DRIFT LOSS EMISSIONS (EU 10S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

EU ID	Total Flow Capacity (gpm)	Potential TDS Content ^a (ppmw)	Maximum Operating Schedule (hrs/yr)	Standard Drift Loss ^b (%)	Monthly Drift Loss (gal/mo)	Total Liquid Drift Loss ^c (lbs drift/Mgal)	Potential PM/PM ₁₀ /PM _{2.5} Emission Factor (lbs/Mgal)	Potential PM/PM ₁₀ /PM _{2.5} Emissions ^d	
								(lbs/hr)	(tons/yr)
10S	1,500	20,600	8,760	0.005	3,285	0.417	0.009	0.77	3.373
17S	800	20,600	8,760	0.005	1,752	0.417	0.009	0.41	1.796

^aOverall average TDS content for induced flow cooling towers from US EPA, AP-42, Table 13.4-2.

^bAssumed; per Construction Permit Application dated 10/2010.

^cDensity of water is 8.34 lbs/gal.

^dCalculation per US EPA, AP-42, Section 13.4.2 (11/2006).

TABLE 9
CARBON DIOXIDE (CO₂) EMISSIONS FROM ELECTRIC ARC FURNACE (EU 1S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Material	Max. Hourly Throughput (lb/hr)	Typical Carbon Content (%)	Molecular Weight of Carbon (lb/lbmol)	Molecular Weight of CO₂ (lb/lbmol)	Carbon converted to CO₂ (%)	CO₂ Emitted (lb/hr)^a	CO₂ Emitted (tons/yr)^b
Electrodes	93	90.0%	12	44	100%	747.4	3,273.6
Slag	40,000	0.3%					
Alloy in Slag	200	2.0%					
Non-Product Metals	193	2.0%					

^aAdapted from Equation K-1 from 40CFR98.113(b)(2)(i) where total CO₂ emitted = (molar ratio CO₂/C * carbon content electrodes consumed) + (molar ratio CO₂/C * carbon content of slag processed) + (molar ratio CO₂/C * carbon content of alloys in slag) - (molar ratio CO₂/C * carbon content of non-metals product processed).

^bBased on 8,760 hours of operation a year.

ATTACHMENT J
MSDS INFORMATION

SAFETY DATA SHEET

Drakeol® 35 MIN OIL USP



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Drakeol® 35 MIN OIL USP

EC number : 232-455-8

REACH Registration number

Registration number	Legal entity
01-2119487078-27	-

CAS number : 8042-47-5

Product code : PEN1440-00-C-DR

Product description : Mineral oil.

Product type : Liquid.

Other means of identification : White mineral oil, petroleum; White spirits; White mineral oil; Mineral oil; Paraffin oil; Paraffinum liquidum

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Petrochemical industry: Petroleum refining. Mineral oil.	
Uses advised against	Reason
Not available.	

1.3 Details of the supplier of the safety data sheet

Calumet Specialty Products Partners, L.P.
2780 Waterfront Pkwy E. Dr.
Suite 200
Indianapolis, Indiana 46214 USA
Technical Services: 317-328-5660

Calumet Sales Company Incorporated
Pa Monument Chemical BVBA
Haven 1972, Ketenislaan 3
B-9130 Kallo (Kieldrecht)
Belgium
+32 3 570 25 20

e-mail address of person responsible for this SDS : technical@calumetspecialty.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : +31(0) 30274 8888 (24 hours per week and 7 days a week)

Supplier

Telephone number : 24 hr. CHEMTREC 1-800-424-9300 / International 1-703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : UVCB

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Classification according to Directive 67/548/EEC [DSD]

Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : White mineral oil (petroleum)

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : No.
P: Not available. B: Not available. T: No.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Not available.

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

SECTION 3: Composition/information on ingredients

3.1 Substances : UVCB

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
White mineral oil (petroleum)	REACH #: 01-2119487078-27 EC: 232-455-8 CAS: 8042-47-5	100	Not classified.	Not classified.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[*] Substance

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
White mineral oil (petroleum)	EU OEL (Europe, 3/2012). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

SECTION 8: Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid. [Viscous liquid.]
- Colour** : Colourless.
- Odour** : Mild. Hydrocarbon.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : -60 to -9°C
- Initial boiling point and boiling range** : 218 to 800°C
- Flash point** : Closed cup: >112°C
Open cup: 223.33°C [Cleveland.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : 0.011 kPa [room temperature]
- Vapour density** : Not available.
- Relative density** : 0.869
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : >6
- Auto-ignition temperature** : 325 to 355°C
- Decomposition temperature** : Not available.

Drakeol® 35 MIN OIL USP

SECTION 9: Physical and chemical properties

- Viscosity** : Kinematic (40°C): 0.68 cm²/s
Explosive properties : Not available.
Oxidising properties : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability : The product is stable.
10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid : No specific data.
10.5 Incompatible materials : No specific data.
10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
White mineral oil (petroleum)	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

- Conclusion/Summary** : Not available.
Irritation/Corrosion
Conclusion/Summary : Not available.
Sensitisation
Conclusion/Summary : Not available.
Mutagenicity
Conclusion/Summary : Not available.
Carcinogenicity
Conclusion/Summary : The classification as a carcinogen need not apply as it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.
Reproductive toxicity
Conclusion/Summary : Not available.
Teratogenicity
Conclusion/Summary : Not available.
Specific target organ toxicity (single exposure)
Not available.
Specific target organ toxicity (repeated exposure)
Not available.
Aspiration hazard

SECTION 11: Toxicological information

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
White mineral oil (petroleum)	Acute LC50 >100 mg/l	Daphnia	48 hours
	Acute LC50 >10000 mg/l	Fish	96 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
White mineral oil (petroleum)	-	-	Inherent

SECTION 12: Ecological information

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
White mineral oil (petroleum)	>6	-	high

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : No.
P: Not available. B: Not available. T: No.

vPvB : Not available.
vP: Not available. vB: Not available.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 14: Transport information

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : This material is listed or exempted.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Japan : This material is listed or exempted.

Malaysia : Not determined.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

United States : This material is listed or exempted.

15.2 Chemical Safety Assessment : Not available.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

Full text of abbreviated H statements : Not applicable.

Full text of classifications [CLP/GHS] : Not applicable.

Full text of abbreviated R phrases : Not applicable.

Full text of classifications [DSD/DPD] : Not applicable.

Date of issue/ Date of revision : 01/12/2016

Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**ATTACHMENT K
DELEGATION OF AUTHORITY**

**ARMSTRONG FACILITY
DELEGATION OF AUTHORITY
FOR RESPONSIBLE OFFICIAL
TO A REPRESENTATIVE**

This form shall be used by a responsible official to delegate authority to a representative of such person for signature on applications or certification of reports to be submitted pursuant to the **Clean Air Act, Clean Water Act, RCRA, and any other applicable environmental law or regulation.**

This form shall only be used for a corporation at which a President, Secretary, Treasurer, or Vice-President of the corporation in charge of business function, or any other person who performs similar policy or decision making functions for the corporation to transfer the authority as a responsible official to a representative of such person. The representative of such person must be responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit.

FACILITY INFORMATION:

FACILITY NAME: Armstrong World Industries, Millwood, WV Facility

DATE FORM PREPARED: July 8, 2021


FACILITY ID NO. (IF APPLICABLE): Various

TRANSFER OF AUTHORITY:

I, the undersigned, being a President, Secretary, Treasurer, or Vice-President of the corporation in charge of business function, or other person who performs similar policy or decision making functions for the corporation, hereby transfer the authority as a responsible official to:

Matt McVay/Logan Martin,

They being a representative and responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit.



AUTHORIZED SIGNATURE

President & Chief Executive Officer
TITLE OF SIGNATORY

Vic Grizzle
TYPED OR PRINTED NAME OF SIGNATORY

7 / 8 / 2021
DATE

Matt McVay/Logan Martin
DELEGATED REPRESENTATIVE

Plant Manager/Plant EHS Manager
TITLE OF DESIGNATED REPRESENTATIVE

In the event of either individual changing position, it is understood that this delegation shall be transferred from position to position.

Division of Air Quality Permit Application Submittal

Please find attached a permit application for :

[Company Name; Facility Location]

- DAQ Facility ID (for existing facilities only):
- Current 45CSR13 and 45CSR30 (Title V) permits associated with this process (for existing facilities only):

• **Type of NSR Application (check all that apply):**

- Construction
- Modification
- Class I Administrative Update
- Class II Administrative Update
- Relocation
- Temporary
- Permit Determination

• **Type of 45CSR30 (TITLE V) Revision (if any)**:**

- Title V Initial
- Title V Renewal
- Administrative Update
- Minor Modification
- Significant Modification
- Off Permit Change

****If any box above is checked, include the Title V revision information as ATTACHMENT S to this application.**

• **Payment Type:**

- Credit Card (Instructions to pay by credit card will be sent in the Application Status email.)
- Check (Make checks payable to: WVDEP – Division of Air Quality)

Mail checks to:
WVDEP – DAQ – Permitting
Attn: NSR Permitting Secretary
601 57th Street, SE
Charleston, WV 25304

Please wait until DAQ emails you the Facility ID Number and Permit Application Number. Please add these identifiers to your check or cover letter with your check.

• **If the permit writer has any questions, please contact (all that apply):**

Responsible Official/Authorized Representative

- **Name:**
- **Email:**
- **Phone Number:**

Company Contact

- **Name:**
- **Email:**
- **Phone Number:**

Consultant

- **Name:**
- **Email:**
- **Phone Number:**



Roberts, Daniel P <daniel.p.roberts@wv.gov>

Fwd: Armstrong World Industries, Inc.; Millwood, WV

1 message

Air Quality Permitting, DEP <depairqualitypermitting@wv.gov>

Wed, Jan 24, 2024 at 4:15 PM

To: Stephanie R Mink <stephanie.r.mink@wv.gov>, Daniel P Roberts <daniel.p.roberts@wv.gov>

Stephanie,

Please assign this renewal to Dan as R30-03500049-2024.

Thanks,
Carrie

----- Forwarded message -----

From: **Michael Zeiders** <mzeiders@libertyenviro.com>

Date: Wed, Jan 24, 2024 at 3:36 PM

Subject: Armstrong World Industries, Inc.; Millwood, WV

To: DEPAirQualityPermitting@wv.gov <DEPAirQualityPermitting@wv.gov>

Cc: Matthew S. McVay <msmcvay@armstrongceilings.com>, Logan M. Martin <LMMartin@armstrongceilings.com>, Michael Zeiders <mzeiders@libertyenviro.com>

All,

Armstrong World Industries, Inc. (Armstrong) operates a slag wool manufacturing facility located in Millwood, Jackson County, West Virginia under Title V Operating Permit No. R30-03500049-2019. Armstrong is submitting the attached Title V operating permit renewal application for the Millwood plant. This application is being submitted six months prior to the Title V permit expiration date of July 29, 2024. Armstrong believes that the enclosed submittal provides all the information required by the WV DAQ for technical review of the Title V renewal. As such, Armstrong believes that this submittal constitutes an administratively complete and timely Title V renewal application.

We are attaching one (1) PDF copy of the application that been signed by a responsible official. Armstrong understands that no application fee is required and that WV DAQ will address the public and affected state notification requirements.

If you have any questions regarding the enclosed Title V renewal application, please feel free to contact Mr. Logan M. Martin, EHS Manager, Armstrong World Industries, at 304-206-2847, or me at 610-375-9301.

Sincerely,



Michael D. Zeiders

Project Manager

Direct: 610.288.1540 **Office:** 610.375.9301

mzeiders@libertyenviro.com

505 Penn Street, Suite 400 Reading PA 19601



ENVIRONMENT | ENERGY | GEOTECH



2 attachments

 **Email Cover Letter Fillable.pdf**
579K

 **Armstrong World Industries Millwood WV - Title V Renewal 01-24-2024.pdf**
4603K

January 22, 2024

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

**Re: Title V Operating Permit Renewal Application for the Armstrong World Industries, Inc. Millwood, WV Slag Wool Production Plant
Plant ID No. 035-00049
Permit No. R30-03500049-2019**

Dear Ms. Crowder:

Armstrong World Industries, Inc. (Armstrong) operates a slag wool manufacturing facility located in Millwood, Jackson County, West Virginia under Title V Operating Permit No. R30-03500049-2019. Armstrong is submitting the enclosed Title V operating permit renewal application for the Millwood plant. This application is being submitted six months prior to the Title V permit expiration date of July 29, 2024. Armstrong believes that the enclosed submittal provides all the information required by the WV DAQ for technical review of the Title V renewal. As such, Armstrong believes that this submittal constitutes an administratively complete and timely Title V renewal application.

We are attaching one (1) copy of the application which has been signed by a responsible official. Armstrong understands that no application fee is required and that WV DAQ will address the public and affected state notification requirements.

Facility Changes

The changes to the facility over the term of the permit include the following:

1. Minor Modification MM01 (2019) - Removal of EU 5S (Housekeeping Vacuum System, never installed) and 14S (Glycol Storage Tank, removed). Corrections and clarification regarding the capacities of EU 7S (Emergency Generator, 500kWe) and EU 12S (Diesel Tank, 900 gallons). The potential to emit (PTE) for EU 7S and 12S were updated to reflect the revised capacities. The combined capacity for EU 15S and 16S (packaging lines) was clarified to state that it is 28,000 lbs/hr on a 24-hour average rather than instantaneous basis. Volatile organic compound (VOC)

PTE for EU 3S and 4S (Spinner Collection Chambers #1 and 2 were updated to reflect the use of new surfactant/binder materials. The volumetric flow rate of the fabric filter controlling emissions from EU6S (Hydrated Lime Storage Silo) was updated from 1,500 cfm to 3,300 cfm and the PTE was revised accordingly. (R13-2864D, MM01);

2. Removal of a temporary propane fired sand dryer (EU-18S). Armstrong is requesting that Condition 4.2.12 be deleted (requires tracking of propane usage and hours of operation).
3. Armstrong is requesting that the capacity of diesel storage tank #2 (Emission Unit 13S) be revised to 1,000 gallons (Table 1.1). Potential emissions to remain unchanged (EPA Tanks shows 1.8 lbs/yr VOC/HAP emissions from the diesel tank).

Other changes that are requested in this permit renewal include:

The current operating permit makes repeated references to a “water truck” to be used for road dust suppression (Conditions 4.1.7 and 4.1.8). Armstrong would like to clarify that the site does not own or operate a water truck. An ATV-type vehicle equipped with a spray rig is used for dust suppression on an as-needed basis. Armstrong trusts that this meets the requirements of a water truck.

Per the advice of WVDEP (Denton McDermitt, email 9/3/2020) Armstrong is requesting that the non-applicable permit condition 4.5.4(1) be deleted from the permit. Per Mr. McDermitt:

“The quarterly excess emissions reports are leftover language from when I originally developed the CAM “boilerplate” conditions for an electric utility company in our state. The power plant was subject to 45CSR2 and CAM applied to the weight emission standard for PM. Opacity was elected as a CAM parameter in their case. I linked the CAM reports to the applicable quarterly excess emissions reports (45CSR2-9.3.a.). The CAM Regulation in 40 CFR 64.9(a)(1) refers to 70.6(a)(3)(iii), which is Title V permit content for reporting. 70.6(a)(3)(iii)(A) requires reporting at least every 6 months. Since the CAM-affected emission units 1S, 15S, and 16S are not subject to 45CSR2, the quarterly excess emissions report is not applicable. You should submit the CAM report every 6 months with the semi-annual monitoring report. I apologize for leaving this non-applicable language in your permit. The next time you modify the permit, I suggest asking the permit writer to remove it and provide the writer with this explanation.”

Armstrong is evaluating a new binder material (Drakeol 35 Min Oil USP) to be used in EU 3S and 4S (Spinner Collection Chambers #1 and 2). The material is similar in composition application rate to the existing binder (Xiameter (R) Mem-1727 Thread Finish) and no changes to VOC PTE are expected. An SDS is provided in Attachment K. Armstrong may also evaluate alternative binders similar in nature and VOC content in the future.

Armstrong is also evaluating small (< or = 0.5% of throughput) adds of metallurgical coke to adjust slag carbon content. Armstrong has historically used small amounts of coke at startup but these adds are being evaluated to improve product quality by increased metal removal via tap-off.

Air Quality Regulatory Changes

Compliance Assurance Monitoring

The Compliance Assurance Monitoring (CAM) provisions of 40 CFR 64 require sources with control devices with pre-control emissions greater than major source thresholds to submit a CAM plan. The Millwood facility’s control devices/CAM status is as follows:

EUID	EU Description	CDID	Control Device Description	Pollutant	Emissions	CAM Applicability
1S	Raw Material Transfer and EAF	1C	EAF Scrubber	SO2	Post-Control > 100 TPY	N/A. Scrubber not required to meet emission limit.
1S	Raw Material Transfer and EAF	2C	EAF Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	Applicable
3S	Spinner Collection Chamber #1	3C	Spinner #1 Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	N/A. Inherent process equipment, used for the collection of wool fibers from the spinner.
4S	Spinner Collection Chamber #2	4C	Spinner #2 Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	N/A. See above.
5S	Housekeeping Vacuum System	5C	Housekeeping Vacuum System	PM/PM10/PM2.5	N/D	N/A. This system was never installed.
6S	Hydrated Lime Silo	6C	Hydrated Lime Storage Silo	PM/PM10/PM2.5	Pre-Control < 100tpy	N/A. Due to the relatively small size of this bin vent (3,300 cfm), pre-control emissions are assumed to be less than 100 tpy.
15S/16S	Slag Wool Processing Lines #1 and 2	7C	Slag Wool Processing Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	Applicable

Armstrong CAM for the affected fabric filters (2C and 7C) as part of the prior Title V permit renewal and these requirements have been incorporated into the permit.

Startup, Shutdown and Maintenance

The WVDEP recently promulgated regulations at §45-1 allowing for the establishment of alternative emission limitations during startup, shutdown, or maintenance (SSM) activities. The current permit requires compliance with numerous emission limits. Armstrong believes that good operating practices, in conjunction with operation of the existing control devices ensure that that the

facility's emission units can meet the existing emission limits during periods of system startup and shutdown. Armstrong is therefore not requesting an alternative emission limit during SSM conditions under this regulation.

Facility Compliance Status

NOV/Draft Consent Assessment

On February 26, 2018, WVDEP issued a Notice of Violation(s) ("NOV") to Armstrong in regards to emissions testing for: (1) failure to provide the Director with a testing protocol for approval 30 days prior to testing and failure to notify the Director of intent to test 15 days prior to testing; (2) failure to conduct condensable PM emissions testing on the EAF; (3) failure to test the Spinners for PM emissions; and (4) failure to demonstrate ongoing compliance with the required periodic PM testing schedule. Armstrong has since conducted the required testing and is in receipt of a draft consent assessment from WVDEP. Because the NOV was for a was a one-time issue - late testing that has since been completed - this matter is not a current "noncompliance" issue and therefore AWI is certifying compliance with all permit limits.

If you have any questions regarding the enclosed Title V application, please feel free to contact Mr. Michael D. Zeiders, Liberty Environmental, Inc. at (610) 375-9301, or me at 304-206-2847.

Sincerely,



Logan M. Martin
EHS Manager
Armstrong World Industries, Inc.

cc: J. Ackiewicz - Armstrong Corporate EHS
M. Zeiders - Liberty Environmental





Title V Permit Renewal Application

Armstrong World Industries, Inc.

Millwood, West Virginia

Title V Permit R30-03500049-2019

Submitted to:



West Virginia Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

Prepared by:



Liberty Environmental, Inc.

505 Penn Street, Suite 400

Reading, PA 19601

(610) 375-9301

JANUARY 2024

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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

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

www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

Form with 10 numbered sections: 1. Name of Applicant, 2. Facility Name or Location, 3. DAQ Plant ID No., 4. Federal Employer ID No. (FEIN), 5. Permit Application Type, 6. Type of Business Entity, 7. Is the Applicant the..., 8. Number of onsite employees, 9. Governmental Code, 10. Business Confidentiality Claims.

00049

11. Mailing Address		
Street or P.O. Box: P.O. Box 220		
City: Millwood	State: WV	Zip: 25262
Telephone Number: 304-273-3900	Fax Number: () -	

12. Facility Location (Physical Address)		
Street: 141 Sensenich Drive	City: Millwood	County: Jackson
UTM Easting: 427.2 km	UTM Northing: 4,307 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
Directions: From US-33 E, turn left onto WV 68 S. Continue on WV 68 S for 0.4 miles. Turn right onto WV 2 S. Continue for approximately 6 miles. Turn Right onto Jack Burlingame Road		
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is facility located within a nonattainment area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, for what air pollutants?	
Is facility located within 50 miles of another state? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the affected state(s). Ohio	
Is facility located within 100 km of a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the area(s).	
If no, do emissions impact a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.		

13. Contact Information		
Responsible Official: Matt McVay		Title: Plant Manager
Street or P.O. Box: P.O. Box 220		
City: Millwood	State: WV	Zip: 25262
Telephone Number: 304-273-3948	Cell Number: () -	
E-mail address: msmcvay@armstrongceilings.com		
Environmental Contact: Logan Martin		Title: EHS Manager
Street or P.O. Box: P.O. Box 220		
City: Millwood	State: WV	Zip: 25262
Telephone Number: 304-206-2847	Cell Number: () -	
E-mail address: lmmartin@armstrongceilings.com		
Application Preparer: Michael D. Zeiders		Title: Project Manager
Company: Liberty Environmental, Inc.		
Street or P.O. Box: 505 Penn St.		
City: Reading	State: PA	Zip: 19601
Telephone Number: 610-375-9301	Cell Number: () -	
E-mail address: mzeiders@libertyenviro.com		

14. Facility Description

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

Process	Products	NAICS	SIC
Slag wool insulation materials manufacturing	Slag wool	327993	3296

Provide a general description of operations.

The Armstrong World Industries Millwood plant is a slag wool manufacturing facility. It typically manufactures slag wool from silicon manganese slag. The plant receives the slag via truck or railcar, stores the slag in outdoor piles, and then transfers the slag to a belt conveyor via front-end loader. The slag is then transferred to a submerged Electric Arc Furnace (EAF) where the slag is melted using graphite electrodes. The molten slag is then transferred to one and or both spinners which spin the molten slag into slag wool fibers. The wool fibers are then collected in one of two collection chambers, further processed into slag wool bales, and then shipped off site.

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

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

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

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input checked="" type="checkbox"/> Section 111 NSPS	<input checked="" type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input checked="" type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> Cross-State Air Pollution Rule (45CSR43)	

19. Non Applicability Determinations
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</p> <p>3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.</p> <p>a. 40 CFR 60 Subpart CC - Standards of Performance for Glass Manufacturing Plants. The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.</p> <p>b. 40 CFR 60 Subpart 000-Standards of Performance for Nonmetallic Mineral Processing Plants. Slag does not meet the definition of nonmetallic mineral. In addition, the permittee installed a small propane fired sand dryer (EUID 188) permitted under R13-2864C. The source is used for drying batches (2,000 lbs/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart 000) because dryers are not an "affected facility" as listed by the regulation.</p>
<p><input type="checkbox"/> Permit Shield</p>

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

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

- c. 40 CFR 60 Subpart UUU - Standards of Performance for Calciners and Dryers in Mineral Industries. The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60. 731 and is therefore not subject to this subpart. ~~In addition, the permittee installed a small propane fired sand dryer (EUID 188) permitted under R13-2864C. The source is used for drying batches (2,000 lblhr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.~~
- d. 40 CFR 63 Subpart DDD-National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production. The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as "In addition, the EAF is not classified as wool production NESHAP" at 40 CFR 63 Subpart DDD is not applicable.
- e. 40 CFR 63 Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. 45CSR17 -WV Fugitive emissions from material handling. Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. 45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations. The Millwood plant is not located in affected areas.
- h. 45CSR27 - Emissions of Toxic Air Pollutants. The Millwood plant does not operate any "chemical processing units" and does not use listed chemicals.

Permit Shield

20. Facility-Wide Applicable Requirements

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

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. §61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. §61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health -Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in SubpartB:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

Permit Shield

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

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

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

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

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.

[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

Permit Shield

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

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

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

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

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.
[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.
[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

Permit Shield

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

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

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

3.2. Monitoring Requirements

3.2.1. Reserved.

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary’s delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.

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

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

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

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.
2. The result of the test for each permit or rule condition.
3. A statement of compliance or non-compliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.
[45CSR§30-5.1.c.2.A.; 45CSR13, R13-2864, 4.4.1.]

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

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

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

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken. [45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.[45CSR§§30-4.4. and 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30- 5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31. [45CSR§30-5.1.c.3.E.]

3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

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

US EPA:

Section Chief
U. S. Environmental Protection Agency,
Region III Enforcement and Compliance
Assurance Division Air Section (3ED21)
1650 Arch Street
Philadelphia, PA 19103-2029

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

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

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

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

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

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. [45CSR§30-8.]

DAQ:

DEPAirQualityReports@wv.gov

US EPA:

R3_APD_Permits@epa.gov

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30- 4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ: DEPAirQualityReports@wv.gov
[45CSR§30-5.1.c.3.A.]

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

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

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

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

3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken. [45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary. [45CSR§30-5.1.c.3.B.]

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement. [45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

3.6.1. Reserved.

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.

b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral. ~~In addition, the permittee installed a small propane fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart OOO) because dryers are not an “affected facility” as listed by the regulation.~~

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

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

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

- c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart. ~~In addition, the permittee installed a small propane fired sand dryer (EUID 18S) permitted under R13 2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.~~
- d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
- e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1, if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. **45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
- h. **45CSR27 - Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

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

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

21. Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit <i>(if any)</i>
R30-03500049-2019	07/29/2019	Not applicable
R13-2864D	09/23/2019	Not applicable
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Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	See Attachment I
Nitrogen Oxides (NO _x)	
Lead (Pb)	
Particulate Matter (PM _{2.5}) ¹	
Particulate Matter (PM ₁₀) ¹	
Total Particulate Matter (TSP)	
Sulfur Dioxide (SO ₂)	
Volatile Organic Compounds (VOC)	
Hazardous Air Pollutants ²	Potential Emissions
Regulated Pollutants other than Criteria and HAP	Potential Emissions

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

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input checked="" type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input checked="" type="checkbox"/>	<p>19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:</p> <p><u>12S Diesel Storage Tank #1 (VOC emissions: 0.02 lb/hr, 0.07 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>13S Diesel Storage Tank #2 (VOC emissions: 0.01 lb/hr, 0.04 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>Surfactant/Binder - tote storage and handling. Emissions assumed negligible due to low vapor pressures</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p> <p><u>12S Diesel Storage Tank #1 (VOC emissions: 0.02 lb/hr, 0.07 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>13S Diesel Storage Tank #2 (VOC emissions: 0.01 lb/hr, 0.04 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>Surfactant/Binder - tote storage and handling. Emissions assumed negligible due to low vapor pressures</u></p>
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input type="checkbox"/>	26. Fire suppression systems.
<input type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.

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

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

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

Section 6: Certification of Information

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

Note: This Certification must be signed by a responsible official as defined in 45CSR§30-2.38.

a. Certification of Truth, Accuracy and Completeness

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

b. Compliance Certification


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

Responsible official (type or print)

Name: Matt McVay

Title: Plant Manager

Responsible official's signature:

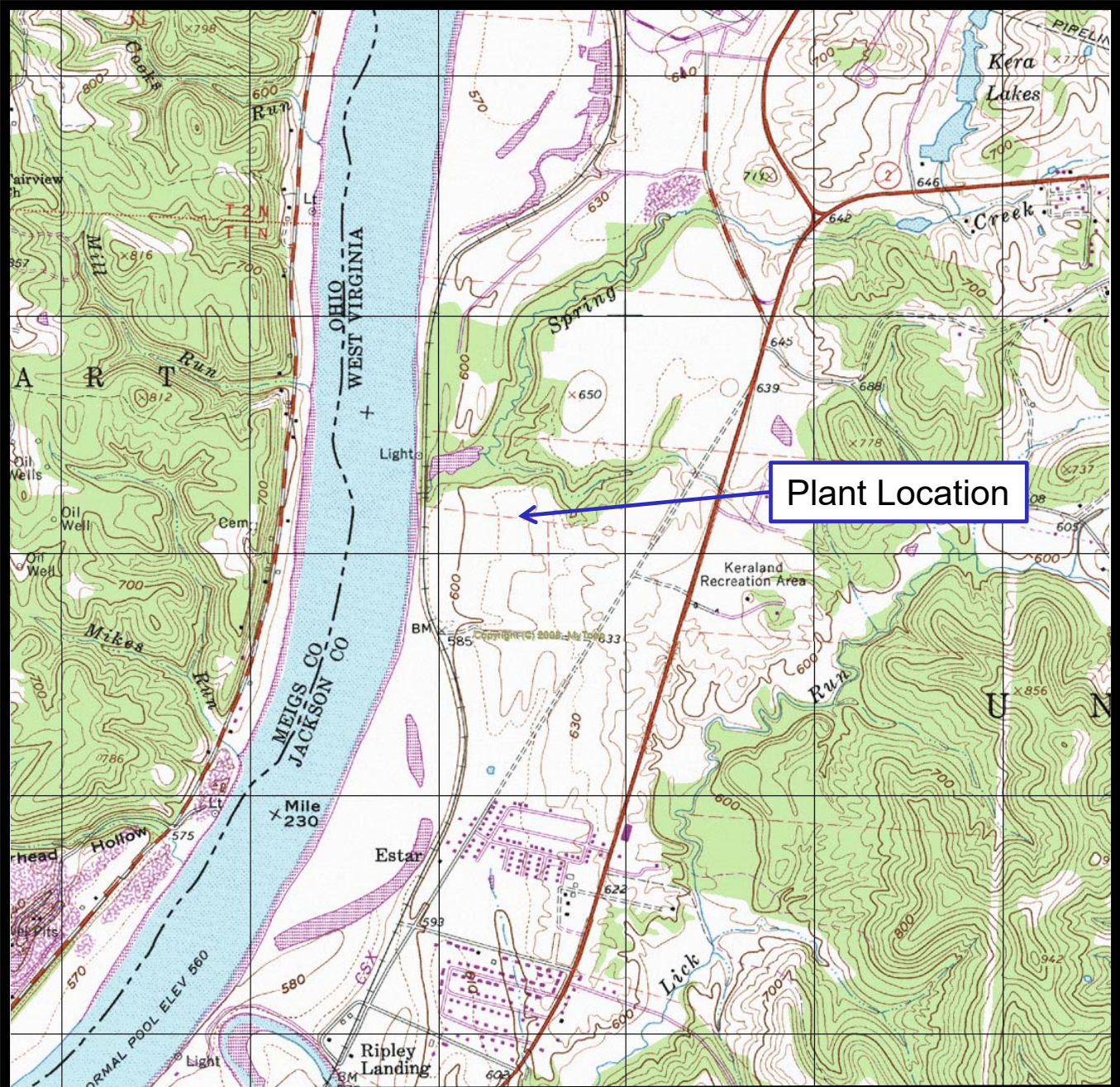
Signature:  Signature Date: 1.24.2024
(Must be signed and dated in blue ink or have a valid electronic signature)

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

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

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

**ATTACHMENT A
SITE LOCATION MAP**



505 PENN STREET
SUITE 400
READING, PA 19601
PHONE: 610-375-9301



ATTACHMENT A: AREA MAP

MILLWOOD SLAG WOOL MANUFACTURING FACILITY

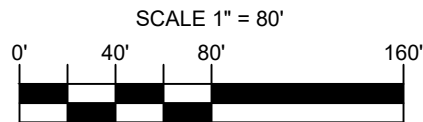
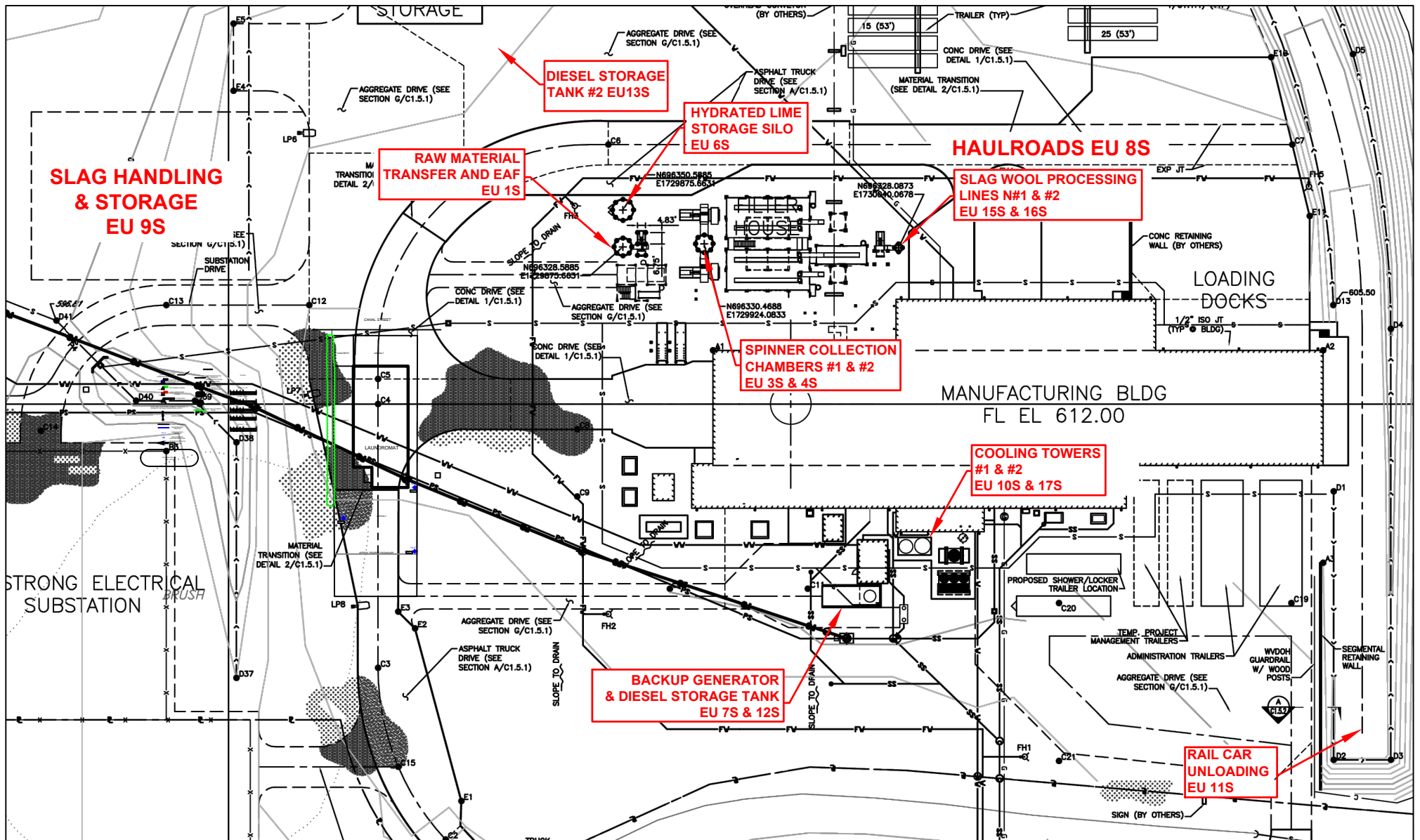
ARMSTRONG WORLD INDUSTRIES

USGS MAP QUADRANGLE: RAVENSWOOD, WV

SCALE : 1" = 2000 FEET



**ATTACHMENT B
PLOT PLAN**



Attachment B - Plot Plan

Armstrong World Industries, Inc.
Millwood Plant

Millwood, Jackson County, West Virginia

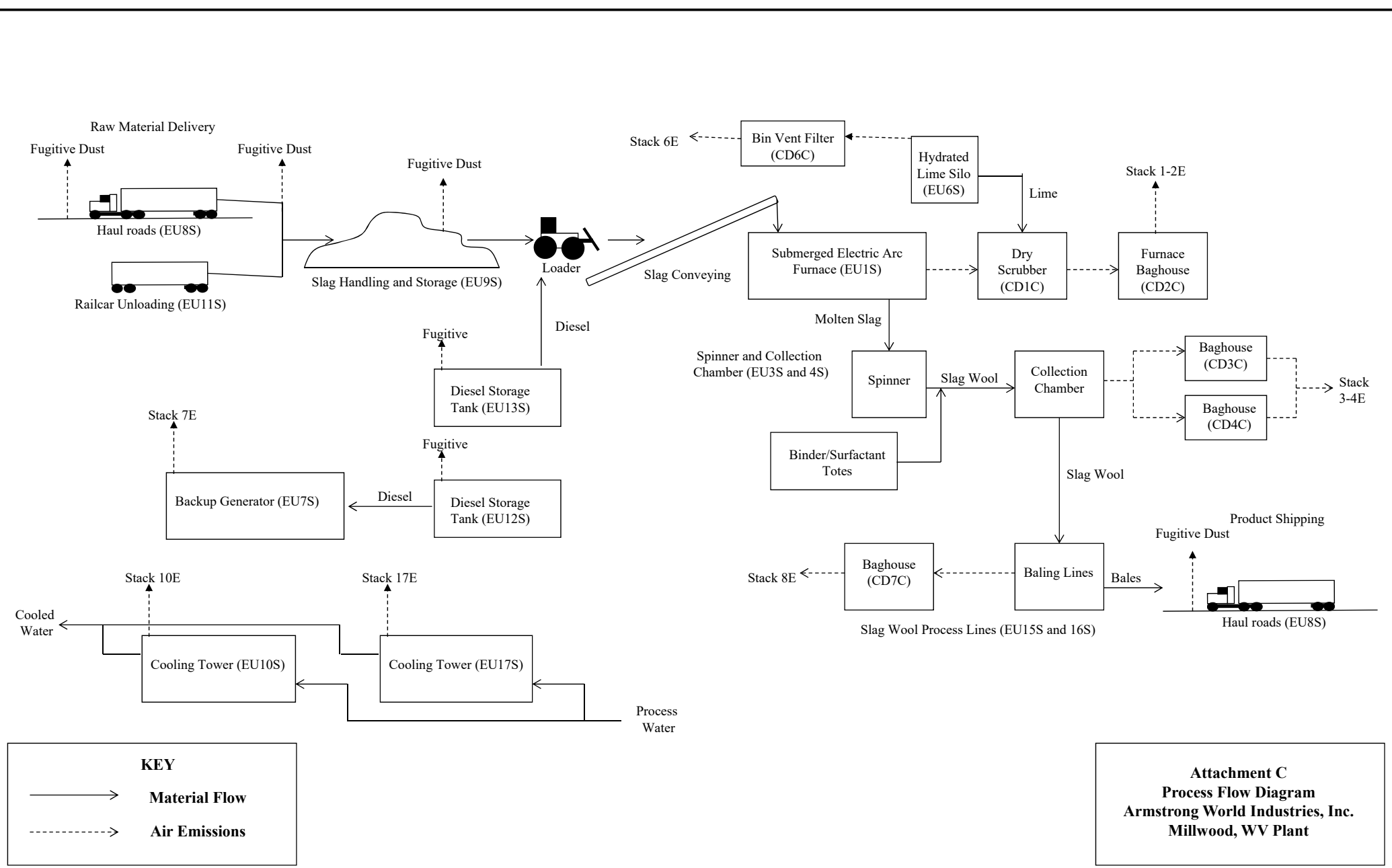
505 Penn St. Suite 400
 Reading, PA 19601
 Phone: 610-375-9301
 www.libertyenviro.com

PROJECT NO.: 180425
 DATE: JANUARY 10, 2024

REV: 1
 SCALE: 1" = 80'

PREPARED BY: JRY
 APPROVED BY: GLB

ATTACHMENT C
PROCESS FLOW DIAGRAM



**ATTACHMENT D
TITLE V EQUIPMENT TABLE**

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

Emission Unit ID ¹	Emission Point ID ¹	Emission Unit Description	Year Installed/ Modified	Design Capacity	Control Device ¹
1S	1-2E	Raw Material Transfer and EAF	2011	40,000 lb/hr	1C & 2C
3S	3-4E	Spinner Collection Chamber #1	2011	34,500 lb/hr	3C
4S	3-4E	Spinner Collection Chamber #2			4C
6S	6E	Hydrated Lime Silo	2011	3,300 cfm	6C
7S	7E	Backup Generator	2011	500 kWe	N/A
8S	Fugitive	Haulroads	2011	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	175,000 tpy	N/A
10S	10E	Cooling Tower #1	2011	1,500 gpm	N/A
11S	Fugitive	Railcar Unloading	2011	300 tph	N/A
12S	Fugitive	Diesel Storage Tank #1 – Emergency Generator	2011	900 Gal	N/A
13S	Fugitive	Diesel Storage Tank #2 – Front End Loader	2011	500 -1,000 Gal	N/A
15S	8E	Slag Wool Processing Line #1	2011	28,000 lb/hr (based on 24 hour average)	7C
16S	8E	Slag Wool Processing Line #2	2011		7C
17S	17E	Cooling Tower #2	2011	800 gpm	N/A
18S	18E	Propane Fueled Sand Dryer	2018	2,000 lb/hr sand 5 gal/hr propane	N/A

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

**ATTACHMENT E
EMISSION UNIT FORMS**

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 1S	Emission unit name: Raw Material Transfer and EAF	List any control devices associated with this emission unit: 1C & 2C
------------------------------------	---	---

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

The slag is transferred from the storage piles via conveyers, hoppers, and a bucket elevator to the Electric Arc Furnace (EAF). The resistive heating created from electricity traveling between three cylindrical electrodes melts the slag. Two molten layers form, a molten metallic layer and the molten slag layer. The melted slag flows out of the furnace to the spinners. The emissions from Raw Material Transfer and the EAF are controlled by the Furnace Dust Collector (2C) and SO₂ from the EAF is controlled by the Dry Lime Scrubber (1C).

Manufacturer: Tenova Pyromet	Model number: Custom	Serial number: Various
--	--------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 40,000 lb/hr slag feed rate to EAF

Maximum Hourly Throughput: 40,000 lb/hr slag	Maximum Annual Throughput: 175,200 tpy slag	Maximum Operating Schedule: 8760 hrs/yr
--	---	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)*	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

* CO emission rates following the 2023 performance testing results are being evaluated and CO potential emissions may be revised.

Applicable Requirements

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

4.0 Manufacturing Process Sources Requirements [1S, 3S, 4S, 6S, 9S, 11S, 15S, 16S, ~~18S~~]

4.1. Limitations and Standards

4.1.1. Emissions from the facility shall not exceed the limitations set forth in Tables 4.1.1.1 and 4.1.1.2:

Table 4.1.1.1

Source	PM		PM ₁₀		NO _x		VOC		SO ₂		CO	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.00	55.00 ²	240.90
3S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
4S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
6S	1.13	4.95	1.13	4.95	--	--	--	--	--	--	--	--
9S	--	1.98	--	0.97	--	--	--	--	--	--	--	--
11S	0.02	0.10	0.01	0.05	--	--	--	--	--	--	--	--
15S/16S	2.39	10.47	2.39	10.47	--	--	--	--	--	--	--	--
18S³	0.1	0.44	0.1	0.44	0.07	0.28	0.01	0.02	--	--	0.03	0.16

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

²Hourly CO emission limits from the EAF are 55 pounds per hour based on a rolling 30 day average and 100 pounds per hour based on a rolling 24 hour average.

³Hourly emissions for the Propane fueled Sand Dryer (18S) are calculated based on burning 5 gal/hr of propane; Annual emissions for the Propane fueled Sand Dryer (18S) are based on operating for 8,760 hr/yr.

Table 4.1.1.2

Source	Mn		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	0.28	1.25	--	--	0.28	1.25
3S	0.78	3.40	--	--	0.78	3.40
4S	0.78	3.40	--	--	0.78	3.40
6S	--	--	--	--	--	--
9S	0.02	0.22	--	--	0.02	0.22
11S	0.01	0.01	--	--	0.01	0.01
15S/16S	0.26	1.15	--	--	0.26	1.15
18S	--	--	--	--	--	--

Compliance with the PM emission limits shall demonstrate compliance with the less stringent PM emission limits of 45CSR§7-4.1.

[45CSR13, R13-2864, 4.1.1 and 4.1.9.2, Tables 4.1.1.1 and 4.1.1.2, 45CSR§7-4.1.]

4.1.2.

The total annual SO₂ emissions from the Submerged Electric Arc Furnace (1S) shall not exceed 245 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.2]

4.1.3. The Furnace Dry Scrubber (1C) shall be designed, installed, operated and maintained so as to ensure compliance with the emission limits of 4.1.1. Operation of the scrubber is only required when necessary to meet the emission limits of 4.1.1.

[45CSR13, R13-2864, 4.1.3]

4.1.4. For the purpose of complying with the PM/PM₁₀/PM_{2.5} emission limits of condition 4.1.1 of this permit, all of the dust collectors shall be operated according to the following requirements:

The permittee has determined the optimal ranges for the pressure drop across baghouses 2C, 3C, 4C and 7C. The permittee shall maintain on site, and update as necessary, a certified report listing the operating ranges.

[45CSR13, R13-2864, 4.1.4]

4.1.5. Manganese content of the slag entering the furnace shall not exceed 10.95% (equivalent to 14.14% MnO).

[45CSR13, R13-2864, 4.1.5]

4.1.6. The total annual Mn emissions from the facility shall not exceed 9.6 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.12.]

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

a. The permittee shall maintain a water truck on site and in good operating condition, and shall utilize same to apply either water or a mixture of water and an environmentally acceptable dust control additive, hereinafter referred to as solution, as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from unpaved haulroads and other unpaved work areas where mobile equipment is used. The spraybar shall be equipped with commercially available spray nozzles, of sufficient size and number, so as to provide adequate coverage to the area being treated.

The pump delivering the solution, shall be of sufficient size and capacity so as to be capable of delivering to the spray nozzle(s) an adequate quantity of solution, and at a sufficient pressure, so as to assure that the treatment process will minimize the atmospheric entrainment of fugitive particulate emissions generated from the unpaved haulroads and work areas where mobile equipment is used.

b. All unpaved haulroads, access roads, stockpile and work areas shall be kept clean and in good condition by replacing base material and/or grading as required.

c. If tracking of solids by vehicular traffic from access and/or haulroads onto any public road or highway occurs and generates or has the potential to generate fugitive particulate emissions, the registrant shall properly operate and maintain an underbody truck wash, rumble strips or employ other suitable measures to maintain effective fugitive dust control of the premises and minimize the emission of particulate matter.

[45CSR13, R13-2864, 4.1.6]

4.1.8. The permittee shall ensure that the water trucks and/or water sprays are properly equipped with winterization systems capable of operating in a manner such that all such fugitive dust control systems remain effective and functional, to the maximum extent practicable, during winter months and cold weather. At all times, including periods of cold weather, the registrant shall comply with the water trucks and/or water sprays requirements of this permit.

[45CSR13, R13-2864, 4.1.7]

4.1.9. Total slag throughput to the EAF shall not exceed 175,200 tons per year on a rolling 12 month total.

[45CSR13, R13-2864, 4.1.8]

4.1.10. 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 for 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§7-3.1 & 45CSR§7-3.2, 45CSR13, R13-2864, 4.1.9.1 (1S, 3S, 4S, 15S, 16S, 18S)]

4.1.11. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process that pursuant to Condition 4.1.13. is required to have a full enclosure and be equipped with a particulate matter control device.

[45CSR§7-3.7.] (6S)

4.1.12. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.

[45CSR§7-4.12.]

4.1.13. 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., 45CSR13, R13-2864, 4.1.9.3]**

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

[45CSR§7-5.2., 45CSR13, R13-2864, 4.1.9.4]

4.1.15. 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. of 45CSR10.

[45CSR§10-4.1., 45CSR13, R13-2864, 4.1.10.] (1S)

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

[45CSR§13-5.10., 45CSR13, R13-2864, 4.1.13]

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

4.2. Monitoring Requirements

4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturers recommendations concerning maintenance and performance.

[45CSR13, R13-2864, 4.2.1]

4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, R13-2864, 4.2.2] (1S, 3S, 4S, 6S, 15S, 16S, 18S)

4.2.3. The permittee shall install, maintain and operate instrumentation to continuously monitor and record at least once per operating day the control device parameters (1C, 2C, 3C, 4C and 7C) as determined by conditions

4.1.3 and 4.1.4 of this permit at all times that the emission source(s) is/are in operation.

[45CSR13, R13-2864, 4.2.3] [40 C.F.R. § 64.3(b)(4)(iii); 45CSR§30-5.1.c.] (2C, 7C)

4.2.4. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of SO₂, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 2 as appropriate, and Performance Specification 4, 4a or 4b (CO) as appropriate.

[45CSR13, R13-2864, 4.2.4]

4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.15 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier. Alternatively, the permittee may obtain a fuel sample of each shipment and perform analytical testing to determine the sulfur content. **[45CSR13, R13-2864, 4.2.5]**

4.2.6. To show compliance with the SO₂ limit in condition 4.1.2 of this permit, monthly SO₂

emissions from the submerged electric arc furnace shall be calculated (using SO₂ CEMS) by the 15th of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.7]

4.2.7. In order to determine compliance with conditions 4.1.1. and 4.1.5 of this permit, the permittee shall obtain representative samples from each shipment of slag from each supplier for the first week of operation (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) to be analyzed for the Manganese content (percent Manganese by weight). The manganese content from each type of slag shall be averaged for the week in order to determine a baseline manganese content for that suppliers slag. After the first week of samples, the permittee shall continue to collect the weeks worth of samples (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) at least once per month to either confirm the existing or reestablish a new baseline Mn level for that supplier. If the permittee adds a new slag supplier, the permittee shall collect samples for each shipment for one week in order to establish the baseline Mn content for that supplier.

If the baseline Mn content of the slag from any supplier exceeds the Mn level permitted in condition 4.1.5 of this permit, Armstrong shall maintain a record documenting, any time that specific slag is used in the furnace, that the Mn content of the slag blend entering the furnace does not exceed the Mn level permitted in Condition 4.1.5 of this permit.

[45CSR13, R13-2864, 4.2.9]

4.2.8. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of CO, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 4, 4a or 4b as appropriate.

[45CSR13, R13-2864, 4.2.6]

4.2.9. The permittee shall maintain monthly records of slag throughput to the EAF.

[45CSR13, R13-2864, 4.2.11]

4.2.10. To show compliance with the Mn emission limit in condition 4.1.6. of this permit, monthly Mn emissions from the facility shall be calculated (mass balance) by the 15th day of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.12]

4.2.11. To show compliance with the CO limit in condition 4.1.1 of this permit, monthly CO emissions from the submerged electric arc furnace shall be calculated (using CO CEMS) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.10]

~~4.2.12. To show compliance with the emission limits given in condition 4.1.1. of this permit, the permittee shall keep a monthly record of hours of operation and propane fuel usage for the Sand Dryer (18S). These monthly records shall be used to calculate a twelve month rolling average hourly fuel usage rate which should not exceed 5 gal/hr of propane consumption.~~

~~**[45CSR13, R13-2864, 4.2.13.]**~~

4.2.13. **CAM Indicator Range for 2C** – While the Raw Material Transfer and EAF is operating, the static pressure drop across the Furnace Dust Collector (2C) shall be greater than or equal to 1.0 and

less than or equal to 7.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.

[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (1S)

4.2.14. **CAM Indicator Range for 7C** – While the Slag Wool Processing Lines #1 or #2 (or both simultaneously) are operating, the static pressure drop across the Fiber Line Baghouse (7C) shall be greater than or equal to 0.5 and less than or equal to 9.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.

[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (15S, 16S)

4.2.15. **Excursion Definition for the Raw Material Transfer and EAF** – For the purposes of 40 C.F.R. Part 64, an excursion for the Raw Material Transfer and EAF (1S) is a static pressure drop across the Furnace Dust Collector (2C) outside of the indicator range specified in permit condition 4.2.13. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.

[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (1S)

4.2.16. **Excursion Definition for the Slag Wool Processing Lines #1 and #2** – For the purposes of 40 C.F.R. Part 64, an excursion for the Slag Wool Processing Lines #1 and #2 (15S and 16S) is a static pressure drop across the Fiber Line Baghouse (7C) outside of the indicator range specified in permit condition 4.2.14. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.

[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (15S, 16S)

4.2.17. **Commencement of operation** – The permittee shall conduct the monitoring required under 40 C.F.R. Part 64 upon issuance of this permit that includes such monitoring.

[40 C.F.R. § 64.7(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.18. **Proper Maintenance** – At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

[40 C.F.R. § 64.7(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.19. **Continued Operation** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 C.F.R. Part 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 C.F.R. § 64.7(c); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.20. **Response to Excursions or Exceedances**

(1) Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its

normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. § 64.7(d); 45CSR§30-5.1.c.] (IS, IS5, I6S)

4.2.21. Documentation of Need for Improved Monitoring – After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. § 64.7(e); 45CSR§30-5.1.c.] (IS, IS5, I6S)

4.2.22. Quality Improvement Plan (QIP) – Based on the results of a determination made under §64.7(d)(2) (Response to excursions or exceedances, permit condition 4.2.20.(2)), the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, then it shall be developed, implemented, and modified as required according to 40 C.F.R. §§ 64.8(b) through (e). Refer to permit condition 4.5.4.(2)c. for the reporting required when a QIP is implemented. Notwithstanding the Administrator or the Director requiring the permittee to develop a QIP, the permittee proposed an accumulation of exceedances or excursions exceeding 10 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP.

[40 C.F.R. § 64.8; 45CSR§30-5.1.c.] (IS, IS5, I6S)

4.3. Testing Requirements

4.3.1. The permittee shall complete the following performance testing:

4.3.1.1. The permittee shall perform or have performed EPA approved stack tests to determine emissions of NO_x, VOCs, PM and PM₁₀ from the submerged electric arc furnace.

4.3.1.2. The permittee shall perform or have performed EPA approved stack tests to determine emissions of PM and PM₁₀ from one of the spinner collection chambers.

4.3.1.3. The permittee shall perform or have performed EPA approved stack tests to determine emissions of Manganese from one of the spinner collection chambers and the submerged electric arc furnace.

[45CSR13, R13-2864, 4.3.1]

4.3.2. Ongoing compliance shall be demonstrated by repeating the above testing (condition 4.3.1.) according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Director's Request

Initial	Between 10% and 50% of limits	Once/5 years
Initial	Between 50% and 90% limits	Once/3 years
Initial	≥90% of limits	Annual
Annual	After two successive tests indicate emission rates ≤50% of	Once/5 years
Annual	After two successive tests indicate emission rates <90% of	Once/3 years
Annual	≥90% of limits	Annual
Once/3 years	After two successive tests indicate emission rates ≤50% of	Once/5 years
Once/3 years	After two successive tests indicate emission rates <90% of	Once/3 years
Once/3 years	≥90% of limits	Annual
Once/5 years	After two successive tests indicate emission rates <10% of limits	Upon Director's Request
Once/5 years	≤50% of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	≥90% of limits	Annual

[45CSR13, R13-2864, 4.3.2]

4.3.3. **Quality Assurance / Quality Control Practice** – For the Furnace Dust Collector (2C) and Fiber LineBaghouse (7C), the differential pressure sensing devices shall be electrically tested semi-annually to verify correct readings and that accurate data is being sent to the data logging system. The reading shall be within 0.15 in. of water column. If a reading differs in a value greater than 0.15 in. water column, a vendor shall be utilized as expeditiously as practicable to calibrate the differential pressure sensing device. A vendor shall be scheduled for a regular calibration visit every 3 years. Records of the testing and calibrations shall be maintained in accordance with conditions 3.4.1. and 3.4.2.

[40 C.F.R. § 64.3(b)(3); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.4. Recordkeeping Requirements

4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-2864, 4.4.2.]

4.4.2. **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.

[45CSR13, R13-2864, 4.4.3.]

4.4.3. In order to determine compliance with condition 4.1.5 of this permit, the permittee shall keep monthly records of the Manganese content of the slag. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.4]

4.4.4. The permittee shall maintain monthly records of slag wool production from the facility. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative. **[45CSR13, R13-2864, 4.2.8. and 4.4.5]**

4.4.5. In order to demonstrate compliance with the requirements of 4.2.2 of this permit, records of the Method 22 testing and any necessary Method 9 testing shall be retained on site by the permittee for at least five (5) years. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.6]

4.4.6. In order to determine compliance with the requirements of conditions 4.1.15 and 4.2.5 of this permit, the permittee shall maintain records of the fuel oil sulfur content. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.7]

4.4.7. In order to determine compliance with the requirements of condition 4.1.4 of this permit, the permittee shall maintain daily records of the pressure drop across each baghouse. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.8]

4.4.8. In order to determine compliance with condition 4.2.9 of this permit, the permittee shall maintain monthly records of slag throughput to the EAF. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.9]

4.4.9. **General recordkeeping requirements for 40 C.F.R. Part 64 (CAM).** The permittee shall comply with the recordkeeping requirements specified in permit conditions 3.4.1. and 3.4.2. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 (condition 4.2.22.) and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40

C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

[40 C.F.R. § 64.9(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.5. Reporting Requirements

4.5.1. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

[45CSR13, R13-2864, 4.5.1]

4.5.2. With regard to testing required by section 4.3 of this permit, results shall be submitted to the Director no more than 60 days after the date the testing takes place.

[45CSR13, R13-2864, 4.5.2]

4.5.3. The permittee shall comply with all applicable reporting requirements of 45CSR7, 45CSR10, and 45CSR13.

[45CSR13, R13-2864, 4.5.3]

4.5.4. **General reporting requirements for 40 C.F.R. Part 64 (CAM)**

~~(1) On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit CAM monitoring reports with the quarterly excess emissions reports. A copy of the CAM monitoring reports generated within the semi-annual monitoring report period shall be included with the semi-annual monitoring report under permit condition 3.5.6. Incorporation by reference within the semi-annual monitoring report is not acceptable.~~

(2) A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:

- a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
- b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. § 64.9(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.6. Compliance Plan

4.6.1. Reserved.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 3S	Emission unit name: Spinner Collection Chamber #1	List any control devices associated with this emission unit: 3C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Spinner Collection Chamber #1 collects slag wool fibers from Spinner #1. Emissions are controlled by the Collection Chamber Baghouse #1 (3C) after the slag wool is treated with surfactants/binders.

Manufacturer: Danser	Model number: 001	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2

Maximum Hourly Throughput: 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2	Maximum Annual Throughput: 151,110 tons/yr slag wool between Spinner Collection Chamber #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
--	---

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

Emissions Data			
Criteria Pollutants	Potential Emissions		
	PPH	TPY	
Carbon Monoxide (CO)	See Attachment I		
Nitrogen Oxides (NO _x)			
Lead (Pb)			
Particulate Matter (PM _{2.5})			
Particulate Matter (PM ₁₀)			
Total Particulate Matter (TSP)			
Sulfur Dioxide (SO ₂)			
Volatile Organic Compounds (VOC)			
Hazardous Air Pollutants	Potential Emissions		
	PPH	TPY	
Regulated Pollutants other than Criteria and HAP	Potential Emissions		
	PPH	TPY	
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>			

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 4S	Emission unit name: Spinner Collection Chamber #2	List any control devices associated with this emission unit: 4C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Spinner Collection Chamber #2 collects slag wool fibers from Spinner #2. Emissions are controlled by the Collection Chamber Baghouse #2 (4C) after the slag wool is treated with surfactants/binders..

Manufacturer: Danser	Model number: 002	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2

Maximum Hourly Throughput: 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2	Maximum Annual Throughput: 151,110 tons/yr slag wool between Spinner Collection Chamber #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 6S	Emission unit name: Hydrated Lime Storage Silo	List any control devices associated with this emission unit: 6C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Hydrated Lime Silo is pneumatically filled from the lime tank trucks. The silo is controlled by bin vent filter (6C).

Manufacturer: Dustex	Model number: 11378-G-0021 711021	Serial number: Various
Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 3,300 cf tank capacity

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
--	---

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA	NA	NA
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 7S	Emission unit name: Backup Generator	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The backup diesel-fired generator is an “emergency” generator to be used to provide electricity to the Millwood facility in the event that the grid power is unavailable.

Manufacturer: Caterpillar	Model number: Generator: 500kW Engine Caterpillar Model:C15 Family: 8CPXL15.2ELW	Serial number: Generator: G6B15172 Engine: N/D
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Construction date: 2008	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): Generator: 500kW power output, Engine 762 HP

Maximum Hourly Throughput: 36.2 gal/hr	Maximum Annual Throughput: 18,100 gal/yr @ 500 hr/yr	Maximum Operating Schedule: 500 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: Engine: 762 hp	Type and Btu/hr rating of burners: N/A
--	--

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

ULSD, 36.2 gal/hr, 18,100 gal/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
ULSD	15 ppm	NA	139,000 Btu/gal

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

6.0 Backup Generator Requirements [7S]

6.1 Limitations and Standards

6.1.1. Emissions from the backup generator, 7S, shall not exceed the following limitations:

Pollutant	Hourly limit in lb/hr	Annual limit in tpy
PM	0.08	0.02
PM 1	0.08	0.02
NOx	8.17	2.04
VOC	0.07	0.02
SO2	0.31	0.08
CO	1.93	0.48
VOC HAP	0.01	0.002
Total HAP	0.01	0.002

1All PM10 is assumed to be PM2.5 and all PM, PM10, PM2.5 emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 and 4.1.1.2; State-enforceable only]

6.1.2.

The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart IIII (backup generator 7S) including but not limited to the following:

Emissions from the Backup Generator (7S) shall not exceed the following:

NOx+NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
4.0	3.5	0.20

[40 C.F.R. §60.4205(b); 45CSR13, R13-2864, 4.1.11.1; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1);45CSR34]

6.1.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 over the entire life of the engine.

[40 C.F.R. §60.4206; 45CSR13, R13-2864, 4.1.11.2; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.4. The nonroad diesel fuel that is used in the backup generator must have a sulfur content less than 15 parts per million. The nonroad diesel fuel must have a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

[40 C.F.R. §60.4207(b); 45CSR13, R13-2864, 4.1.11.3; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.5. a. If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under Condition 6.1.5.c. of this permit:

1. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

2. Change only those emission-related settings that are permitted by the manufacturer; and

3. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

b. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Condition 6.1.2. of this permit, you must comply by purchasing an engine certified to the emission standards in Condition 6.1.2. for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 6.1.5.c. of this permit.

c. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[40 C.F.R. §§ 60.4211(a), (c), (g), and (g)(3); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.6. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (1) through (3) of this condition, is prohibited. If you do not operate the engine according to the requirements in paragraphs (1) through (3) of this condition, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for the purposes specified in paragraph (2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (2) of this condition.

[40 C.F.R. §60.4211(f); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

Permit Shield

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

6.2. Monitoring Requirements

6.2.1. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

[40 C.F.R. §60.4209(b); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.3. Testing Requirements

6.3.1. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart IIII.

[45CSR13, R13-2864, 4.3.3]

6.4. Recordkeeping Requirements

6.4.1. Reserved.

6.5. Reporting Requirements

6.5.1. The permittee shall comply with all applicable reporting requirements of 40 CFR 60 Subpart IIII.

[45CSR13, R13-2864, 4.5.3]

6.6. Compliance Plan

6.6.1. Reserved.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 8S	Emission unit name: Fugitive Dust from Traffic	List any control devices associated with this emission unit: NA
------------------------------------	--	--

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

Emissions from unpaved roads of the facility result from traffic of various vehicles used for material transfer hauling.

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 8,880 VMT/yr

Maximum Hourly Throughput: 1.01 VMT/hr	Maximum Annual Throughput: 8,880 VMT/yr	Maximum Operating Schedule: 8760 hrs/yr
--	---	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

See Attachment I "Emissions Inventory".

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 9S	Emission unit name: Slag Handling and Storage	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Slag Handling and Storage Emissions include emissions from the transfer of slag material to storage piles and wind erosion from the slag storage piles.

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: NA	Installation date: NA	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): NA

Maximum Hourly Throughput: NA	Maximum Annual Throughput: NA	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>			
Criteria Pollutants	Potential Emissions		
	PPH	TPY	
Carbon Monoxide (CO)	See Attachment I		
Nitrogen Oxides (NO _x)			
Lead (Pb)			
Particulate Matter (PM _{2.5})			
Particulate Matter (PM ₁₀)			
Total Particulate Matter (TSP)			
Sulfur Dioxide (SO ₂)			
Volatile Organic Compounds (VOC)			
Hazardous Air Pollutants	Potential Emissions		
	PPH	TPY	
Regulated Pollutants other than Criteria and HAP	Potential Emissions		
	PPH	TPY	
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>			

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 10S	Emission unit name: Cooling Tower #1	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Cooling Tower #1 is one of two towers used to chill water associated with the EAF continuous cooling process.

Manufacturer: Evertrough	Model number: UII855303-01	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1,500 gpm

Maximum Hourly Throughput: 90,000 gal/hr	Maximum Annual Throughput: 788.4 mmgal/yr	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>			
Criteria Pollutants	Potential Emissions		
	PPH	TPY	
Carbon Monoxide (CO)	See Attachment I		
Nitrogen Oxides (NO _x)			
Lead (Pb)			
Particulate Matter (PM _{2.5})			
Particulate Matter (PM ₁₀)			
Total Particulate Matter (TSP)			
Sulfur Dioxide (SO ₂)			
Volatile Organic Compounds (VOC)			
Hazardous Air Pollutants	Potential Emissions		
	PPH	TPY	
Regulated Pollutants other than Criteria and HAP	Potential Emissions		
	PPH	TPY	
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>			

Applicable Requirements

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

5.1. Limitations and Standards

5.1.1. Emissions from the storage tanks shall not exceed the limitations set forth below:

Source	VOC		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
12S	0.02	0.07	0.02	0.07	0.02	0.07
13S	0.01	0.04	0.01	0.04	0.01	0.04

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 & 4.1.1.2; State-enforceable only]

5.1.2. Emissions from the cooling towers shall not exceed the limitations set forth below:

Source	PM		PM ₁₀ ¹	
	lb/hr	tpy	lb/hr	tpy
10S	0.77	3.37	0.77	3.37
17S	0.41	1.80	0.41	1.80

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Table 4.1.1.1; State-enforceable only]

Permit Shield

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

5.2. Monitoring Requirements

5.2.1. Reserved.

5.3. Testing Requirements

5.3.1. Reserved.

5.4. Recordkeeping Requirements

5.4.1. Reserved.

5.5. Reporting Requirements

5.5.1. Reserved.

5.6. Compliance Plan

5.6.1. Reserved.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 11S	Emission unit name: Railcar Unloading (Fugitive)	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Railcar unloading fugitive emissions result from material transfer operations.

Manufacturer: NA	Model number: NA	Serial number: NA
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Construction date: NA	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 300 tph

Maximum Hourly Throughput: 300 tph	Maximum Annual Throughput: 2,628 mtph	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
	NA	NA
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 12S	Emission unit name: Diesel Storage Tank #1	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

900 gallon diesel storage tank for emergency generator (7S)

Manufacturer: NA	Model number: NA	Serial number: NA
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Construction date: NA	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 900 gallons

Maximum Hourly Throughput: 900 Gallons	Maximum Annual Throughput: N/D	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY

Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)	0.02	0.07
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
VOC HAPs	0.02	0.07
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 10S requirments

Permit Shield

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

See Source 10S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 13S	Emission unit name: Diesel Storage Tank #2	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

~~500~~ 1,000 gallon diesel storage tank for mobile equipment (e.g. front end loader).

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: NA	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): ~~500~~ 1,000 gallons

Maximum Hourly Throughput: 500 1,000 Gallons	Maximum Annual Throughput: N/D	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)	0.01	0.04
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
VOC HAPs	0.01	0.04
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 10S requirements

Permit Shield

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

See Source 10S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 15S	Emission unit name: Slag Wool Processing Line #1	List any control devices associated with this emission unit: 7C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Slag Wool Processing Line #1 includes the infrastructure which transports the slag wool from Spinner Collection Chamber #1, prepares it for baling, and aids in the baling process.

Manufacturer: Balemaster	Model number: 11201A	Serial number: Various
------------------------------------	--------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2

Maximum Hourly Throughput: 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2	Maximum Annual Throughput: 122,640 tons/yr slag wool between Slag Wool Processing Line #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
--	--	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 16S	Emission unit name: Slag Wool Processing Line #2	List any control devices associated with this emission unit: 7C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Slag Wool Processing Line #2 includes the infrastructure which transports the slag wool from Spinner Collection Chamber #2, prepares it for baling, and aids in the baling process.

Manufacturer: Balemaster	Model number: 11202A	Serial number: Various
------------------------------------	--------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2

Maximum Hourly Throughput: 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2	Maximum Annual Throughput: 122,640 tons/yr slag wool between Slag Wool Processing Line #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
--	--	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 17S	Emission unit name: Cooling Tower #2	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Cooling Tower #2 is one of two towers used to chill water associated with the EAF continuous cooling process.

Manufacturer: Evertrough	Model number: U88855303-02	Serial number: Various
------------------------------------	--------------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 800 gpm

Maximum Hourly Throughput: 800 gpm	Maximum Annual Throughput: 420.48 mmgal/yr	Maximum Operating Schedule: 8760 hrs/yr
--	--	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 10S requirements

Permit Shield

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

See Source 10S requirements

Are you in compliance with all applicable requirements for this emission unit? Yes No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT F
SCHEDULE OF COMPLIANCE FORM (NOT APPLICABLE)

ATTACHMENT G
AIR POLLUTION CONTROL DEVICE FORM

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 1C – Dry Lime Scrubber

List all emission units associated with this control device. 1S

Manufacturer: Dustex

Model number: 10357-PFD-1

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
SO ₂	100%	88% (for slag content of 3% by wt.)

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
50,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The Dry Lime Scrubber (1C) provides control of SO₂ for the EAF (1S). Potential pre and post-control SO₂ emissions from the EAF exceed major source thresholds so the scrubber is potentially subject to the CAM requirements of 40 CFR 64. However, 40 CFR 64 specifically exempts emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method. The EAF is equipped with SO₂ CEMS as required by the existing Title V Operating Permit. Therefore this control device is exempt from the CAM Provisions of 40 CFR 64. In addition, the dry scrubber is not required to meet the SO₂ emission limit and not required to be in operation at all times (Condition 4.1.3).

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

SO₂ CEMS

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 2C –
Furnace Dust Collector

List all emission units associated with this control device. 1S

Manufacturer: Dustex

Model number: 11378-A-0201-2

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
50,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

CAM was addressed in the prior (2018) permit renewal application and CAM requirements are incorporated in the current operating permit.

If No, **Provide justification.**

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

Monitoring of pressure drop across the control device.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 3C – Spinner Collection Chamber Baghouse #1

List all emission units associated with this control device. 3S

Manufacturer: Dustex

Model number: 11378-A-0001

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

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

150,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The Spinner Collection Chamber Baghouse #1 (3C) collects slag wool fibers from Spinner Collection Chamber #1 and conveys them to the Slag Wool Processing Lines. The Spinner Collection Chamber Baghouse #1 has potential pre-control emission in excess of the major source threshold and potential post control emissions less than the major source threshold and is therefore potentially subject to the CAM requirements of 40 CFR 64. However 40 CFR 64 applies only to control devices. The Spinner Collection Chamber Baghouse is inherent process equipment used for material handling and is therefore not considered a control device under 40 CFR 64 and is therefore not subject to CAM.

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

Pressure drop across control device.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 4C –
Collection Chamber Baghouse #2

List all emission units associated with this control device. 4S

Manufacturer: Dustex

Model number: 11378-A-0002

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

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

150,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The Spinner Collection Chamber Baghouse #2 (4C) collects slag wool fibers from Spinner Collection Chamber #2 and conveys them to the Slag Wool Processing Lines. The Spinner Collection Chamber Baghouse #2 has potential pre-control emission in excess of the major source threshold and potential post control emissions less than the major source threshold and is therefore potentially subject to the CAM requirements of 40 CFR 64. However 40 CFR 64 applies only to control devices. The Spinner Collection Chamber Baghouse is inherent process equipment used for material handling and is therefore not considered a control device under 40 CFR 64 and is therefore not subject to CAM.

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

Pressure drop across control device.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
6C – Silo Bin Vent Filter

List all emission units associated with this control device.
6S

Manufacturer: Dustex

Model number: 11378-A-0208

Installation date:
2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

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

3,300 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Due to the small size (3,300 cfm) and batch nature of this bin vent's operation, it is assumed that potential pre-control emissions from this operation are less than major source thresholds and the unit is therefore not subject to CAM.

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

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 7C – Fiber Line Baghouse	List all emission units associated with this control device. 15S & 16S
--	--

Manufacturer: Dustex	Model number: 11378-A-0102	Installation date: 2012
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Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
 40,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

CAM was addressed in the prior (2018) permit renewal application and CAM requirements are incorporated in the current operating permit.

If No, **Provide justification.**

The Fiber Line Baghouse (7C) provides control of particulate matter emissions from the Slag Wool Processing Lines (#1 and 2). Pre control emissions are greater than major source thresholds so the dust collector is therefore subject to CAM.

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

Pressure drop across control device.

ATTACHMENT H
COMPLIANCE ASSURANCE MONITORING (CAM) FORM

**ATTACHMENT I
EMISSIONS INVENTORY**

TABLE 1
SUMMARY OF FACILITY-WIDE AIR EMISSIONS
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Emission Unit ID	Emission Point ID	Emission Unit	Control Device	Control Device ID	PM		PM ₁₀		PM _{2.5}		NO _x		VOC		SO ₂		CO		CO ₂		Mn		Total HAPs Excluding Mn				
					lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr
1S	1-2E	Raw Material Transfer Operations and Submerged Electric Arc Furnace (EAF)	Dry Scrubber & Furnace Dust Collector	1C & 2C	2.60	11.39	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.02	55.00	240.90	747.39	3273.58	0.28	1.25	NA	NA	NA	NA	
3S	3-4E	Spinner Collection Chamber #1	Collection Chamber Baghouse #1	3C	7.09	31.06	7.09	31.06	7.09	31.06	NA	NA	0.38	1.65	NA	NA	NA	NA	NA	NA	0.78	3.40	NA	NA	NA	NA	
4S	3-4E	Spinner Collection Chamber #2	Collection Chamber Baghouse #2	4C	7.09	31.06	7.09	31.06	7.09	31.06	NA	NA	0.38	1.65	NA	NA	NA	NA	NA	NA	0.78	3.40	NA	NA	NA	NA	
6S	6E	Hydrated Lime Storage Silo	Silo Bin Vent Filter	6C	1.13	4.96	1.13	4.96	1.13	4.96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
7S	7E	Backup Generator	None	NA	0.08	0.02	0.08	0.02	0.08	0.02	8.17	2.04	0.07	0.02	0.009	0.002	1.93	0.48	NA	NA	NA	NA	NA	0.008	0.002	NA	NA
8S	Fugitive	Fugitive Dust from Traffic	None	NA	ND	14.56	ND	3.88	ND	0.39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
9S	Fugitive	Slag Handling and Storage (Fugitive)	None	NA	ND	1.98	ND	0.97	ND	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02	0.22	NA	NA	NA	NA	
10S	10E	Cooling Tower #1	None	NA	0.77	3.37	0.77	3.37	0.77	3.37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
11S	Fugitive	Railcar Unloading (Fugitive)	None	NA	0.02	0.10	0.01	0.05	0.002	0.008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	0.01	NA	NA	NA	NA	
15S	8E	Slag Wool Processing Line #1																									
16S	8E	Slag Wool Processing Line #2	Fiber Line Baghouse	7C	2.39	10.47	2.39	10.47	2.39	10.47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.26	1.15	NA	NA	NA	NA	
17S	17E	Cooling Tower #2	None	NA	0.41	1.80	0.41	1.80	0.41	1.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
18S	18E	Propane-Fueled Sand Dryer	None	None	0	0.00	0	0.00	0	0.00	0	0	0	0	0	0	0	0	0.00	0.00	NA	NA	NA	NA	NA	NA	
Totals					21.6	110.8	21.6	99.0	21.6	94.7	13.2	23.9	5.8	25.2	55.9	245.0	56.9	241.4	747	3,274	2.1	9.4	0.0	0.0	NA	NA	

TABLE 2
ELECTRIC ARC FURNACE (EU 1S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Data Sources	Slag Throughput		PM		PM ₁₀		PM _{2.5}		NO _x		VOC		SO ₂		CO		Mn	
	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr ^c	ton/year	lb/hr	ton/year
PM emissions from EAF baghouse based on exhaust flowrate and outlet PM concentration. ^a NO _x , VOC rates from WVDEP Engineering Evaluation/Fact Sheet. ^b CO emissions based on CEMS data collected by AWI at EAF baghouse exhaust. ^c SO ₂ emissions based on worst-case S-content of slag.	40,000	175,200	2.60	11.39	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.02	55.00	240.90	0.285	1.25

^a EAF baghouse exhaust flowrate of 43,275 scfm and PM/PM₁₀/PM_{2.5} outlet concentration of 0.007 gr/scf. Mn/PM ratio of 10.95%.

^b WV DEP R13 Permit 12/2010.

^c 55 lb/hr CO on a 30-day average based on CO CEMS data collected from 10/13 - 9/14.

**TABLE 3
SPINNER COLLECTION CHAMBERS (EU 3S & 4S), HOUSEKEEPING BAGHOUSE (EU 5S), LIME SILO (EU 6S), & SLAG WOOL PROCESSING LINES (15S & 16S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

EU ID	Volumetric Flowrate (scfm)	Annual Operating Hours	Outlet PM/PM10 Concentration (gr/dscf)	Mn Constant (% wt PM)	PM/PM ₁₀ /PM _{2.5}		Mn ^c		VOC From Surfactant/Binder			
					lb/hr	tpy	lb/hr	tpy	lb/hr used	% wt VOC	VOC lb/hr/line	tpy
3S	118,193	8,760	0.007	10.95	7.1	31.1	0.78	3.40	37.61	1.00	0.38	1.65
4S	118,193	8,760	0.007	10.95	7.1	31.1	0.78	3.40	37.61	1.00	0.38	1.65
6S	3,300	8,760	0.04	10.95	1.13	4.96	NA	NA	NA	NA	NA	NA
15S ^b 16S ^b	39,849	8,760	0.007	10.95	2.39	10.47	0.26	1.15	NA	NA	NA	NA

^a PM emissions calculated based on baghouse exhaust flowrates and PM/PM10/PM2.5 outlet concentrations.

^b Exhaust flowrate of Fiber Line Baghouse (Control Device 7C) that controls PM emissions from both slag wool processing lines (15S and 16S).

^c Based on Mn content in slag of 10.95% by weight.

^dBased on Spinner Chamber #1 & #2 combined design capacity (34,500 tph) an application rate of 1 lb surfactant/ton wool, 3.36 lb binder/ton wool and the following VOC contents:

Surfactant:	Rhodasurf L/4 STD	0.5% VOC (Conservatively assumed 1.0% VOC)
Binder:	Xiameter (R) Mem-1727 Thread Finish	(assumed VOC content similar to surfactant)

**TABLE 4
FUGITIVE DUST FROM SLAG HANDLING & STORAGE (EU 9S & EU 11S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

EU ID	Transfer Points	Throughput		PM	PM ₁₀	PM _{2.5}	Mn Content (% wt)	PM		PM ₁₀		PM _{2.5}		Mn	
		ton/hr	ton/yr	Emission Factor ^a (lb/ton)	Emission Factor ^a (lb/ton)	Emission Factor ^a (lb/ton)		Emissions lb/hr	tpy	Emissions lb/hr	tpy	Emissions lb/hr	tpy	Emissions lb/hr	tpy
9S	Transfer to Storage Pile (Truck)	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Loading out from Storage Pile (Front end loader)	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Four Raw Materials Grizzly Hopper Discharge Conveyers [CV-0001 - CV-0004]	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Raw Materials Transfer Conveyer [CV-0005]	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Raw Materials Inclined Conveyer [CV-0006]	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
11S	Railcar Loading	14.00	122,640	0.0017	0.0008	0.0001	11.0	0.024	0.10	0.011	0.05	0.002	0.008	0.003	0.011

Constants and Assumed Variables

	k (particle size multiplier)	constant	U (mean wind speed)	constant	M (moisture content)	constant	Emission Factor (lb/ton)
TSP	0.74	0.0032	6	1.3	3	1.4	0.0017
PM10	0.35	0.0032	6	1.3	3	1.4	0.0008
PM2.5	0.054	0.0032	6	1.3	3	1.4	0.0001

^aEmission factor, constants, and variables per US EPA, AP-42, Section 13.2.4.3 - Aggregate Handling and Storage Piles (11/2006), Equation 1.

TABLE 5
WIND EROSION FOR STORAGE PILES (EU 9S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Pile	Surface Area (acres)	Emission Factor ^a				Emissions							
		PM	PM ₁₀	PM _{2.5}	Mn ^b	PM		PM ₁₀		PM _{2.5}		Mn	
		lb/acre-yr	lb/acre-yr	lb/acre-yr	lb/acre-yr	lb/yr	tons/yr	lb/yr	tons/yr	lb/yr	tons/yr	lb/yr	tons/yr
1	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
2	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
3	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
4	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
5	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
6	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
7	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
8	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
9	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
10	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
Totals						2474.34	1.24	1237.17	0.62	185.58	0.09	270.94	0.14

^aBased on conical pile 7.6 meters high with a base diameter of 23.8 meters.

^bEmission factor as calculated for Construction Permit Application dated 1/27/2011. Emission factors calculated per US EPA, AP-42, Section 13.2.5 (11/2006), Equation 2. - Industrial Wind Erosion, using wind data for the Mason Airport Weather station.

^cPercent Mn weight of slag assumed to be 10.95% of PM (Data from Construction Permit Application dated 01/27/2011).

**TABLE 6
BACKUP DIESEL GENERATOR (EU 75)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

Rated Engine Power (HP)	Maximum Fuel Usage (gal/hr)	Fuel Heating Rate (MMBtu/gal)	Maximum Operation Duration (hrs)	Emissions											
				PM/PM ₁₀ /PM _{2.5} ^a		NO _x		SO ₂		CO		VOC		Total HAPs	
				lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
762	36.2	0.14	500	0.08	2.10E-02	8.17	2.04	9.25E-03	2.31E-03	1.93	0.48	6.61E-02	1.65E-02	8.43E-03	2.11E-03

^aAll particulate matter assumed less than 1 microm per US EPA, AP-42 Chapter 3.3.4.

Emission Factors

Pollutant	Emission Factors		Value (lbs/gal)
	Value	Units	
PM	38.1	g/hr	NA
NO _x	3707	g/hr	NA
SO ₂ ^b	1.21E-05	lb/hp	N/A
CO	877	h/hr	NA
VOC	30	g/hr	NA
Total HAP ^c	0.0017	lb/MMBtu	2.33E-04

^bSO₂ emission factor is based on 100% of engine load using fuel with 15 ppm sulfur content as required by NSPS IIII.

^cEmission Factor per US EPA, AP-42, Section 3.3.4 - Large Stationary Diesel and All Stationary Dual-Fuel Engines (11/2006), Tables 3.4-3 and 3. All others per manufacturer.

MMBtu/gal diesel	g/lb
0.138	453.59

**TABLE 7
FUGITIVE DUST FROM TRAFFIC EMISSIONS ON UNPAVED ROADS (EV 8S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

VMT (Total vehicle miles traveled/yr)	Emissions Factors			Emissions		
	PM (lb/VMT)	PM10 (lb/VMT)	PM2.5 (lb/VMT)	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)
5708.6730	5.1024	1.3598	0.1360	14.5639	3.8812	0.3881

Values of Variables & Constants for Unpaved Roads Fugitive Emissions Calculation								
Particulate matter unit size	Particle size multiplier (k) ^a	% Silt by wt (s) ^b	Empirical constant (a) ^a	W ^c	Empirical constant (b) ^a	E ^b	P ^d	E _{ext} ^e
PM30 (TSP)	4.9	6	0.7	28.2724	0.45	8.2772	140	5.1024
PM10	1.5	6	0.9	28.2724	0.45	2.2058	140	1.3598
PM2.5	0.15	6	0.9	28.2724	0.45	0.2206	140	0.1360

^aConstants from EPA AP-42 Section 13.2.2 (11/2006), Table 13.2.2-2.

^bPlant surface silt content; per EPA AP-42 Section 13.2.2 (11/2006), Table 13.2.2-1.

^cWeighted mean vehicle weight (tons); calculation per Construction Permit Application, Exhibit N-15 (10/2010).

^dNumber of days in a year with at least 0.254 mm (0.01 in) of precipitation; per EPA AP-42 Figure 13.2.2-1.

Constants and Assumed Variables

Vehicle	Average Weight (tons)	Distance (miles/trip)	Roundtrips/day	Miles/yr	Σ(Vehicle Wt{tons}), (VMT{mi}) ^c	W ^c	P ^d
Slag trucks	25.5	0.13	24	1138.8	29039.40	NA	NA
Glycol truck	26.5	0.18	0.04	2.628	69.64	NA	NA
Product truck	26.5	0.21	20	1533	40624.50	NA	NA
Alloy truck	26.5	0.13	0.1	4.745	125.74	NA	NA
Production Mats (Baling wire, stretch wrap, pallets, bag film)	26.5	0.21	4	306.6	8124.90	NA	NA
Production Mats (Mobile Equipment Fuel)	26.5	0.18	4	262.8	6964.20	NA	NA
Production Mats (Electrodes, sand)	26.5	0.13	2	94.9	2514.85	NA	NA
Front End Loader	41.5	0.05	96	1752	72708.00	NA	NA
Plant Trucks	2	0.21	8	613.2	1226.40	NA	NA
Means and Variable Values	NA	NA	NA	5708.6730	161397.6345	28.27235585	140

TABLE 8
COOLING TOWER DRIFT LOSS EMISSIONS (EU 10S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

EU ID	Total Flow Capacity (gpm)	Potential TDS Content ^a (ppmw)	Maximum Operating Schedule (hrs/yr)	Standard Drift Loss ^b (%)	Monthly Drift Loss (gal/mo)	Total Liquid Drift Loss ^c (lbs drift/Mgal)	Potential PM/PM ₁₀ /PM _{2.5} Emission Factor (lbs/Mgal)	Potential PM/PM ₁₀ /PM _{2.5} Emissions ^d	
								(lbs/hr)	(tons/yr)
10S	1,500	20,600	8,760	0.005	3,285	0.417	0.009	0.77	3.373
17S	800	20,600	8,760	0.005	1,752	0.417	0.009	0.41	1.796

^aOverall average TDS content for induced flow cooling towers from US EPA, AP-42, Table 13.4-2.

^bAssumed; per Construction Permit Application dated 10/2010.

^cDensity of water is 8.34 lbs/gal.

^dCalculation per US EPA, AP-42, Section 13.4.2 (11/2006).

TABLE 9
CARBON DIOXIDE (CO₂) EMISSIONS FROM ELECTRIC ARC FURNACE (EU 1S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Material	Max. Hourly Throughput (lb/hr)	Typical Carbon Content (%)	Molecular Weight of Carbon (lb/lbmol)	Molecular Weight of CO₂ (lb/lbmol)	Carbon converted to CO₂ (%)	CO₂ Emitted (lb/hr)^a	CO₂ Emitted (tons/yr)^b
Electrodes	93	90.0%	12	44	100%	747.4	3,273.6
Slag	40,000	0.3%					
Alloy in Slag	200	2.0%					
Non-Product Metals	193	2.0%					

^aAdapted from Equation K-1 from 40CFR98.113(b)(2)(i) where total CO₂ emitted = (molar ratio CO₂/C * carbon content electrodes consumed) + (molar ratio CO₂/C * carbon content of slag processed) + (molar ratio CO₂/C * carbon content of alloys in slag) - (molar ratio CO₂/C * carbon content of non-metals product processed).

^bBased on 8,760 hours of operation a year.

ATTACHMENT J
MSDS INFORMATION

SAFETY DATA SHEET

Drakeol® 35 MIN OIL USP



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Drakeol® 35 MIN OIL USP

EC number : 232-455-8

REACH Registration number

Registration number	Legal entity
01-2119487078-27	-

CAS number : 8042-47-5

Product code : PEN1440-00-C-DR

Product description : Mineral oil.

Product type : Liquid.

Other means of identification : White mineral oil, petroleum; White spirits; White mineral oil; Mineral oil; Paraffin oil; Paraffinum liquidum

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Petrochemical industry: Petroleum refining. Mineral oil.	
Uses advised against	Reason
Not available.	

1.3 Details of the supplier of the safety data sheet

Calumet Specialty Products Partners, L.P.
2780 Waterfront Pkwy E. Dr.
Suite 200
Indianapolis, Indiana 46214 USA
Technical Services: 317-328-5660

Calumet Sales Company Incorporated
Pa Monument Chemical BVBA
Haven 1972, Ketenislaan 3
B-9130 Kallo (Kieldrecht)
Belgium
+32 3 570 25 20

e-mail address of person responsible for this SDS : technical@calumetspecialty.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : +31(0) 30274 8888 (24 hours per week and 7 days a week)

Supplier

Telephone number : 24 hr. CHEMTREC 1-800-424-9300 / International 1-703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : UVCB

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Classification according to Directive 67/548/EEC [DSD]

Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : White mineral oil (petroleum)

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : No.
P: Not available. B: Not available. T: No.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Not available.

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

SECTION 3: Composition/information on ingredients

3.1 Substances : UVCB

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
White mineral oil (petroleum)	REACH #: 01-2119487078-27 EC: 232-455-8 CAS: 8042-47-5	100	Not classified.	Not classified.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[*] Substance

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
White mineral oil (petroleum)	EU OEL (Europe, 3/2012). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

SECTION 8: Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid. [Viscous liquid.]
- Colour** : Colourless.
- Odour** : Mild. Hydrocarbon.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : -60 to -9°C
- Initial boiling point and boiling range** : 218 to 800°C
- Flash point** : Closed cup: >112°C
Open cup: 223.33°C [Cleveland.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : 0.011 kPa [room temperature]
- Vapour density** : Not available.
- Relative density** : 0.869
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : >6
- Auto-ignition temperature** : 325 to 355°C
- Decomposition temperature** : Not available.

Drakeol® 35 MIN OIL USP

SECTION 9: Physical and chemical properties

- Viscosity** : Kinematic (40°C): 0.68 cm²/s
Explosive properties : Not available.
Oxidising properties : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability : The product is stable.
10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid : No specific data.
10.5 Incompatible materials : No specific data.
10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
White mineral oil (petroleum)	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

- Conclusion/Summary** : Not available.
Irritation/Corrosion
Conclusion/Summary : Not available.
Sensitisation
Conclusion/Summary : Not available.
Mutagenicity
Conclusion/Summary : Not available.
Carcinogenicity
Conclusion/Summary : The classification as a carcinogen need not apply as it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.
Reproductive toxicity
Conclusion/Summary : Not available.
Teratogenicity
Conclusion/Summary : Not available.
Specific target organ toxicity (single exposure)
Not available.
Specific target organ toxicity (repeated exposure)
Not available.
Aspiration hazard

SECTION 11: Toxicological information

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
White mineral oil (petroleum)	Acute LC50 >100 mg/l	Daphnia	48 hours
	Acute LC50 >10000 mg/l	Fish	96 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
White mineral oil (petroleum)	-	-	Inherent

SECTION 12: Ecological information

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
White mineral oil (petroleum)	>6	-	high

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : No.
P: Not available. B: Not available. T: No.

vPvB : Not available.
vP: Not available. vB: Not available.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 14: Transport information

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : This material is listed or exempted.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Japan : This material is listed or exempted.

Malaysia : Not determined.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

United States : This material is listed or exempted.

15.2 Chemical Safety Assessment : Not available.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

Full text of abbreviated H statements : Not applicable.

Full text of classifications [CLP/GHS] : Not applicable.

Full text of abbreviated R phrases : Not applicable.

Full text of classifications [DSD/DPD] : Not applicable.

Date of issue/ Date of revision : 01/12/2016

Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**ATTACHMENT K
DELEGATION OF AUTHORITY**

**ARMSTRONG FACILITY
DELEGATION OF AUTHORITY
FOR RESPONSIBLE OFFICIAL
TO A REPRESENTATIVE**

This form shall be used by a responsible official to delegate authority to a representative of such person for signature on applications or certification of reports to be submitted pursuant to the **Clean Air Act, Clean Water Act, RCRA, and any other applicable environmental law or regulation.**

This form shall only be used for a corporation at which a President, Secretary, Treasurer, or Vice-President of the corporation in charge of business function, or any other person who performs similar policy or decision making functions for the corporation to transfer the authority as a responsible official to a representative of such person. The representative of such person must be responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit.

FACILITY INFORMATION:

FACILITY NAME: Armstrong World Industries, Millwood, WV Facility

DATE FORM PREPARED: July 8, 2021


FACILITY ID NO. (IF APPLICABLE): Various

TRANSFER OF AUTHORITY:

I, the undersigned, being a President, Secretary, Treasurer, or Vice-President of the corporation in charge of business function, or other person who performs similar policy or decision making functions for the corporation, hereby transfer the authority as a responsible official to:

Matt McVay/Logan Martin,

They being a representative and responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit.



AUTHORIZED SIGNATURE

President & Chief Executive Officer
TITLE OF SIGNATORY

Vic Grizzle
TYPED OR PRINTED NAME OF SIGNATORY

7 / 8 / 2021
DATE

Matt McVay/Logan Martin
DELEGATED REPRESENTATIVE

Plant Manager/Plant EHS Manager
TITLE OF DESIGNATED REPRESENTATIVE

In the event of either individual changing position, it is understood that this delegation shall be transferred from position to position.

Division of Air Quality Permit Application Submittal

Please find attached a permit application for :

[Company Name; Facility Location]

- DAQ Facility ID (for existing facilities only):
- Current 45CSR13 and 45CSR30 (Title V) permits associated with this process (for existing facilities only):

• Type of NSR Application (check all that apply):

- Construction
- Modification
- Class I Administrative Update
- Class II Administrative Update
- Relocation
- Temporary
- Permit Determination

• Type of 45CSR30 (TITLE V) Revision (if any)**:

- Title V Initial
- Title V Renewal
- Administrative Update
- Minor Modification
- Significant Modification
- Off Permit Change

****If any box above is checked, include the Title V revision information as ATTACHMENT S to this application.**

• Payment Type:

- Credit Card (Instructions to pay by credit card will be sent in the Application Status email.)
- Check (Make checks payable to: WVDEP – Division of Air Quality)

Mail checks to:
WVDEP – DAQ – Permitting
Attn: NSR Permitting Secretary
601 57th Street, SE
Charleston, WV 25304

Please wait until DAQ emails you the Facility ID Number and Permit Application Number. Please add these identifiers to your check or cover letter with your check.

• If the permit writer has any questions, please contact (all that apply):

Responsible Official/Authorized Representative

- Name:
- Email:
- Phone Number:

Company Contact

- Name:
- Email:
- Phone Number:

Consultant

- Name:
- Email:
- Phone Number:

January 22, 2024

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

**Re: Title V Operating Permit Renewal Application for the Armstrong World Industries, Inc. Millwood, WV Slag Wool Production Plant
Plant ID No. 035-00049
Permit No. R30-03500049-2019**

Dear Ms. Crowder:

Armstrong World Industries, Inc. (Armstrong) operates a slag wool manufacturing facility located in Millwood, Jackson County, West Virginia under Title V Operating Permit No. R30-03500049-2019. Armstrong is submitting the enclosed Title V operating permit renewal application for the Millwood plant. This application is being submitted six months prior to the Title V permit expiration date of July 29, 2024. Armstrong believes that the enclosed submittal provides all the information required by the WV DAQ for technical review of the Title V renewal. As such, Armstrong believes that this submittal constitutes an administratively complete and timely Title V renewal application.

We are attaching one (1) copy of the application which has been signed by a responsible official. Armstrong understands that no application fee is required and that WV DAQ will address the public and affected state notification requirements.

Facility Changes

The changes to the facility over the term of the permit include the following:

1. Minor Modification MM01 (2019) - Removal of EU 5S (Housekeeping Vacuum System, never installed) and 14S (Glycol Storage Tank, removed). Corrections and clarification regarding the capacities of EU 7S (Emergency Generator, 500kWe) and EU 12S (Diesel Tank, 900 gallons). The potential to emit (PTE) for EU 7S and 12S were updated to reflect the revised capacities. The combined capacity for EU 15S and 16S (packaging lines) was clarified to state that it is 28,000 lbs/hr on a 24-hour average rather than instantaneous basis. Volatile organic compound (VOC)

PTE for EU 3S and 4S (Spinner Collection Chambers #1 and 2 were updated to reflect the use of new surfactant/binder materials. The volumetric flow rate of the fabric filter controlling emissions from EU6S (Hydrated Lime Storage Silo) was updated from 1,500 cfm to 3,300 cfm and the PTE was revised accordingly. (R13-2864D, MM01);

2. Removal of a temporary propane fired sand dryer (EU-18S). Armstrong is requesting that Condition 4.2.12 be deleted (requires tracking of propane usage and hours of operation).
3. Armstrong is requesting that the capacity of diesel storage tank #2 (Emission Unit 13S) be revised to 1,000 gallons (Table 1.1). Potential emissions to remain unchanged (EPA Tanks shows 1.8 lbs/yr VOC/HAP emissions from the diesel tank).

Other changes that are requested in this permit renewal include:

The current operating permit makes repeated references to a “water truck” to be used for road dust suppression (Conditions 4.1.7 and 4.1.8). Armstrong would like to clarify that the site does not own or operate a water truck. An ATV-type vehicle equipped with a spray rig is used for dust suppression on an as-needed basis. Armstrong trusts that this meets the requirements of a water truck.

Per the advice of WVDEP (Denton McDermitt, email 9/3/2020) Armstrong is requesting that the non-applicable permit condition 4.5.4(1) be deleted from the permit. Per Mr. McDermitt:

“The quarterly excess emissions reports are leftover language from when I originally developed the CAM “boilerplate” conditions for an electric utility company in our state. The power plant was subject to 45CSR2 and CAM applied to the weight emission standard for PM. Opacity was elected as a CAM parameter in their case. I linked the CAM reports to the applicable quarterly excess emissions reports (45CSR2-9.3.a.). The CAM Regulation in 40 CFR 64.9(a)(1) refers to 70.6(a)(3)(iii), which is Title V permit content for reporting. 70.6(a)(3)(iii)(A) requires reporting at least every 6 months. Since the CAM-affected emission units 1S, 15S, and 16S are not subject to 45CSR2, the quarterly excess emissions report is not applicable. You should submit the CAM report every 6 months with the semi-annual monitoring report. I apologize for leaving this non-applicable language in your permit. The next time you modify the permit, I suggest asking the permit writer to remove it and provide the writer with this explanation.”

Armstrong is evaluating a new binder material (Drakeol 35 Min Oil USP) to be used in EU 3S and 4S (Spinner Collection Chambers #1 and 2). The material is similar in composition application rate to the existing binder (Xiameter (R) Mem-1727 Thread Finish) and no changes to VOC PTE are expected. An SDS is provided in Attachment K. Armstrong may also evaluate alternative binders similar in nature and VOC content in the future.

Armstrong is also evaluating small (< or = 0.5% of throughput) adds of metallurgical coke to adjust slag carbon content. Armstrong has historically used small amounts of coke at startup but these adds are being evaluated to improve product quality by increased metal removal via tap-off.

Air Quality Regulatory Changes

Compliance Assurance Monitoring

The Compliance Assurance Monitoring (CAM) provisions of 40 CFR 64 require sources with control devices with pre-control emissions greater than major source thresholds to submit a CAM plan. The Millwood facility’s control devices/CAM status is as follows:

EUID	EU Description	CDID	Control Device Description	Pollutant	Emissions	CAM Applicability
1S	Raw Material Transfer and EAF	1C	EAF Scrubber	SO2	Post-Control > 100 TPY Pre-Control > 100 tpy	N/A. Scrubber not required to meet emission limit.
1S	Raw Material Transfer and EAF	2C	EAF Dust Collector	PM/PM10/PM2.5	Post Control < 100tpy	Applicable
3S	Spinner Collection Chamber #1	3C	Spinner #1 Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	N/A. Inherent process equipment, used for the collection of wool fibers from the spinner.
4S	Spinner Collection Chamber #2	4C	Spinner #2 Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	N/A. See above.
5S	Housekeeping Vacuum System	5C	Housekeeping Vacuum System	PM/PM10/PM2.5	N/D	N/A. This system was never installed.
6S	Hydrated Lime Silo	6C	Hydrated Lime Storage Silo	PM/PM10/PM2.5	Pre-Control < 100tpy	N/A. Due to the relatively small size of this bin vent (3,300 cfm), pre-control emissions are assumed to be less than 100 tpy.
15S/16S	Slag Wool Processing Lines #1 and 2	7C	Slag Wool Processing Dust Collector	PM/PM10/PM2.5	Pre-Control > 100 tpy Post Control < 100tpy	Applicable

Armstrong CAM for the affected fabric filters (2C and 7C) as part of the prior Title V permit renewal and these requirements have been incorporated into the permit.

Startup, Shutdown and Maintenance

The WVDEP recently promulgated regulations at §45-1 allowing for the establishment of alternative emission limitations during startup, shutdown, or maintenance (SSM) activities. The current permit requires compliance with numerous emission limits. Armstrong believes that good operating practices, in conjunction with operation of the existing control devices ensure that that the

facility's emission units can meet the existing emission limits during periods of system startup and shutdown. Armstrong is therefore not requesting an alternative emission limit during SSM conditions under this regulation.

Facility Compliance Status

NOV/Draft Consent Assessment

On February 26, 2018, WVDEP issued a Notice of Violation(s) ("NOV") to Armstrong in regards to emissions testing for: (1) failure to provide the Director with a testing protocol for approval 30 days prior to testing and failure to notify the Director of intent to test 15 days prior to testing; (2) failure to conduct condensable PM emissions testing on the EAF; (3) failure to test the Spinners for PM emissions; and (4) failure to demonstrate ongoing compliance with the required periodic PM testing schedule. Armstrong has since conducted the required testing and is in receipt of a draft consent assessment from WVDEP. Because the NOV was for a was a one-time issue - late testing that has since been completed - this matter is not a current "noncompliance" issue and therefore AWI is certifying compliance with all permit limits.

If you have any questions regarding the enclosed Title V application, please feel free to contact Mr. Michael D. Zeiders, Liberty Environmental, Inc. at (610) 375-9301, or me at 304-206-2847.

Sincerely,



Logan M. Martin
EHS Manager
Armstrong World Industries, Inc.

cc: J. Ackiewicz - Armstrong Corporate EHS
M. Zeiders - Liberty Environmental





Title V Permit Renewal Application

Armstrong World Industries, Inc.

Millwood, West Virginia

Title V Permit R30-03500049-2019

Submitted to:



West Virginia Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

Prepared by:



Liberty Environmental, Inc.

505 Penn Street, Suite 400

Reading, PA 19601

(610) 375-9301

JANUARY 2024

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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

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

www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

Form with 10 numbered sections: 1. Name of Applicant, 2. Facility Name or Location, 3. DAQ Plant ID No., 4. Federal Employer ID No. (FEIN), 5. Permit Application Type, 6. Type of Business Entity, 7. Is the Applicant the..., 8. Number of onsite employees, 9. Governmental Code, 10. Business Confidentiality Claims.

00049

11. Mailing Address		
Street or P.O. Box: P.O. Box 220		
City: Millwood	State: WV	Zip: 25262
Telephone Number: 304-273-3900	Fax Number: () -	

12. Facility Location (Physical Address)		
Street: 141 Sensenich Drive	City: Millwood	County: Jackson
UTM Easting: 427.2 km	UTM Northing: 4,307 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
Directions: From US-33 E, turn left onto WV 68 S. Continue on WV 68 S for 0.4 miles. Turn right onto WV 2 S. Continue for approximately 6 miles. Turn Right onto Jack Burlingame Road		
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is facility located within a nonattainment area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, for what air pollutants?	
Is facility located within 50 miles of another state? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the affected state(s). Ohio	
Is facility located within 100 km of a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the area(s).	
If no, do emissions impact a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.		

13. Contact Information		
Responsible Official: Matt McVay		Title: Plant Manager
Street or P.O. Box: P.O. Box 220		
City: Millwood	State: WV	Zip: 25262
Telephone Number: 304-273-3948	Cell Number: () -	
E-mail address: msmcvay@armstrongceilings.com		
Environmental Contact: Logan Martin		Title: EHS Manager
Street or P.O. Box: P.O. Box 220		
City: Millwood	State: WV	Zip: 25262
Telephone Number: 304-206-2847	Cell Number: () -	
E-mail address: lmmartin@armstrongceilings.com		
Application Preparer: Michael D. Zeiders		Title: Project Manager
Company: Liberty Environmental, Inc.		
Street or P.O. Box: 505 Penn St.		
City: Reading	State: PA	Zip: 19601
Telephone Number: 610-375-9301	Cell Number: () -	
E-mail address: mzeiders@libertyenviro.com		

14. Facility Description

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

Process	Products	NAICS	SIC
Slag wool insulation materials manufacturing	Slag wool	327993	3296

Provide a general description of operations.

The Armstrong World Industries Millwood plant is a slag wool manufacturing facility. It typically manufactures slag wool from silicon manganese slag. The plant receives the slag via truck or railcar, stores the slag in outdoor piles, and then transfers the slag to a belt conveyor via front-end loader. The slag is then transferred to a submerged Electric Arc Furnace (EAF) where the slag is melted using graphite electrodes. The molten slag is then transferred to one and or both spinners which spin the molten slag into slag wool fibers. The wool fibers are then collected in one of two collection chambers, further processed into slag wool bales, and then shipped off site.

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

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

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

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input checked="" type="checkbox"/> Section 111 NSPS	<input checked="" type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input checked="" type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> Cross-State Air Pollution Rule (45CSR43)	

19. Non Applicability Determinations
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</p> <p>3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.</p> <p>a. 40 CFR 60 Subpart CC - Standards of Performance for Glass Manufacturing Plants. The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.</p> <p>b. 40 CFR 60 Subpart 000-Standards of Performance for Nonmetallic Mineral Processing Plants. Slag does not meet the definition of nonmetallic mineral. In addition, the permittee installed a small propane fired sand dryer (EUID 188) permitted under R13-2864C. The source is used for drying batches (2,000 lbs/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart 000) because dryers are not an "affected facility" as listed by the regulation.</p>
<input type="checkbox"/> Permit Shield

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

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

- c. 40 CFR 60 Subpart UUU - Standards of Performance for Calciners and Dryers in Mineral Industries. The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60. 731 and is therefore not subject to this subpart. ~~In addition, the permittee installed a small propane fired sand dryer (EUID 188) permitted under R13-2864C. The source is used for drying batches (2,000 lblhr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.~~
- d. 40 CFR 63 Subpart DDD-National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production. The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as "In addition, the EAF is not classified as wool production NESHAP" at 40 CFR 63 Subpart DDD is not applicable.
- e. 40 CFR 63 Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. 45CSR17 -WV Fugitive emissions from material handling. Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. 45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations. The Millwood plant is not located in affected areas.
- h. 45CSR27 - Emissions of Toxic Air Pollutants. The Millwood plant does not operate any "chemical processing units" and does not use listed chemicals.

Permit Shield

20. Facility-Wide Applicable Requirements

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

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. §61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. §61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health -Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in SubpartB:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

Permit Shield

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

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

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

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

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.

[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

Permit Shield

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

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

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

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

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.
[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-2864, R13-2864A, R13-2864B, R13-2864C, R13-2864D 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.
[45CSR13, R13-2864, 2.5.1.; 45CSR§§13-5.10 and 10.3]

Permit Shield

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

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

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

3.2. Monitoring Requirements

3.2.1. Reserved.

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary’s delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.

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

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

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

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.
2. The result of the test for each permit or rule condition.
3. A statement of compliance or non-compliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.
[45CSR§30-5.1.c.2.A.; 45CSR13, R13-2864, 4.4.1.]

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

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

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

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken. [45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.[45CSR§§30-4.4. and 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30- 5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31. [45CSR§30-5.1.c.3.E.]

3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

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

US EPA:

Section Chief
U. S. Environmental Protection Agency,
Region III Enforcement and Compliance
Assurance Division Air Section (3ED21)
1650 Arch Street
Philadelphia, PA 19103-2029

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

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

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

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

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

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. [45CSR§30-8.]

DAQ:

DEPAirQualityReports@wv.gov

US EPA:

R3_APD_Permits@epa.gov

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30- 4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ: DEPAirQualityReports@wv.gov
[45CSR§30-5.1.c.3.A.]

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

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

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

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

3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken. [45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary. [45CSR§30-5.1.c.3.B.]

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement. [45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

3.6.1. Reserved.

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

a. **40 CFR 60 Subpart CC – Standards of Performance for Glass Manufacturing Plants.** The Millwood plant does not include glass melting furnaces, which are the affected facility to which this subpart applies (40 C.F.R. §60.290(a)). Therefore, this subpart is not applicable to the facility.

b. **40 CFR 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.** Slag does not meet the definition of nonmetallic mineral. ~~In addition, the permittee installed a small propane fired sand dryer (EUID 18S) permitted under R13-2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not subject to the Nonmetallic Mineral Processing Plants NSPS (Subpart OOO) because dryers are not an “affected facility” as listed by the regulation.~~

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

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

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

- c. **40 CFR 60 Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.** The Electric Arc Furnace does not meet the definition of a calciner or dryer in §60.731 and is therefore not subject to this subpart. ~~In addition, the permittee installed a small propane fired sand dryer (EUID 18S) permitted under R13 2864C. The source is used for drying batches (2,000 lb/hr) of sand used to collect tapped off metal material from the bottom of the EAF. The metal is tapped off onto a sand bed which must be dry due to its contact with molten metal. The sand drying operation is not a Mineral processing plant as defined in §60.731 and is therefore not subject to the Calciners and Dryers in Mineral Industries NSPS (Subpart UUU) because sand and other regulated materials do not constitute the majority (>50%) of the materials processed at the Millwood facility. The vast majority of materials handled consist of slag (raw material) and slag wool (product) that are not listed materials.~~
- d. **40 CFR 63 Subpart DDD – National Emission Standards for Hazardous Air Pollutants for Mineral Wood Production.** The Millwood plant is not classified as a major HAP source because potential HAP emissions are < 10/25 tpy for any single/combination of HAPs. In addition, the EAF is not classified as a “cupola” and the plant does not operate a mineral wool “curing oven”. For these reasons the “mineral wool production NESHAP” at 40 CFR 63 Subpart DDD is not applicable.
- e. **40 CFR 63 Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.** The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.
- f. **45CSR17 - WV Fugitive emissions from material handling.** Per 45CSR§7-6.1, if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.
- g. **45CSR19 and 45CSR21 NSR permitting for non-attainment areas and VOC Regulations.** The Millwood plant is not located in affected areas.
- h. **45CSR27 - Emissions of Toxic Air Pollutants.** The Millwood plant does not operate any “chemical processing units” and does not use listed chemicals.

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

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

21. Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit <i>(if any)</i>
R30-03500049-2019	07/29/2019	Not applicable
R13-2864D	09/23/2019	Not applicable
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Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	See Attachment I
Nitrogen Oxides (NO _x)	
Lead (Pb)	
Particulate Matter (PM _{2.5}) ¹	
Particulate Matter (PM ₁₀) ¹	
Total Particulate Matter (TSP)	
Sulfur Dioxide (SO ₂)	
Volatile Organic Compounds (VOC)	
Hazardous Air Pollutants ²	Potential Emissions
Regulated Pollutants other than Criteria and HAP	Potential Emissions

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

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input checked="" type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input checked="" type="checkbox"/>	<p>19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:</p> <p><u>12S Diesel Storage Tank #1 (VOC emissions: 0.02 lb/hr, 0.07 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>13S Diesel Storage Tank #2 (VOC emissions: 0.01 lb/hr, 0.04 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>Surfactant/Binder - tote storage and handling. Emissions assumed negligible due to low vapor pressures</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p> <p><u>12S Diesel Storage Tank #1 (VOC emissions: 0.02 lb/hr, 0.07 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>13S Diesel Storage Tank #2 (VOC emissions: 0.01 lb/hr, 0.04 tpy) (All VOCs also conservatively considered HAPs)</u></p> <p><u>Surfactant/Binder - tote storage and handling. Emissions assumed negligible due to low vapor pressures</u></p>
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input type="checkbox"/>	26. Fire suppression systems.
<input type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.

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

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

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

Section 6: Certification of Information

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

Note: This Certification must be signed by a responsible official as defined in 45CSR§30-2.38.

a. Certification of Truth, Accuracy and Completeness

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

b. Compliance Certification

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

Responsible official (type or print)

Name: Matt McVay

Title: Plant Manager

Responsible official's signature:

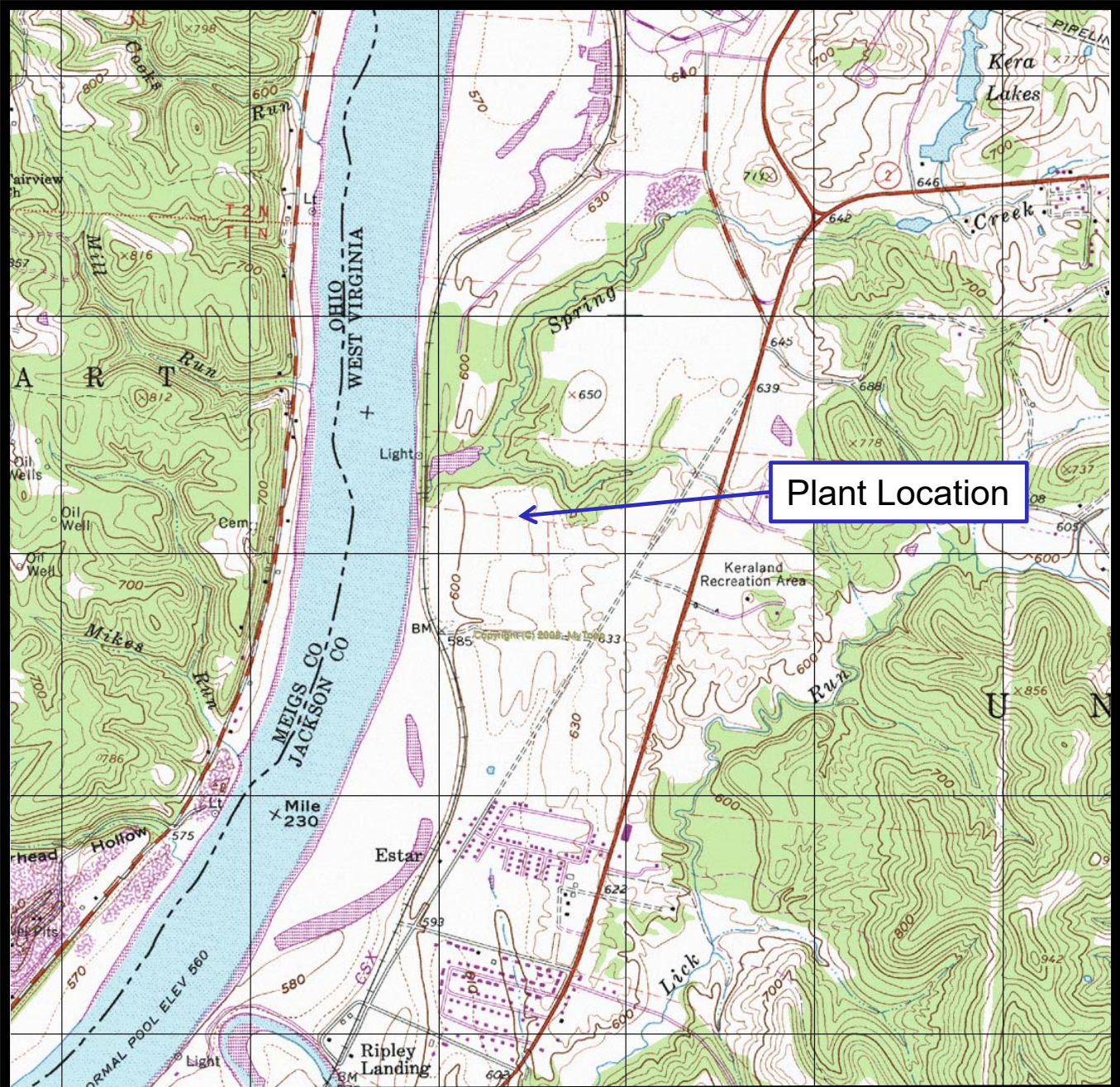
Signature:  Signature Date: 1.24.2024
(Must be signed and dated in blue ink or have a valid electronic signature)

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

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

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

**ATTACHMENT A
SITE LOCATION MAP**



505 PENN STREET
 SUITE 400
 READING, PA 19601
 PHONE: 610-375-9301



ATTACHMENT A: AREA MAP

MILLWOOD SLAG WOOL MANUFACTURING FACILITY

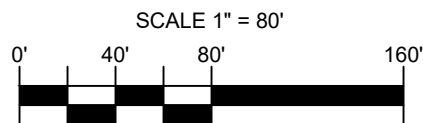
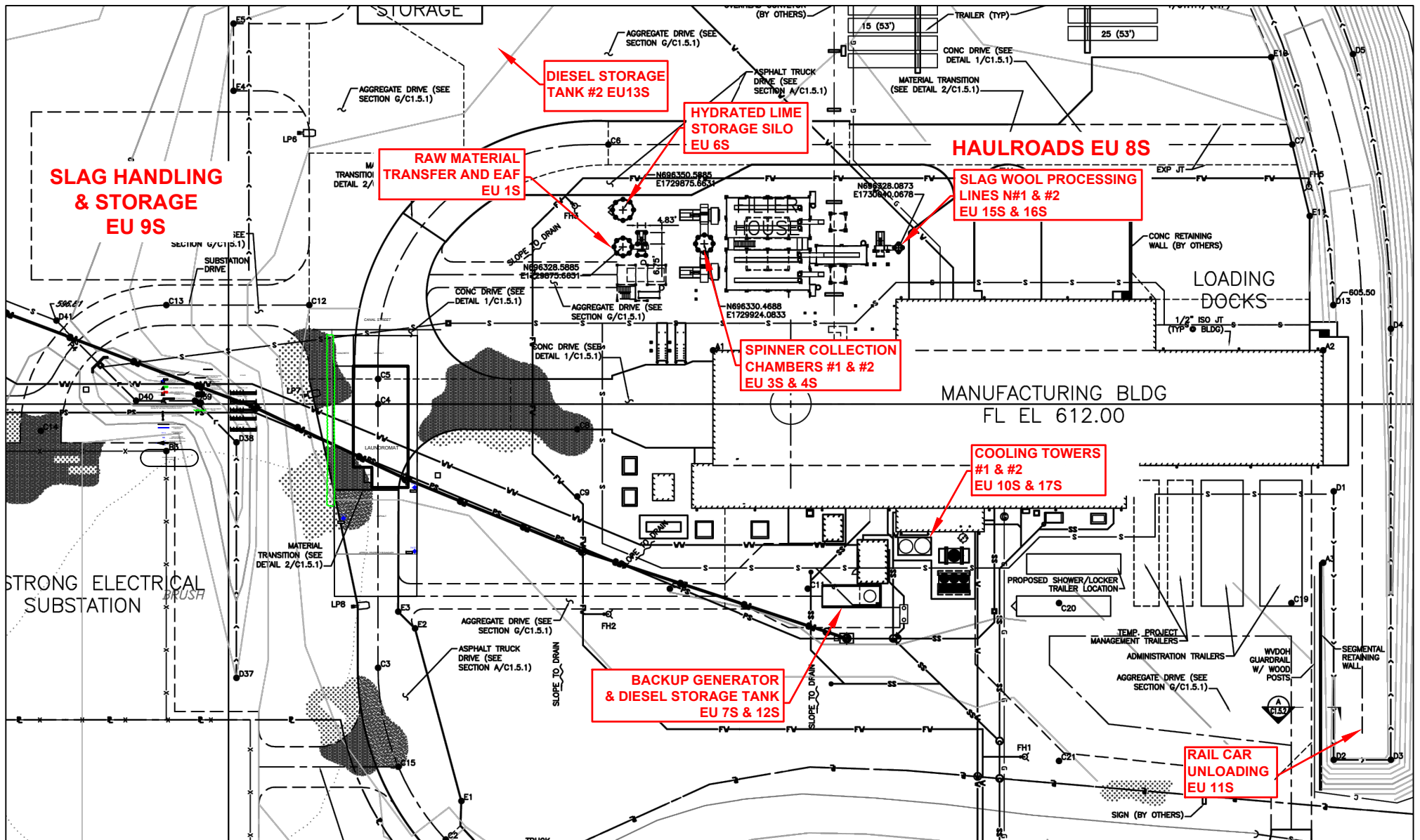
ARMSTRONG WORLD INDUSTRIES

USGS MAP QUADRANGLE: RAVENSWOOD, WV

SCALE : 1" = 2000 FEET



**ATTACHMENT B
PLOT PLAN**



Attachment B - Plot Plan

Armstrong World Industries, Inc.
Millwood Plant

Millwood, Jackson County, West Virginia

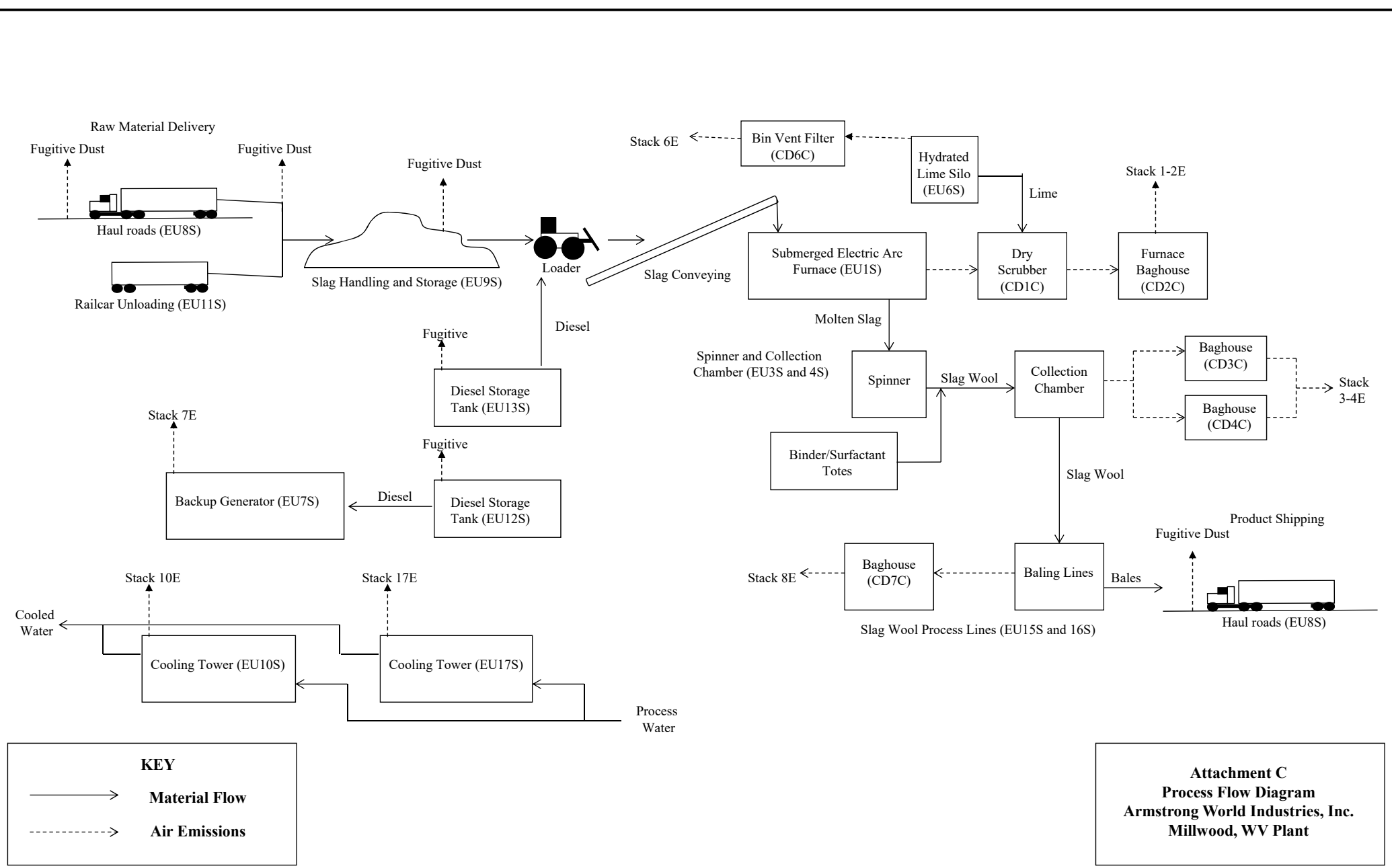
505 Penn St. Suite 400
 Reading, PA 19601
 Phone: 610-375-9301
 www.libertyenviro.com

PROJECT NO.: 180425
 DATE: JANUARY 10, 2024

REV: 1
 SCALE: 1" = 80'

PREPARED BY: JRY
 APPROVED BY: GLB

ATTACHMENT C
PROCESS FLOW DIAGRAM



**ATTACHMENT D
TITLE V EQUIPMENT TABLE**

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

Emission Unit ID ¹	Emission Point ID ¹	Emission Unit Description	Year Installed/ Modified	Design Capacity	Control Device ¹
1S	1-2E	Raw Material Transfer and EAF	2011	40,000 lb/hr	1C & 2C
3S	3-4E	Spinner Collection Chamber #1	2011	34,500 lb/hr	3C
4S	3-4E	Spinner Collection Chamber #2			4C
6S	6E	Hydrated Lime Silo	2011	3,300 cfm	6C
7S	7E	Backup Generator	2011	500 kWe	N/A
8S	Fugitive	Haulroads	2011	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	175,000 tpy	N/A
10S	10E	Cooling Tower #1	2011	1,500 gpm	N/A
11S	Fugitive	Railcar Unloading	2011	300 tph	N/A
12S	Fugitive	Diesel Storage Tank #1 – Emergency Generator	2011	900 Gal	N/A
13S	Fugitive	Diesel Storage Tank #2 – Front End Loader	2011	500 -1,000 Gal	N/A
15S	8E	Slag Wool Processing Line #1	2011	28,000 lb/hr (based on 24 hour average)	7C
16S	8E	Slag Wool Processing Line #2	2011		7C
17S	17E	Cooling Tower #2	2011	800 gpm	N/A
18S	18E	Propane Fueled Sand Dryer	2018	2,000 lb/hr sand 5 gal/hr propane	N/A

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

**ATTACHMENT E
EMISSION UNIT FORMS**

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 1S	Emission unit name: Raw Material Transfer and EAF	List any control devices associated with this emission unit: 1C & 2C
------------------------------------	---	---

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

The slag is transferred from the storage piles via conveyers, hoppers, and a bucket elevator to the Electric Arc Furnace (EAF). The resistive heating created from electricity traveling between three cylindrical electrodes melts the slag. Two molten layers form, a molten metallic layer and the molten slag layer. The melted slag flows out of the furnace to the spinners. The emissions from Raw Material Transfer and the EAF are controlled by the Furnace Dust Collector (2C) and SO₂ from the EAF is controlled by the Dry Lime Scrubber (1C).

Manufacturer: Tenova Pyromet	Model number: Custom	Serial number: Various
--	--------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 40,000 lb/hr slag feed rate to EAF

Maximum Hourly Throughput: 40,000 lb/hr slag	Maximum Annual Throughput: 175,200 tpy slag	Maximum Operating Schedule: 8760 hrs/yr
--	---	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)*	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

* CO emission rates following the 2023 performance testing results are being evaluated and CO potential emissions may be revised.

Applicable Requirements

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

4.0 Manufacturing Process Sources Requirements [1S, 3S, 4S, 6S, 9S, 11S, 15S, 16S, ~~18S~~]

4.1. Limitations and Standards

4.1.1. Emissions from the facility shall not exceed the limitations set forth in Tables 4.1.1.1 and 4.1.1.2:

Table 4.1.1.1

Source	PM		PM ₁₀		NO _x		VOC		SO ₂		CO	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.00	55.00 ²	240.90
3S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
4S	7.09	31.06	7.09	31.06	--	--	0.39	1.71	--	--	--	--
6S	1.13	4.95	1.13	4.95	--	--	--	--	--	--	--	--
9S	--	1.98	--	0.97	--	--	--	--	--	--	--	--
11S	0.02	0.10	0.01	0.05	--	--	--	--	--	--	--	--
15S/16S	2.39	10.47	2.39	10.47	--	--	--	--	--	--	--	--
18S³	0.1	0.44	0.1	0.44	0.07	0.28	0.01	0.02	--	--	0.03	0.16

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

²Hourly CO emission limits from the EAF are 55 pounds per hour based on a rolling 30 day average and 100 pounds per hour based on a rolling 24 hour average.

³Hourly emissions for the Propane fueled Sand Dryer (18S) are calculated based on burning 5 gal/hr of propane; Annual emissions for the Propane fueled Sand Dryer (18S) are based on operating for 8,760 hr/yr.

Table 4.1.1.2

Source	Mn		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
1S	0.28	1.25	--	--	0.28	1.25
3S	0.78	3.40	--	--	0.78	3.40
4S	0.78	3.40	--	--	0.78	3.40
6S	--	--	--	--	--	--
9S	0.02	0.22	--	--	0.02	0.22
11S	0.01	0.01	--	--	0.01	0.01
15S/16S	0.26	1.15	--	--	0.26	1.15
18S	--	--	--	--	--	--

Compliance with the PM emission limits shall demonstrate compliance with the less stringent PM emission limits of 45CSR§7-4.1.

[45CSR13, R13-2864, 4.1.1 and 4.1.9.2, Tables 4.1.1.1 and 4.1.1.2, 45CSR§7-4.1.]

4.1.2.

The total annual SO₂ emissions from the Submerged Electric Arc Furnace (1S) shall not exceed 245 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.2]

4.1.3. The Furnace Dry Scrubber (1C) shall be designed, installed, operated and maintained so as to ensure compliance with the emission limits of 4.1.1. Operation of the scrubber is only required when necessary to meet the emission limits of 4.1.1.

[45CSR13, R13-2864, 4.1.3]

4.1.4. For the purpose of complying with the PM/PM₁₀/PM_{2.5} emission limits of condition 4.1.1 of this permit, all of the dust collectors shall be operated according to the following requirements:

The permittee has determined the optimal ranges for the pressure drop across baghouses 2C, 3C, 4C and 7C. The permittee shall maintain on site, and update as necessary, a certified report listing the operating ranges.

[45CSR13, R13-2864, 4.1.4]

4.1.5. Manganese content of the slag entering the furnace shall not exceed 10.95% (equivalent to 14.14% MnO).

[45CSR13, R13-2864, 4.1.5]

4.1.6. The total annual Mn emissions from the facility shall not exceed 9.6 tons per year based on a rolling 12 month total basis.

[45CSR13, R13-2864, 4.1.12.]

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

a. The permittee shall maintain a water truck on site and in good operating condition, and shall utilize same to apply either water or a mixture of water and an environmentally acceptable dust control additive, hereinafter referred to as solution, as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from unpaved haulroads and other unpaved work areas where mobile equipment is used. The spraybar shall be equipped with commercially available spray nozzles, of sufficient size and number, so as to provide adequate coverage to the area being treated.

The pump delivering the solution, shall be of sufficient size and capacity so as to be capable of delivering to the spray nozzle(s) an adequate quantity of solution, and at a sufficient pressure, so as to assure that the treatment process will minimize the atmospheric entrainment of fugitive particulate emissions generated from the unpaved haulroads and work areas where mobile equipment is used.

b. All unpaved haulroads, access roads, stockpile and work areas shall be kept clean and in good condition by replacing base material and/or grading as required.

c. If tracking of solids by vehicular traffic from access and/or haulroads onto any public road or highway occurs and generates or has the potential to generate fugitive particulate emissions, the registrant shall properly operate and maintain an underbody truck wash, rumble strips or employ other suitable measures to maintain effective fugitive dust control of the premises and minimize the emission of particulate matter.

[45CSR13, R13-2864, 4.1.6]

4.1.8. The permittee shall ensure that the water trucks and/or water sprays are properly equipped with winterization systems capable of operating in a manner such that all such fugitive dust control systems remain effective and functional, to the maximum extent practicable, during winter months and cold weather. At all times, including periods of cold weather, the registrant shall comply with the water trucks and/or water sprays requirements of this permit.

[45CSR13, R13-2864, 4.1.7]

4.1.9. Total slag throughput to the EAF shall not exceed 175,200 tons per year on a rolling 12 month total.

[45CSR13, R13-2864, 4.1.8]

4.1.10. 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 for 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§7-3.1 & 45CSR§7-3.2, 45CSR13, R13-2864, 4.1.9.1 (1S, 3S, 4S, 15S, 16S, 18S)]

4.1.11. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process that pursuant to Condition 4.1.13. is required to have a full enclosure and be equipped with a particulate matter control device.

[45CSR§7-3.7.] (6S)

4.1.12. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.

[45CSR§7-4.12.]

4.1.13. 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., 45CSR13, R13-2864, 4.1.9.3]**

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

[45CSR§7-5.2., 45CSR13, R13-2864, 4.1.9.4]

4.1.15. 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. of 45CSR10.

[45CSR§10-4.1., 45CSR13, R13-2864, 4.1.10.] (1S)

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

[45CSR§13-5.10., 45CSR13, R13-2864, 4.1.13]

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

4.2. Monitoring Requirements

4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturers recommendations concerning maintenance and performance.

[45CSR13, R13-2864, 4.2.1]

4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

[45CSR13, R13-2864, 4.2.2] (1S, 3S, 4S, 6S, 15S, 16S, 18S)

4.2.3. The permittee shall install, maintain and operate instrumentation to continuously monitor and record at least once per operating day the control device parameters (1C, 2C, 3C, 4C and 7C) as determined by conditions

4.1.3 and 4.1.4 of this permit at all times that the emission source(s) is/are in operation.

[45CSR13, R13-2864, 4.2.3] [40 C.F.R. § 64.3(b)(4)(iii); 45CSR§30-5.1.c.] (2C, 7C)

4.2.4. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of SO₂, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 2 as appropriate, and Performance Specification 4, 4a or 4b (CO) as appropriate.

[45CSR13, R13-2864, 4.2.4]

4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.15 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier. Alternatively, the permittee may obtain a fuel sample of each shipment and perform analytical testing to determine the sulfur content. **[45CSR13, R13-2864, 4.2.5]**

4.2.6. To show compliance with the SO₂ limit in condition 4.1.2 of this permit, monthly SO₂

emissions from the submerged electric arc furnace shall be calculated (using SO₂ CEMS) by the 15th of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.7]

4.2.7. In order to determine compliance with conditions 4.1.1. and 4.1.5 of this permit, the permittee shall obtain representative samples from each shipment of slag from each supplier for the first week of operation (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) to be analyzed for the Manganese content (percent Manganese by weight). The manganese content from each type of slag shall be averaged for the week in order to determine a baseline manganese content for that suppliers slag. After the first week of samples, the permittee shall continue to collect the weeks worth of samples (i.e. one sample taken from the total slag delivered during the day from each supplier for 1 week) at least once per month to either confirm the existing or reestablish a new baseline Mn level for that supplier. If the permittee adds a new slag supplier, the permittee shall collect samples for each shipment for one week in order to establish the baseline Mn content for that supplier.

If the baseline Mn content of the slag from any supplier exceeds the Mn level permitted in condition 4.1.5 of this permit, Armstrong shall maintain a record documenting, any time that specific slag is used in the furnace, that the Mn content of the slag blend entering the furnace does not exceed the Mn level permitted in Condition 4.1.5 of this permit.

[45CSR13, R13-2864, 4.2.9]

4.2.8. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the emissions of CO, from the EAF exhaust stack. The CEMS shall be designed, installed, operated and maintained in compliance with the USEPA Part 60, Appendix B, Performance Specification 4, 4a or 4b as appropriate.

[45CSR13, R13-2864, 4.2.6]

4.2.9. The permittee shall maintain monthly records of slag throughput to the EAF.

[45CSR13, R13-2864, 4.2.11]

4.2.10. To show compliance with the Mn emission limit in condition 4.1.6. of this permit, monthly Mn emissions from the facility shall be calculated (mass balance) by the 15th day of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.12]

4.2.11. To show compliance with the CO limit in condition 4.1.1 of this permit, monthly CO emissions from the submerged electric arc furnace shall be calculated (using CO CEMS) by the 15th date of the subsequent month. A twelve month running total of emissions shall be maintained to verify compliance with the annual emission limitation. Each month a new twelve month total shall be calculated using the previous twelve months of data.

[45CSR13, R13-2864, 4.2.10]

~~4.2.12. To show compliance with the emission limits given in condition 4.1.1. of this permit, the permittee shall keep a monthly record of hours of operation and propane fuel usage for the Sand Dryer (18S). These monthly records shall be used to calculate a twelve month rolling average hourly fuel usage rate which should not exceed 5gal/hr of propane consumption.~~

~~**[45CSR13, R13-2864, 4.2.13.]**~~

4.2.13. **CAM Indicator Range for 2C** – While the Raw Material Transfer and EAF is operating, the static pressure drop across the Furnace Dust Collector (2C) shall be greater than or equal to 1.0 and

less than or equal to 7.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.

[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (1S)

4.2.14. **CAM Indicator Range for 7C** – While the Slag Wool Processing Lines #1 or #2 (or both simultaneously) are operating, the static pressure drop across the Fiber Line Baghouse (7C) shall be greater than or equal to 0.5 and less than or equal to 9.0 inches of water column and shall be continuously monitored and recorded at least once per 24-hour period in accordance with condition 4.2.3. The pressure drop monitoring device shall be a Rosemount DP transducer (Model No. 3051CD2A22A1AM5) or equivalent.

[40 C.F.R. §§ 64.3(a), 64.6(c)(1)(i), and 64.6(c)(1)(ii); 45CSR§30-5.1.c.] (15S, 16S)

4.2.15. **Excursion Definition for the Raw Material Transfer and EAF** – For the purposes of 40 C.F.R. Part 64, an excursion for the Raw Material Transfer and EAF (1S) is a static pressure drop across the Furnace Dust Collector (2C) outside of the indicator range specified in permit condition 4.2.13. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.

[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (1S)

4.2.16. **Excursion Definition for the Slag Wool Processing Lines #1 and #2** – For the purposes of 40 C.F.R. Part 64, an excursion for the Slag Wool Processing Lines #1 and #2 (15S and 16S) is a static pressure drop across the Fiber Line Baghouse (7C) outside of the indicator range specified in permit condition 4.2.14. Refer to conditions 4.2.20. (Response to Excursions and Exceedances), 4.4.9. (General recordkeeping requirements for CAM), and 4.5.4. (General reporting requirements for CAM) for recordkeeping and reporting requirements for excursions.

[40 C.F.R. § 64.6(c)(2); 45CSR§30-5.1.c.] (15S, 16S)

4.2.17. **Commencement of operation** – The permittee shall conduct the monitoring required under 40 C.F.R. Part 64 upon issuance of this permit that includes such monitoring.

[40 C.F.R. § 64.7(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.18. **Proper Maintenance** – At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

[40 C.F.R. § 64.7(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.19. **Continued Operation** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 C.F.R. Part 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 C.F.R. § 64.7(c); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.2.20. **Response to Excursions or Exceedances**

(1) Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its

normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 C.F.R. § 64.7(d); 45CSR§30-5.1.c.] (IS, IS5, I6S)

4.2.21. Documentation of Need for Improved Monitoring – After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 C.F.R. § 64.7(e); 45CSR§30-5.1.c.] (IS, IS5, I6S)

4.2.22. Quality Improvement Plan (QIP) – Based on the results of a determination made under §64.7(d)(2) (Response to excursions or exceedances, permit condition 4.2.20.(2)), the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, then it shall be developed, implemented, and modified as required according to 40 C.F.R. §§ 64.8(b) through (e). Refer to permit condition 4.5.4.(2)c. for the reporting required when a QIP is implemented. Notwithstanding the Administrator or the Director requiring the permittee to develop a QIP, the permittee proposed an accumulation of exceedances or excursions exceeding 10 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP.

[40 C.F.R. § 64.8; 45CSR§30-5.1.c.] (IS, IS5, I6S)

4.3. Testing Requirements

4.3.1. The permittee shall complete the following performance testing:

4.3.1.1. The permittee shall perform or have performed EPA approved stack tests to determine emissions of NO_x, VOCs, PM and PM₁₀ from the submerged electric arc furnace.

4.3.1.2. The permittee shall perform or have performed EPA approved stack tests to determine emissions of PM and PM₁₀ from one of the spinner collection chambers.

4.3.1.3. The permittee shall perform or have performed EPA approved stack tests to determine emissions of Manganese from one of the spinner collection chambers and the submerged electric arc furnace.

[45CSR13, R13-2864, 4.3.1]

4.3.2. Ongoing compliance shall be demonstrated by repeating the above testing (condition 4.3.1.) according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Director's Request

Initial	Between 10% and 50% of limits	Once/5 years
Initial	Between 50% and 90% limits	Once/3 years
Initial	≥90% of limits	Annual
Annual	After two successive tests indicate emission rates ≤50% of	Once/5 years
Annual	After two successive tests indicate emission rates <90% of	Once/3 years
Annual	≥90% of limits	Annual
Once/3 years	After two successive tests indicate emission rates ≤50% of	Once/5 years
Once/3 years	After two successive tests indicate emission rates <90% of	Once/3 years
Once/3 years	≥90% of limits	Annual
Once/5 years	After two successive tests indicate emission rates <10% of limits	Upon Director's Request
Once/5 years	≤50% of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	≥90% of limits	Annual

[45CSR13, R13-2864, 4.3.2]

4.3.3. **Quality Assurance / Quality Control Practice** – For the Furnace Dust Collector (2C) and Fiber LineBaghouse (7C), the differential pressure sensing devices shall be electrically tested semi-annually to verify correct readings and that accurate data is being sent to the data logging system. The reading shall be within 0.15 in. of water column. If a reading differs in a value greater than 0.15 in. water column, a vendor shall be utilized as expeditiously as practicable to calibrate the differential pressure sensing device. A vendor shall be scheduled for a regular calibration visit every 3 years. Records of the testing and calibrations shall be maintained in accordance with conditions 3.4.1. and 3.4.2.

[40 C.F.R. § 64.3(b)(3); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.4. Recordkeeping Requirements

4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-2864, 4.4.2.]

4.4.2. **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.

[45CSR13, R13-2864, 4.4.3.]

4.4.3. In order to determine compliance with condition 4.1.5 of this permit, the permittee shall keep monthly records of the Manganese content of the slag. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.4]

4.4.4. The permittee shall maintain monthly records of slag wool production from the facility. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative. **[45CSR13, R13-2864, 4.2.8. and 4.4.5]**

4.4.5. In order to demonstrate compliance with the requirements of 4.2.2 of this permit, records of the Method 22 testing and any necessary Method 9 testing shall be retained on site by the permittee for at least five (5) years. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.6]

4.4.6. In order to determine compliance with the requirements of conditions 4.1.15 and 4.2.5 of this permit, the permittee shall maintain records of the fuel oil sulfur content. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.7]

4.4.7. In order to determine compliance with the requirements of condition 4.1.4 of this permit, the permittee shall maintain daily records of the pressure drop across each baghouse. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.8]

4.4.8. In order to determine compliance with condition 4.2.9 of this permit, the permittee shall maintain monthly records of slag throughput to the EAF. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.

[45CSR13, R13-2864, 4.4.9]

4.4.9. **General recordkeeping requirements for 40 C.F.R. Part 64 (CAM).** The permittee shall comply with the recordkeeping requirements specified in permit conditions 3.4.1. and 3.4.2. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 (condition 4.2.22.) and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40

C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

[40 C.F.R. § 64.9(b); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.5. Reporting Requirements

4.5.1. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

[45CSR13, R13-2864, 4.5.1]

4.5.2. With regard to testing required by section 4.3 of this permit, results shall be submitted to the Director no more than 60 days after the date the testing takes place.

[45CSR13, R13-2864, 4.5.2]

4.5.3. The permittee shall comply with all applicable reporting requirements of 45CSR7, 45CSR10, and 45CSR13.

[45CSR13, R13-2864, 4.5.3]

4.5.4. **General reporting requirements for 40 C.F.R. Part 64 (CAM)**

~~(1) On and after the date specified in 40 C.F.R. §64.7(a) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit CAM monitoring reports with the quarterly excess emissions reports. A copy of the CAM monitoring reports generated within the semi-annual monitoring report period shall be included with the semi-annual monitoring report under permit condition 3.5.6. Incorporation by reference within the semi-annual monitoring report is not acceptable.~~

(2) A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.8. and the following information, as applicable:

- a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
- b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. § 64.9(a); 45CSR§30-5.1.c.] (1S, 15S, 16S)

4.6. Compliance Plan

4.6.1. Reserved.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 3S	Emission unit name: Spinner Collection Chamber #1	List any control devices associated with this emission unit: 3C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Spinner Collection Chamber #1 collects slag wool fibers from Spinner #1. Emissions are controlled by the Collection Chamber Baghouse #1 (3C) after the slag wool is treated with surfactants/binders.

Manufacturer: Danser	Model number: 001	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2

Maximum Hourly Throughput: 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2	Maximum Annual Throughput: 151,110 tons/yr slag wool between Spinner Collection Chamber #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 4S	Emission unit name: Spinner Collection Chamber #2	List any control devices associated with this emission unit: 4C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Spinner Collection Chamber #2 collects slag wool fibers from Spinner #2. Emissions are controlled by the Collection Chamber Baghouse #2 (4C) after the slag wool is treated with surfactants/binders..

Manufacturer: Danser	Model number: 002	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2

Maximum Hourly Throughput: 34,500 lb/hr slag wool between Spinner Collection Chamber #1 and #2	Maximum Annual Throughput: 151,110 tons/yr slag wool between Spinner Collection Chamber #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 6S	Emission unit name: Hydrated Lime Storage Silo	List any control devices associated with this emission unit: 6C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Hydrated Lime Silo is pneumatically filled from the lime tank trucks. The silo is controlled by bin vent filter (6C).

Manufacturer: Dustex	Model number: 11378-G-0021 711021	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 3,300 cf tank capacity

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule: 8760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA	NA	NA
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 7S	Emission unit name: Backup Generator	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The backup diesel-fired generator is an “emergency” generator to be used to provide electricity to the Millwood facility in the event that the grid power is unavailable.

Manufacturer: Caterpillar	Model number: Generator: 500kW Engine Caterpillar Model:C15 Family: 8CPXL15.2ELW	Serial number: Generator: G6B15172 Engine: N/D
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Construction date: 2008	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): Generator: 500kW power output, Engine 762 HP

Maximum Hourly Throughput: 36.2 gal/hr	Maximum Annual Throughput: 18,100 gal/yr @ 500 hr/yr	Maximum Operating Schedule: 500 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: Engine: 762 hp	Type and Btu/hr rating of burners: N/A
--	--

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

ULSD, 36.2 gal/hr, 18,100 gal/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
ULSD	15 ppm	NA	139,000 Btu/gal

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

6.0 Backup Generator Requirements [7S]

6.1 Limitations and Standards

6.1.1. Emissions from the backup generator, 7S, shall not exceed the following limitations:

Pollutant	Hourly limit in lb/hr	Annual limit in tpy
PM	0.08	0.02
PM 1	0.08	0.02
NOx	8.17	2.04
VOC	0.07	0.02
SO2	0.31	0.08
CO	1.93	0.48
VOC HAP	0.01	0.002
Total HAP	0.01	0.002

1All PM10 is assumed to be PM2.5 and all PM, PM10, PM2.5 emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 and 4.1.1.2; State-enforceable only]

6.1.2.

The permittee shall comply with all applicable requirements of 40 CFR 60 Subpart IIII (backup generator 7S) including but not limited to the following:

Emissions from the Backup Generator (7S) shall not exceed the following:

NOx+NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
4.0	3.5	0.20

[40 C.F.R. §60.4205(b); 45CSR13, R13-2864, 4.1.11.1; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1);45CSR34]

6.1.3. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 over the entire life of the engine.

[40 C.F.R. §60.4206; 45CSR13, R13-2864, 4.1.11.2; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.4. The nonroad diesel fuel that is used in the backup generator must have a sulfur content less than 15 parts per million. The nonroad diesel fuel must have a minimum cetane index of 40, or a maximum aromatic content of 35 volume percent.

[40 C.F.R. §60.4207(b); 45CSR13, R13-2864, 4.1.11.3; 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.5. a. If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under Condition 6.1.5.c. of this permit:

1. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

2. Change only those emission-related settings that are permitted by the manufacturer; and

3. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

b. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in Condition 6.1.2. of this permit, you must comply by purchasing an engine certified to the emission standards in Condition 6.1.2. for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 6.1.5.c. of this permit.

c. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[40 C.F.R. §§ 60.4211(a), (c), (g), and (g)(3); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.1.6. If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (1) through (3) of this condition, is prohibited. If you do not operate the engine according to the requirements in paragraphs (1) through (3) of this condition, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for the purposes specified in paragraph (2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (2) of this condition.

[40 C.F.R. §60.4211(f); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

Permit Shield

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

6.2. Monitoring Requirements

6.2.1. If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

[40 C.F.R. §60.4209(b); 45CSR16; 40 C.F.R. §§63.6590(c) and (c)(1); 45CSR34]

6.3. Testing Requirements

6.3.1. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart IIII.

[45CSR13, R13-2864, 4.3.3]

6.4. Recordkeeping Requirements

6.4.1. Reserved.

6.5. Reporting Requirements

6.5.1. The permittee shall comply with all applicable reporting requirements of 40 CFR 60 Subpart IIII.

[45CSR13, R13-2864, 4.5.3]

6.6. Compliance Plan

6.6.1. Reserved.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 8S	Emission unit name: Fugitive Dust from Traffic	List any control devices associated with this emission unit: NA
------------------------------------	--	--

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

Emissions from unpaved roads of the facility result from traffic of various vehicles used for material transfer hauling.

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 8,880 VMT/yr

Maximum Hourly Throughput: 1.01 VMT/hr	Maximum Annual Throughput: 8,880 VMT/yr	Maximum Operating Schedule: 8760 hrs/yr
--	---	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 9S	Emission unit name: Slag Handling and Storage	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Slag Handling and Storage Emissions include emissions from the transfer of slag material to storage piles and wind erosion from the slag storage piles.

Manufacturer: NA	Model number: NA	Serial number: NA
----------------------------	----------------------------	-----------------------------

Construction date: NA	Installation date: NA	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): NA

Maximum Hourly Throughput: NA	Maximum Annual Throughput: NA	Maximum Operating Schedule: 8760 hrs/yr
---	---	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>			
Criteria Pollutants	Potential Emissions		
	PPH	TPY	
Carbon Monoxide (CO)	See Attachment I		
Nitrogen Oxides (NO _x)			
Lead (Pb)			
Particulate Matter (PM _{2.5})			
Particulate Matter (PM ₁₀)			
Total Particulate Matter (TSP)			
Sulfur Dioxide (SO ₂)			
Volatile Organic Compounds (VOC)			
Hazardous Air Pollutants	Potential Emissions		
	PPH	TPY	
Regulated Pollutants other than Criteria and HAP	Potential Emissions		
	PPH	TPY	
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>			

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 10S	Emission unit name: Cooling Tower #1	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Cooling Tower #1 is one of two towers used to chill water associated with the EAF continuous cooling process.

Manufacturer: Evertrough	Model number: UII855303-01	Serial number: Various
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Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1,500 gpm

Maximum Hourly Throughput: 90,000 gal/hr	Maximum Annual Throughput: 788.4 mmgal/yr	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>			
Criteria Pollutants	Potential Emissions		
	PPH	TPY	
Carbon Monoxide (CO)	See Attachment I		
Nitrogen Oxides (NO _x)			
Lead (Pb)			
Particulate Matter (PM _{2.5})			
Particulate Matter (PM ₁₀)			
Total Particulate Matter (TSP)			
Sulfur Dioxide (SO ₂)			
Volatile Organic Compounds (VOC)			
Hazardous Air Pollutants	Potential Emissions		
	PPH	TPY	
Regulated Pollutants other than Criteria and HAP	Potential Emissions		
	PPH	TPY	
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>			

Applicable Requirements

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

5.1. Limitations and Standards

5.1.1. Emissions from the storage tanks shall not exceed the limitations set forth below:

Source	VOC		VOC HAP		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
12S	0.02	0.07	0.02	0.07	0.02	0.07
13S	0.01	0.04	0.01	0.04	0.01	0.04

[45CSR13, R13-2864, 4.1.1, Tables 4.1.1.1 & 4.1.1.2; State-enforceable only]

5.1.2. Emissions from the cooling towers shall not exceed the limitations set forth below:

Source	PM		PM ₁₀ ¹	
	lb/hr	tpy	lb/hr	tpy
10S	0.77	3.37	0.77	3.37
17S	0.41	1.80	0.41	1.80

¹All PM₁₀ is assumed to be PM_{2.5} and all PM, PM₁₀, PM_{2.5} emission limits include both filterable and condensable particulate matter.

[45CSR13, R13-2864, 4.1.1, Table 4.1.1.1; State-enforceable only]

Permit Shield

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

5.2. Monitoring Requirements

5.2.1. Reserved.

5.3. Testing Requirements

5.3.1. Reserved.

5.4. Recordkeeping Requirements

5.4.1. Reserved.

5.5. Reporting Requirements

5.5.1. Reserved.

5.6. Compliance Plan

5.6.1. Reserved.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 11S	Emission unit name: Railcar Unloading (Fugitive)	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Railcar unloading fugitive emissions result from material transfer operations.

Manufacturer: NA	Model number: NA	Serial number: NA
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Construction date: NA	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 300 tph

Maximum Hourly Throughput: 300 tph	Maximum Annual Throughput: 2,628 mtph	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
	NA	NA
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 12S	Emission unit name: Diesel Storage Tank #1	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

900 gallon diesel storage tank for emergency generator (7S)

Manufacturer: NA	Model number: NA	Serial number: NA
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Construction date: NA	Installation date: 2012	Modification date(s): NA
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 900 gallons

Maximum Hourly Throughput: 900 Gallons	Maximum Annual Throughput: N/D	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY

Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)	0.02	0.07
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
VOC HAPs	0.02	0.07
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 10S requirments

Permit Shield

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

See Source 10S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 13S	Emission unit name: Diesel Storage Tank #2	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

~~500~~ 1,000 gallon diesel storage tank for mobile equipment (e.g. front end loader).

Manufacturer: NA	Model number: NA	Serial number: NA
Construction date: NA	Installation date: 2012	Modification date(s): NA

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): ~~500~~ 1,000 gallons

Maximum Hourly Throughput: 500 1,000 Gallons	Maximum Annual Throughput: N/D	Maximum Operating Schedule: 8760
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <u> X </u> No	If yes, is it? ___ Indirect Fired ___ Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)	0.01	0.04
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
VOC HAPs	0.01	0.04
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 10S requirements

Permit Shield

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

See Source 10S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 15S	Emission unit name: Slag Wool Processing Line #1	List any control devices associated with this emission unit: 7C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Slag Wool Processing Line #1 includes the infrastructure which transports the slag wool from Spinner Collection Chamber #1, prepares it for baling, and aids in the baling process.

Manufacturer: Balemaster	Model number: 11201A	Serial number: Various
------------------------------------	--------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2

Maximum Hourly Throughput: 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2	Maximum Annual Throughput: 122,640 tons/yr slag wool between Slag Wool Processing Line #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
--	--	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 16S	Emission unit name: Slag Wool Processing Line #2	List any control devices associated with this emission unit: 7C
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

The Slag Wool Processing Line #2 includes the infrastructure which transports the slag wool from Spinner Collection Chamber #2, prepares it for baling, and aids in the baling process.

Manufacturer: Balemaster	Model number: 11202A	Serial number: Various
------------------------------------	--------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2

Maximum Hourly Throughput: 28,000 lb/hr slag wool between Slag Wool Processing Line#1 and #2	Maximum Annual Throughput: 122,640 tons/yr slag wool between Slag Wool Processing Line #1 and #2	Maximum Operating Schedule: 8760 hrs/yr
--	--	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 1S requirements

Permit Shield

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

See Source 1S requirements

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 17S	Emission unit name: Cooling Tower #2	List any control devices associated with this emission unit: NA
-------------------------------------	--	--

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

Cooling Tower #2 is one of two towers used to chill water associated with the EAF continuous cooling process.

Manufacturer: Evertrough	Model number: U88855303-02	Serial number: Various
------------------------------------	--------------------------------------	----------------------------------

Construction date: 2011/2012	Installation date: 2012	Modification date(s): NA
--	-----------------------------------	------------------------------------

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 800 gpm

Maximum Hourly Throughput: 800 gpm	Maximum Annual Throughput: 420.48 mmgal/yr	Maximum Operating Schedule: 8760 hrs/yr
--	--	---

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA	NA	NA	NA

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See Attachment I	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Attachment I "Emissions Inventory".</p>		

Applicable Requirements

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

See Source 10S requirements

Permit Shield

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

See Source 10S requirements

Are you in compliance with all applicable requirements for this emission unit? Yes No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT F
SCHEDULE OF COMPLIANCE FORM (NOT APPLICABLE)

ATTACHMENT G
AIR POLLUTION CONTROL DEVICE FORM

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 1C – Dry Lime Scrubber

List all emission units associated with this control device. 1S

Manufacturer: Dustex

Model number: 10357-PFD-1

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
SO ₂	100%	88% (for slag content of 3% by wt.)

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
50,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The Dry Lime Scrubber (1C) provides control of SO₂ for the EAF (1S). Potential pre and post-control SO₂ emissions from the EAF exceed major source thresholds so the scrubber is potentially subject to the CAM requirements of 40 CFR 64. However, 40 CFR 64 specifically exempts emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method. The EAF is equipped with SO₂ CEMS as required by the existing Title V Operating Permit. Therefore this control device is exempt from the CAM Provisions of 40 CFR 64. In addition, the dry scrubber is not required to meet the SO₂ emission limit and not required to be in operation at all times (Condition 4.1.3).

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

SO₂ CEMS

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 2C –
Furnace Dust Collector

List all emission units associated with this control device. 1S

Manufacturer: Dustex

Model number: 11378-A-0201-2

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
50,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

CAM was addressed in the prior (2018) permit renewal application and CAM requirements are incorporated in the current operating permit.

If No, **Provide justification.**

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

Monitoring of pressure drop across the control device.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 3C – Spinner Collection Chamber Baghouse #1

List all emission units associated with this control device. 3S

Manufacturer: Dustex

Model number: 11378-A-0001

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

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

150,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The Spinner Collection Chamber Baghouse #1 (3C) collects slag wool fibers from Spinner Collection Chamber #1 and conveys them to the Slag Wool Processing Lines. The Spinner Collection Chamber Baghouse #1 has potential pre-control emission in excess of the major source threshold and potential post control emissions less than the major source threshold and is therefore potentially subject to the CAM requirements of 40 CFR 64. However 40 CFR 64 applies only to control devices. The Spinner Collection Chamber Baghouse is inherent process equipment used for material handling and is therefore not considered a control device under 40 CFR 64 and is therefore not subject to CAM.

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

Pressure drop across control device.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 4C –
Collection Chamber Baghouse #2

List all emission units associated with this control device. 4S

Manufacturer: Dustex

Model number: 11378-A-0002

Installation date:

2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

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

150,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The Spinner Collection Chamber Baghouse #2 (4C) collects slag wool fibers from Spinner Collection Chamber #2 and conveys them to the Slag Wool Processing Lines. The Spinner Collection Chamber Baghouse #2 has potential pre-control emission in excess of the major source threshold and potential post control emissions less than the major source threshold and is therefore potentially subject to the CAM requirements of 40 CFR 64. However 40 CFR 64 applies only to control devices. The Spinner Collection Chamber Baghouse is inherent process equipment used for material handling and is therefore not considered a control device under 40 CFR 64 and is therefore not subject to CAM.

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

Pressure drop across control device.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
6C – Silo Bin Vent Filter

List all emission units associated with this control device.
6S

Manufacturer: Dustex

Model number: 11378-A-0208

Installation date:
2012

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

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

3,300 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Due to the small size (3,300 cfm) and batch nature of this bin vent's operation, it is assumed that potential pre-control emissions from this operation are less than major source thresholds and the unit is therefore not subject to CAM.

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

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 7C – Fiber Line Baghouse	List all emission units associated with this control device. 15S & 16S
--	--

Manufacturer: Dustex	Model number: 11378-A-0102	Installation date: 2012
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Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
PM/PM ₁₀ /PM _{2.5}	100%	99.9%
Mn	100%	99.9%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).
 40,000 ACFM volumetric flowrate

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

If Yes, **Complete ATTACHMENT H**

CAM was addressed in the prior (2018) permit renewal application and CAM requirements are incorporated in the current operating permit.

If No, **Provide justification.**

The Fiber Line Baghouse (7C) provides control of particulate matter emissions from the Slag Wool Processing Lines (#1 and 2). Pre control emissions are greater than major source thresholds so the dust collector is therefore subject to CAM.

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

Pressure drop across control device.

ATTACHMENT H
COMPLIANCE ASSURANCE MONITORING (CAM) FORM

**ATTACHMENT I
EMISSIONS INVENTORY**

TABLE 2
ELECTRIC ARC FURNACE (EU 1S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Data Sources	Slag Throughput		PM		PM ₁₀		PM _{2.5}		NO _x		VOC		SO ₂		CO		Mn	
	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr ^c	ton/year	lb/hr	ton/year
PM emissions from EAF baghouse based on exhaust flowrate and outlet PM concentration. ^a NO _x , VOC rates from WVDEP Engineering Evaluation/Fact Sheet. ^b CO emissions based on CEMS data collected by AWI at EAF baghouse exhaust. ^c SO ₂ emissions based on worst-case S-content of slag.	40,000	175,200	2.60	11.39	2.60	11.39	2.60	11.39	5.00	21.90	5.00	21.90	55.94	245.02	55.00	240.90	0.285	1.25

^a EAF baghouse exhaust flowrate of 43,275 scfm and PM/PM₁₀/PM_{2.5} outlet concentration of 0.007 gr/scf. Mn/PM ratio of 10.95%.

^b WV DEP R13 Permit 12/2010.

^c 55 lb/hr CO on a 30-day average based on CO CEMS data collected from 10/13 - 9/14.

TABLE 3
SPINNER COLLECTION CHAMBERS (EU 3S & 4S), HOUSEKEEPING BAGHOUSE (EU 5S), LIME SILO (EU 6S), & SLAG WOOL PROCESSING LINES (15S & 16S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

EU ID	Volumetric Flowrate (scfm)	Annual Operating Hours	Outlet PM/PM10 Concentration (gr/dscf)	Mn Constant (% wt PM)	PM/PM ₁₀ /PM _{2.5}		Mn ^c		VOC From Surfactant/Binder			
					lb/hr	tpy	lb/hr	tpy	lb/hr used	% wt VOC	VOC lb/hr/line	tpy
3S	118,193	8,760	0.007	10.95	7.1	31.1	0.78	3.40	37.61	1.00	0.38	1.65
4S	118,193	8,760	0.007	10.95	7.1	31.1	0.78	3.40	37.61	1.00	0.38	1.65
6S	3,300	8,760	0.04	10.95	1.13	4.96	NA	NA	NA	NA	NA	NA
15S ^b												
16S ^b	39,849	8,760	0.007	10.95	2.39	10.47	0.26	1.15	NA	NA	NA	NA

^a PM emissions calculated based on baghouse exhaust flowrates and PM/PM10/PM2.5 outlet concentrations.

^b Exhaust flowrate of Fiber Line Baghouse (Control Device 7C) that controls PM emissions from both slag wool processing lines (15S and 16S).

^c Based on Mn content in slag of 10.95% by weight.

^dBased on Spinner Chamber #1 & #2 combined design capacity (34,500 tph) an application rate of 1 lb surfactant/ton wool, 3.36 lb binder/ton wool and the following VOC contents:

Surfactant:	Rhodasurf L/4 STD	0.5% VOC (Conservatively assumed 1.0% VOC)
Binder:	Xiameter (R) Mem-1727 Thread Finish	(assumed VOC content similar to surfactant)

**TABLE 4
FUGITIVE DUST FROM SLAG HANDLING & STORAGE (EU 9S & EU 11S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

EU ID	Transfer Points	Throughput		PM	PM ₁₀	PM _{2.5}	Mn Content (% wt)	PM		PM ₁₀		PM _{2.5}		Mn	
		ton/hr	ton/yr	Emission Factor ^a (lb/ton)	Emission Factor ^a (lb/ton)	Emission Factor ^a (lb/ton)		Emissions lb/hr	tpy	Emissions lb/hr	tpy	Emissions lb/hr	tpy	Emissions lb/hr	tpy
9S	Transfer to Storage Pile (Truck)	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Loading out from Storage Pile (Front end loader)	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Four Raw Materials Grizzly Hopper Discharge Conveyers [CV-0001 - CV-0004]	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Raw Materials Transfer Conveyer [CV-0005]	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
	Raw Materials Inclined Conveyer [CV-0006]	20.00	175,200	0.0017	0.0008	0.0001	11.0	0.034	0.15	0.016	0.07	0.002	0.011	0.004	0.016
11S	Railcar Loading	14.00	122,640	0.0017	0.0008	0.0001	11.0	0.024	0.10	0.011	0.05	0.002	0.008	0.003	0.011

Constants and Assumed Variables

	k (particle size multiplier)	constant	U (mean wind speed)	constant	M (moisture content)	constant	Emission Factor (lb/ton)
TSP	0.74	0.0032	6	1.3	3	1.4	0.0017
PM10	0.35	0.0032	6	1.3	3	1.4	0.0008
PM2.5	0.054	0.0032	6	1.3	3	1.4	0.0001

^aEmission factor, constants, and variables per US EPA, AP-42, Section 13.2.4.3 - Aggregate Handling and Storage Piles (11/2006), Equation 1.

TABLE 5
WIND EROSION FOR STORAGE PILES (EU 9S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Pile	Surface Area (acres)	Emission Factor ^a				Emissions							
		PM	PM ₁₀	PM _{2.5}	Mn ^b	PM		PM ₁₀		PM _{2.5}		Mn	
		lb/acre-yr	lb/acre-yr	lb/acre-yr	lb/acre-yr	lb/yr	tons/yr	lb/yr	tons/yr	lb/yr	tons/yr	lb/yr	tons/yr
1	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
2	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
3	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
4	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
5	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
6	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
7	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
8	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
9	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
10	0.2	1,237	619	93	135.47	247.43	0.12	123.72	0.06	18.56	0.01	27.09	0.01
Totals						2474.34	1.24	1237.17	0.62	185.58	0.09	270.94	0.14

^aBased on conical pile 7.6 meters high with a base diameter of 23.8 meters.

^bEmission factor as calculated for Construction Permit Application dated 1/27/2011. Emission factors calculated per US EPA, AP-42, Section 13.2.5 (11/2006), Equation 2. - Industrial Wind Erosion, using wind data for the Mason Airport Weather station.

^cPercent Mn weight of slag assumed to be 10.95% of PM (Data from Construction Permit Application dated 01/27/2011).

**TABLE 6
BACKUP DIESEL GENERATOR (EU 75)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

Rated Engine Power (HP)	Maximum Fuel Usage (gal/hr)	Fuel Heating Rate (MMBtu/gal)	Maximum Operation Duration (hrs)	Emissions											
				PM/PM ₁₀ /PM _{2.5} ^a		NO _x		SO ₂		CO		VOC		Total HAPs	
				lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
762	36.2	0.14	500	0.08	2.10E-02	8.17	2.04	9.25E-03	2.31E-03	1.93	0.48	6.61E-02	1.65E-02	8.43E-03	2.11E-03

^aAll particulate matter assumed less than 1 microm per US EPA, AP-42 Chapter 3.3.4.

Emission Factors

Pollutant	Emission Factors		Value (lbs/gal)
	Value	Units	
PM	38.1	g/hr	NA
NO _x	3707	g/hr	NA
SO ₂ ^b	1.21E-05	lb/hp	N/A
CO	877	h/hr	NA
VOC	30	g/hr	NA
Total HAP ^c	0.0017	lb/MMBtu	2.33E-04

^bSO₂ emission factor is based on 100% of engine load using fuel with 15 ppm sulfur content as required by NSPS IIII.

^cEmission Factor per US EPA, AP-42, Section 3.3.4 - Large Stationary Diesel and All Stationary Dual-Fuel Engines (11/2006), Tables 3.4-3 and 3. All others per manufacturer.

MMBtu/gal diesel	g/lb
0.138	453.59

**TABLE 7
FUGITIVE DUST FROM TRAFFIC EMISSIONS ON UNPAVED ROADS (EV 8S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV**

VMT (Total vehicle miles traveled/yr)	Emissions Factors			Emissions		
	PM (lb/VMT)	PM10 (lb/VMT)	PM2.5 (lb/VMT)	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)
5708.6730	5.1024	1.3598	0.1360	14.5639	3.8812	0.3881

Values of Variables & Constants for Unpaved Roads Fugitive Emissions Calculation								
Particulate matter unit size	Particle size multiplier (k) ^a	% Silt by wt (s) ^b	Empirical constant (a) ^a	W ^c	Empirical constant (b) ^a	E ^b	P ^d	E _{ext} ^e
PM30 (TSP)	4.9	6	0.7	28.2724	0.45	8.2772	140	5.1024
PM10	1.5	6	0.9	28.2724	0.45	2.2058	140	1.3598
PM2.5	0.15	6	0.9	28.2724	0.45	0.2206	140	0.1360

^aConstants from EPA AP-42 Section 13.2.2 (11/2006), Table 13.2.2-2.

^bPlant surface silt content; per EPA AP-42 Section 13.2.2 (11/2006), Table 13.2.2-1.

^cWeighted mean vehicle weight (tons); calculation per Construction Permit Application, Exhibit N-15 (10/2010).

^dNumber of days in a year with at least 0.254 mm (0.01 in) of precipitation; per EPA AP-42 Figure 13.2.2-1.

Constants and Assumed Variables

Vehicle	Average Weight (tons)	Distance (miles/trip)	Roundtrips/day	Miles/yr	Σ(Vehicle Wt{tons}), (VMT{mi}) ^c	W ^c	P ^d
Slag trucks	25.5	0.13	24	1138.8	29039.40	NA	NA
Glycol truck	26.5	0.18	0.04	2.628	69.64	NA	NA
Product truck	26.5	0.21	20	1533	40624.50	NA	NA
Alloy truck	26.5	0.13	0.1	4.745	125.74	NA	NA
Production Mats (Baling wire, stretch wrap, pallets, bag film)	26.5	0.21	4	306.6	8124.90	NA	NA
Production Mats (Mobile Equipment Fuel)	26.5	0.18	4	262.8	6964.20	NA	NA
Production Mats (Electrodes, sand)	26.5	0.13	2	94.9	2514.85	NA	NA
Front End Loader	41.5	0.05	96	1752	72708.00	NA	NA
Plant Trucks	2	0.21	8	613.2	1226.40	NA	NA
Means and Variable Values	NA	NA	NA	5708.6730	161397.6345	28.27235585	140

TABLE 8
COOLING TOWER DRIFT LOSS EMISSIONS (EU 10S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

EU ID	Total Flow Capacity (gpm)	Potential TDS Content ^a (ppmw)	Maximum Operating Schedule (hrs/yr)	Standard Drift Loss ^b (%)	Monthly Drift Loss (gal/mo)	Total Liquid Drift Loss ^c (lbs drift/Mgal)	Potential PM/PM ₁₀ /PM _{2.5} Emission Factor (lbs/Mgal)	Potential PM/PM ₁₀ /PM _{2.5} Emissions ^d	
								(lbs/hr)	(tons/yr)
10S	1,500	20,600	8,760	0.005	3,285	0.417	0.009	0.77	3.373
17S	800	20,600	8,760	0.005	1,752	0.417	0.009	0.41	1.796

^aOverall average TDS content for induced flow cooling towers from US EPA, AP-42, Table 13.4-2.

^bAssumed; per Construction Permit Application dated 10/2010.

^cDensity of water is 8.34 lbs/gal.

^dCalculation per US EPA, AP-42, Section 13.4.2 (11/2006).

TABLE 9
CARBON DIOXIDE (CO₂) EMISSIONS FROM ELECTRIC ARC FURNACE (EU 1S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Material	Max. Hourly Throughput (lb/hr)	Typical Carbon Content (%)	Molecular Weight of Carbon (lb/lbmol)	Molecular Weight of CO₂ (lb/lbmol)	Carbon converted to CO₂ (%)	CO₂ Emitted (lb/hr)^a	CO₂ Emitted (tons/yr)^b
Electrodes	93	90.0%	12	44	100%	747.4	3,273.6
Slag	40,000	0.3%					
Alloy in Slag	200	2.0%					
Non-Product Metals	193	2.0%					

^aAdapted from Equation K-1 from 40CFR98.113(b)(2)(i) where total CO₂ emitted = (molar ratio CO₂/C * carbon content electrodes consumed) + (molar ratio CO₂/C * carbon content of slag processed) + (molar ratio CO₂/C * carbon content of alloys in slag) - (molar ratio CO₂/C * carbon content of non-metals product processed).

^bBased on 8,760 hours of operation a year.

ATTACHMENT J
MSDS INFORMATION

SAFETY DATA SHEET

Drakeol® 35 MIN OIL USP



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Drakeol® 35 MIN OIL USP

EC number : 232-455-8

REACH Registration number

Registration number	Legal entity
01-2119487078-27	-

CAS number : 8042-47-5

Product code : PEN1440-00-C-DR

Product description : Mineral oil.

Product type : Liquid.

Other means of identification : White mineral oil, petroleum; White spirits; White mineral oil; Mineral oil; Paraffin oil; Paraffinum liquidum

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Petrochemical industry: Petroleum refining. Mineral oil.	
Uses advised against	Reason
Not available.	

1.3 Details of the supplier of the safety data sheet

Calumet Specialty Products Partners, L.P.
2780 Waterfront Pkwy E. Dr.
Suite 200
Indianapolis, Indiana 46214 USA
Technical Services: 317-328-5660

Calumet Sales Company Incorporated
Pa Monument Chemical BVBA
Haven 1972, Ketenislaan 3
B-9130 Kallo (Kieldrecht)
Belgium
+32 3 570 25 20

e-mail address of person responsible for this SDS : technical@calumetspecialty.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : +31(0) 30274 8888 (24 hours per week and 7 days a week)

Supplier

Telephone number : 24 hr. CHEMTREC 1-800-424-9300 / International 1-703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : UVCB

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Classification according to Directive 67/548/EEC [DSD]

Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : White mineral oil (petroleum)

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : No.
P: Not available. B: Not available. T: No.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Not available.

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

SECTION 3: Composition/information on ingredients

3.1 Substances : UVCB

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
White mineral oil (petroleum)	REACH #: 01-2119487078-27 EC: 232-455-8 CAS: 8042-47-5	100	Not classified.	Not classified.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[*] Substance

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
White mineral oil (petroleum)	EU OEL (Europe, 3/2012). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

SECTION 8: Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid. [Viscous liquid.]
- Colour** : Colourless.
- Odour** : Mild. Hydrocarbon.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : -60 to -9°C
- Initial boiling point and boiling range** : 218 to 800°C
- Flash point** : Closed cup: >112°C
Open cup: 223.33°C [Cleveland.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : 0.011 kPa [room temperature]
- Vapour density** : Not available.
- Relative density** : 0.869
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : >6
- Auto-ignition temperature** : 325 to 355°C
- Decomposition temperature** : Not available.

Drakeol® 35 MIN OIL USP

SECTION 9: Physical and chemical properties

- Viscosity** : Kinematic (40°C): 0.68 cm²/s
Explosive properties : Not available.
Oxidising properties : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability : The product is stable.
10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid : No specific data.
10.5 Incompatible materials : No specific data.
10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
White mineral oil (petroleum)	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

- Conclusion/Summary** : Not available.
Irritation/Corrosion
Conclusion/Summary : Not available.
Sensitisation
Conclusion/Summary : Not available.
Mutagenicity
Conclusion/Summary : Not available.
Carcinogenicity
Conclusion/Summary : The classification as a carcinogen need not apply as it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.
Reproductive toxicity
Conclusion/Summary : Not available.
Teratogenicity
Conclusion/Summary : Not available.
Specific target organ toxicity (single exposure)
Not available.
Specific target organ toxicity (repeated exposure)
Not available.
Aspiration hazard

SECTION 11: Toxicological information

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
White mineral oil (petroleum)	Acute LC50 >100 mg/l	Daphnia	48 hours
	Acute LC50 >10000 mg/l	Fish	96 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
White mineral oil (petroleum)	-	-	Inherent

SECTION 12: Ecological information

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
White mineral oil (petroleum)	>6	-	high

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : No.
P: Not available. B: Not available. T: No.

vPvB : Not available.
vP: Not available. vB: Not available.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 14: Transport information

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : This material is listed or exempted.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Japan : This material is listed or exempted.

Malaysia : Not determined.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

United States : This material is listed or exempted.

15.2 Chemical Safety Assessment : Not available.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

Full text of abbreviated H statements : Not applicable.

Full text of classifications [CLP/GHS] : Not applicable.

Full text of abbreviated R phrases : Not applicable.

Full text of classifications [DSD/DPD] : Not applicable.

Date of issue/ Date of revision : 01/12/2016

Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**ATTACHMENT K
DELEGATION OF AUTHORITY**

**ARMSTRONG FACILITY
DELEGATION OF AUTHORITY
FOR RESPONSIBLE OFFICIAL
TO A REPRESENTATIVE**

This form shall be used by a responsible official to delegate authority to a representative of such person for signature on applications or certification of reports to be submitted pursuant to the **Clean Air Act, Clean Water Act, RCRA, and any other applicable environmental law or regulation.**

This form shall only be used for a corporation at which a President, Secretary, Treasurer, or Vice-President of the corporation in charge of business function, or any other person who performs similar policy or decision making functions for the corporation to transfer the authority as a responsible official to a representative of such person. The representative of such person must be responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit.

FACILITY INFORMATION:

FACILITY NAME: Armstrong World Industries, Millwood, WV Facility

DATE FORM PREPARED: July 8, 2021

FACILITY ID NO. (IF APPLICABLE): Various

TRANSFER OF AUTHORITY:

I, the undersigned, being a President, Secretary, Treasurer, or Vice-President of the corporation in charge of business function, or other person who performs similar policy or decision making functions for the corporation, hereby transfer the authority as a responsible official to:

Matt McVay/Logan Martin,

They being a representative and responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit.



AUTHORIZED SIGNATURE

President & Chief Executive Officer
TITLE OF SIGNATORY

Vic Grizzle
TYPED OR PRINTED NAME OF SIGNATORY

7 / 8 / 2021
DATE

Matt McVay/Logan Martin
DELEGATED REPRESENTATIVE

Plant Manager/Plant EHS Manager
TITLE OF DESIGNATED REPRESENTATIVE

In the event of either individual changing position, it is understood that this delegation shall be transferred from position to position.