Armstrong
Your ideas become reality

ARMSTRONG WORLD INDUSTRIES, INC.
2500 COLUMBIA AVE., LANCASTER, PA 17603
P.O. BOX 3001, LANCASTER, PA 17604
717 397 0611

www.armstrong.com

February 13, 2015

Ms. Beverly McKeone
Program Manager, NSR Permitting
West Virginia Department of Environmental Protection
Division of Air Quality
601 - 57th Street SE
Charleston, WV 25304

Re: Rule 13 Minor Modification and Title V Permit Revision Application to Revise Carbon Monoxide Emission Limits, Dry Lime Scrubber Operating Requirements and Monitoring Requirements for the Electric Arc Furnace at Armstrong World Industries, Inc. Millwood, WV Slag Wool Production Plant
Facility ID No. 035-00049
Permit No. R13-2864A
Title V Operating Permit No. R30-03500049-2014

Dear Ms. McKeone:

Armstrong World Industries, Inc. (Armstrong) operates a slag wool manufacturing facility located in Millwood, Jackson County, West Virginia that has been issued Permit R13-2864A. Armstrong is submitting the enclosed Rule 13 permit application to revise the carbon monoxide (CO) emission limits for the electric arc furnace (EAF) source at the Millwood facility. The application also requests revisions to several recordkeeping and monitoring requirements based on the proposed continued operation of continuous emissions monitoring systems (CEMS) for CO and for sulfur dioxide (SO2) at the EAF exhaust. This application is being submitted within 60 days of the effective date of Consent Order No. CO-R13-E-2014-31 that was signed on December 15, 2014, in accordance with item 1 of the Order for Compliance.

Background

The Armstrong Millwood plant conducted initial performance testing to determine emissions of CO, SO2, NOx, VOCs, PM, PM10 and manganese from the EAF in January 2013. Emissions of all pollutants with the exception of CO were well below the permit limits for the EAF (Emission Unit ID 1S). The CO emissions measured during the test averaged 73.52 lb/hr. The CO permit limits for the EAF are 5 lb/hr and 21.9 tons/year. Armstrong subsequently proposed the installation of a CO CEMS system to measure CO emissions from the EAF continuously to better determine the CO emissions variability and to propose revised CO emissions limits for the source.

The Millwood plant operates a dry lime scrubber to control SO2 emissions from the EAF. Section 4.1.3 of Permit R13-2864A required Armstrong to operate at a prescribed lime injection rate until an alternative rate could be established during the initial performance test. During the January 2013 performance test, SO2 emissions were measured prior to the lime scrubber (i.e., at

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the EAF exhaust prior to the scrubber and baghouse) and measured to be an average of 1.52 lb/hr, or less than three percent of the permit limit of 55.94 lb/hr for the EAF. Because SO2 emissions were measured well below the allowable limit without the use of the lime scrubber, Armstrong proposed the installation of an SO2 CEMS system to measure SO2 emissions from the EAF continuously in order to support a request revise the permit to allow operation of the EAF without using the lime scrubber.

In August 2013, Consent Order CO-R13-E-2013-14 was issued to Armstrong to allow the installation of the CO and SO2 CEMS to collect emissions data prior to submittal of a permit revision application to revise the CO permit limits and the SO2 control requirements. Armstrong installed the CEMS and conducted RATA testing to certify the systems on October 2, 2013. Emissions data collected over the October 2013 – January 2014 period showed CO emissions averaged about 21 lb/hr with a maximum of about 72 lb/hr (24-hr average). The SO2 data collected during this time showed SO2 emissions averaged less than 10% of the hourly permit limit of 55.94 lb/hr (monthly averages ranged from 4.3 to 6.3 lb/hr).

Armstrong continued to operate the CO and SO2 CEMS for a 12-month period from October 2013 through September 2014. Based on the emissions data, Armstrong proposed the continued operation of the CEMS and revising the CO permit limits to new limits on a 24-hour and 30-day average basis (letter dated February 26, 2014 to WV DAQ's John Benedict).

In December 2014, Consent Order CO-R13-2014-31 was issued to Armstrong that included an interim CO emission limits for the EAF of 100 lb/hr (24-hour average) and 55 lb/hr (30-day average) and that required the continued operation of the CO CEMS (item 3 of the Order for Compliance). This Rule 13 permit application is being submitted to request modification of the current CO emissions limits to these interim limits. In addition, Armstrong is requesting that the EAF annual CO emission limit of 21.9 tons/year be revised to 241 tons/year which corresponds to the requested 30-day average limit of 55 lb/hr. To ensure that facility-wide CO emissions remain below 250 tons/year, Armstrong is also requesting that the annual emission limits for the diesel back-up emergency generator (EU ID 7S) be reduced to reflect a maximum of 500 hours/year of operation.

Armstrong proposes to continue to operate the CO and the SO2 CEMS to demonstrate compliance with the proposed CO limits and the existing SO2 limits for the EAF. Based on the low SO2 emission rates measured at the EAF, Armstrong is proposing that operation of the dry lime scrubber and lime injection rates (if any) be contingent on SO2 rates measured by the SO2 CEMS. Armstrong is requesting that several permit limits requiring sulfur content analyses of raw materials and products be deleted as unnecessary due to the use of the SO2 CEMS to measure SO2 emissions.

Requested Permit Revisions

The enclosed permit application requests revisions to Permit R13-2864A and to Title V Operating Permit No. 035-00049-2014. A "marked up" version of the Title V permit identifying

the requested revisions is provided in Attachment S-2. A summary of the requested revisions is as follows:

1. Armstrong requests that the CO limits for the EAF (Emission Unit ID 1S) be revised from 5 lb/hr and 21.9 tons/year to 100 lb/hr (24-hr average), 55 lb/hr (30-day average), and 241 tons/year. [Condition 4.1 of both permits]

2. Armstrong requests that a new permit condition be added to the R13 permit to require CO and SO2 CEMS to monitor CO and SO2 emissions from the EAF outlet stack. [Condition 4.1.18 of Title V permit]

3. Armstrong requests that the dry lime scrubber (1C) operation and lime injection rates be contingent upon the SO2 CEMS emissions data. [Condition 4.1.3 of both permits]

4. Armstrong requests that several permit conditions requiring sulfur content analyses be deleted as unnecessary due to the use of the SO2 CEMS. [Conditions 4.1.8, 4.1.9, 4.2.4, 4.2.5, and 4.2.9 of R13 permit and Conditions 4.1.9, 4.1.10, 4.2.4, 4.2.5, and 4.2.8 of Title V permit]

5. Armstrong requests that several permit conditions requiring manganese content analyses be deleted as unnecessary based on the very low levels of manganese emissions measured at the baghouse exhausts (Emissions Units 1S, 3S, and 4S) during the January 2013 performance testing. [Conditions 4.1.5 and 4.2.8 of R13 permit and Conditions 4.1.5 and 4.2.7 of Title V permit]

6. Armstrong requests that the performance testing requirements for CO and SO2 be deleted as unnecessary due to the use of the CO and SO2 CEMS. [Condition 4.3.1.1 of both permits]

7. Armstrong requests that the annual emission limits for the diesel backup generator (Emission Unit ID 7S) be reduced to reflect a maximum annual operating schedule of 500 hours/year. [Condition 4.1.1 of R13 permit and Condition 6.1.1 of Title V permit]

8. Armstrong requests corrections to the listed equipment "design capacity" rates for the EAF furnace (1S), the spinner collection chambers (3S and 4S) and the slag wool processing lines (15S and 16S). A revised facility-wide air emissions inventory is provided in Attachment N that reflects these requested revisions and the reduction in annual operating hours to 500 hours/year for the backup generator (7S). [Condition 1.0 of both permits]

We are enclosing one (1) printed copy of the permit application which has been signed by a responsible official. We are also enclosing the entire application in electronic format on two (2) CDs. Forms are included for those emissions units affected by the requested permit revisions (1S and 7S).

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www.armstrong.com

We enclose a check in the amount of $1,000 for the permit modification application fee. Armstrong intends to publish the necessary Class I legal advertisement (see Attachment P) in a newspaper and will provide the affidavit of publication to WV DAQ after it is published.

If you have any questions regarding the enclosed permit application, please feel free to contact Mr. Matthew S. McVay, EHS Manager, at (304) 206-2847.

Sincerely,

Steve Woolard

Steve Woolard
Plant Manager
Armstrong World Industries, Inc.
Millwood Plant

cc: Robert Keatley – WV DAQ
James Robertson- WV DAQ
M. McVay – Armstrong Millwood
J. Ackiewicz – Armstrong Corporate EHS
G. Biebuyck – Liberty Environmental

Armstrong

NSR and Title V Permit Revision Application

Armstrong World Industries, Inc.

Millwood, West Virginia

Permit R13-2864A

Title V Permit R30-03500049-2014

Submitted to:

West Virginia Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Prepared by:

Liberty Environmental, Inc.
50 N. 5th Street, 5th Floor
Reading, PA 19601
(610) 375-9301

FEBRUARY 2015

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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

☐ **CONSTRUCTION** ☒ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☐ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

☐ **ADMINISTRATIVE AMENDMENT** ☒ **MINOR MODIFICATION**
☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office):*
Armstrong World Industries, Inc.

2. Federal Employer ID No. ***(FEIN):***
2 3 0 3 6 6 3 9 0

3. Name of facility *(if different from above):*
Armstrong Millwood Plant

4. The applicant is the:
☐ **OWNER** ☐ **OPERATOR** ☒ **BOTH**

5A. Applicant's mailing address:
141 Sensenich Drive
Millwood, WV 25262

5B. Facility's present physical address:
Jackson County Maritime and Industrial Center
Millwood, Jackson County, WV

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☐ **YES** ☒ **NO**

- If **YES,** provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**
- If **NO,** provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation:

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site?* ☒ **YES** ☐ **NO**

- If **YES,** please explain: Armstrong World Industries, Inc. is the owner of the site.
- If **NO,** you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.): Slag Wool Plant

10. North American Industry Classification System **(NAICS)** code for the facility:
327993

11A. DAQ Plant ID No. (for existing facilities only):
0 3 5 – 0 0 0 4 9

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R30-03500049-2014

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- For **Construction** or **Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.

From US-33 E, turn left at West Virginia 68 South. Continue for 04 miles. Turn right at West Virginia 2 South. Continue for approximately 6 miles.

12.B. New site address (if applicable):	12C. Nearest city or town: Millwood	12D. County: Jackson
12.E. UTM Northing (KM): 4,307	12F. UTM Easting (KM): 427.2	12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility:
Armstrong is requesting a permit modification to increase the allowable CO emissions from the Electric Arc Furnace, increase the storage pie size, and decrease the number of operating hours for the emergency generator.

14A. Provide the date of anticipated installation or change: Upon issuance of permit – If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: / /	14B. Date of anticipated Start-Up if a permit is granted: Upon issuance of permit

14C. Provide a **Schedule** of the planned **Installation** of/**Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day 24 Days Per Week 7 Weeks Per Year 52

16. Is demolition or physical renovation at an existing facility involved? ☐ **YES** ☒ **NO**

17**. Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18**. Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known).* A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known).* Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) **.**
– Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**
– Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

– For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

☐ Bulk Liquid Transfer Operations	☐ Haul Road Emissions	☐ Quarry
☐ Chemical Processes	☐ Hot Mix Asphalt Plant	☒ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant	☐ Incinerator	
☐ Grey Iron and Steel Foundry	☐ Indirect Heat Exchanger	☐ Storage Tanks

☒ General Emission Unit, specify 1S – EAF, 7S – Emergency Generator

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems	☐ Baghouse	☐ Flare
☐ Adsorption Systems	☐ Condenser	☐ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ Wet Collecting System

☐ Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33**. Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ **YES** ☒ **NO**

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's *"**Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☒ Authority of Corporation or Other Business Entity	☐ Authority of Partnership
☐ Authority of Governmental Agency	☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☐ **Responsible Official** / ☒ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

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.

SIGNATURE Matthew S. McVay *(Please use blue ink)* DATE: 2/13/2015 *(Please use blue ink)*

35B. Printed name of signee: Matthew S. McVay		35C. Title: Production and Safety Manager
35D. E-mail: WSWoolard@armstrong.com	36E. Phone: 304-273-3900	36F. FAX:
36A. Printed name of contact person (if different from above): Matthew S. McVay		36B. Title: EHS Manager, Millwood
36C. E-mail: msmcvay@armstrong.com	36D. Phone: 304-206-2847	36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☒ Attachment A: Business Certificate
- ☒ Attachment B: Map(s)
- ☐ Attachment C: Installation and Start Up Schedule
- ☒ Attachment D: Regulatory Discussion
- ☒ Attachment E: Plot Plan
- ☒ Attachment F: Detailed Process Flow Diagram(s)
- ☒ Attachment G: Process Description
- ☐ Attachment H: Material Safety Data Sheets (MSDS)
- ☒ Attachment I: Emission Units Table
- ☒ Attachment J: Emission Points Data Summary Sheet
- ☒ Attachment K: Fugitive Emissions Data Summary Sheet
- ☒ Attachment L: Emissions Unit Data Sheet(s)
- ☐ Attachment M: Air Pollution Control Device Sheet(s)
- ☒ Attachment N: Supporting Emissions Calculations
- ☒ Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans
- ☒ Attachment P: Public Notice
- ☐ Attachment Q: Business Confidential Claims
- ☒ Attachment R: Authority Forms
- ☒ Attachment S: Title V Permit Revision Information
- ☒ Application Fee

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ *Forward 1 copy of the application to the Title V Permitting Group and:*
- ☐ *For Title V Administrative Amendments:*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit,*
- ☐ *For Title V Minor Modifications:*
  - ☐ *Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit.*
- ☐ *For Title V Significant Modifications processed in parallel with NSR Permit revision:*
  - ☐ *NSR permit writer should notify a Title V permit writer of draft permit,*
  - ☐ *Public notice should reference both 45CSR13 and Title V permits,*
  - ☐ *EPA has 45 day review period of a draft permit.*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT A
BUSINESS CERTIFICATE

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
ARMSTRONG WORLD INDUSTRIES INC
2500 COLUMBIA AVE
LANCASTER, PA 17603-4117

BUSINESS REGISTRATION ACCOUNT NUMBER: **1013-2898**

This certificate is issued on: 06/29/2010

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with W.Va. Code § 11-12.

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued.

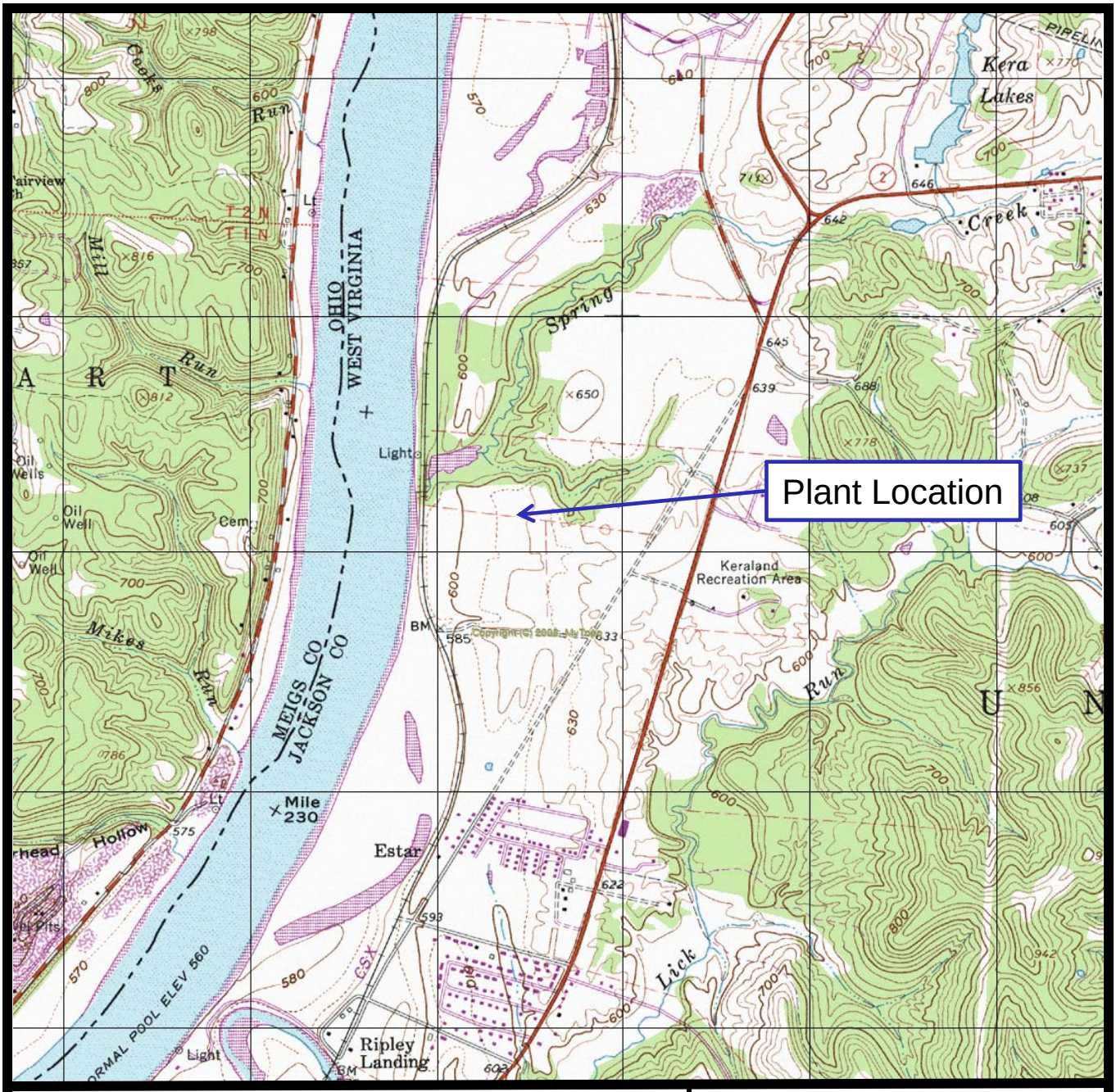
This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.1
L0372161280

ATTACHMENT B
MAP



Liberty Environmental, Inc.

50 N. FIFTH STREET
5TH FLOOR
READING, PA 19601
PHONE: 610-375-9301
FAX: 610-375-9302

NORTH

SCALE : 1" = 2000 FEET

0 2000 4000

ATTACHMENT B: SITE LOCATION MAP

MILLWOOD SLAG WOOL MANUFACTURING FACILITY

ARMSTRONG WORLD INDUSTRIES

USGS MAP QUADRANGLE: RAVENSWOOD, WV

ATTACHMENT C – NOT APPLICABLE
INSTALLATION AND START UP SCHEDULE

ATTACHMENT D
REGULATORY DISCUSSION

ATTACHMENT D – REGULATORY DISCUSSION

The Armstrong Millwood plant is permitted as a major source of air emissions because potential emission rates of SO2 and CO exceed 100 tons/year. The Millwood plant was issued Permit R13-2864A in November 2011 and Title V Operating Permit R30-03500049-2014 in February 2014. This February 2015 R13 permit application is being submitted to request an increase in the CO permit limits for the electric arc furnace (EAF) source (Emission Unit 1S). The application also requests reduction in the annual air emission rates for the backup diesel generator (Emission Unit 7S) corresponding to an annual maximum operating limit of 500 hours/year. The net result of these revisions is that facility-wide CO emissions will increase to 242 tons/year.

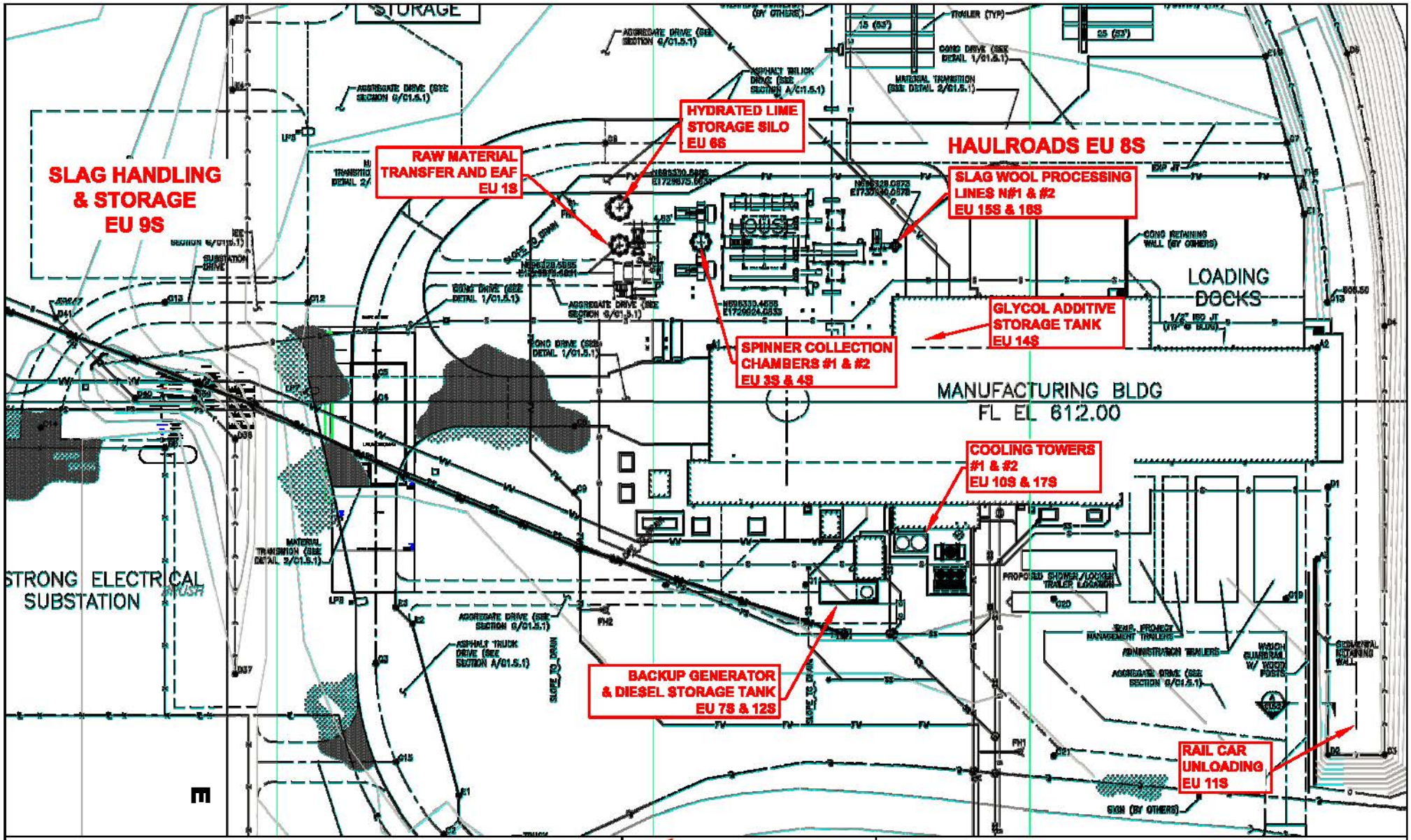
This R13 application is being submitted for a "minor modification" because the requested increases in permitted CO emissions from the EAF exceed 6 lb/hr and 10 tons/year. Armstrong requests that the permitted CO limits for the EAF (1S) be increased from 5 lb/hr and 18.9 tons/year to 100 lb/hr (24-hr average), 55 lb/hr (30-day average), and 241 tons/year. Facility-wide emissions will not exceed 250 tons/year for any criteria pollutant as a result of these requested revisions. As such, the Armstrong Millwood plant is not classified as a "major stationary source" under the WV Rule 14 permitting regulation and under the federal PSD major source permitting regulations at 40 CFR 52.21.

The EAF (1S) is used to melt slag raw materials that are used to produce slag wool in two spinners and collection chambers (3S and 4S). The production of slag wool at the Millwood plant using an EAF is not subject to the federal NESHAP rule for mineral wool production plants (40 CFR 63 Subpart DDD) because: (a) the Millwood facility is not classified as a major source of HAPs (e.g., potential manganese emissions are < 10 tons/year); and, (b) the EAF is not classified as a "cupola" and the plant does not operate a mineral wool "curing oven".

The Millwood slag handling and processing operations are not subject to federal NSPS standards (40 CFR 60) because: (a) slag is not classified as a "nonmetallic mineral" and Subpart OOO is therefore not applicable; (b) the EAF is not classified as a calciner or dryer and Subpart UUU is therefore not applicable; and, (c) the Millwood plant does not include glass melting furnaces and therefore Subpart CC is not applicable.

Armstrong is proposing to operate CO and SO2 CEMS monitoring systems at the EAF exhaust stack to demonstrate compliance with the proposed CO limits and the existing SO2 limits. Armstrong will operate the CEMS in accordance with the criteria in 40 CFR 60 Appendix F.

ATTACHMENT E
PLOT PLAN



N

SCALE 1" = 80'

0' 40' 80' 160'

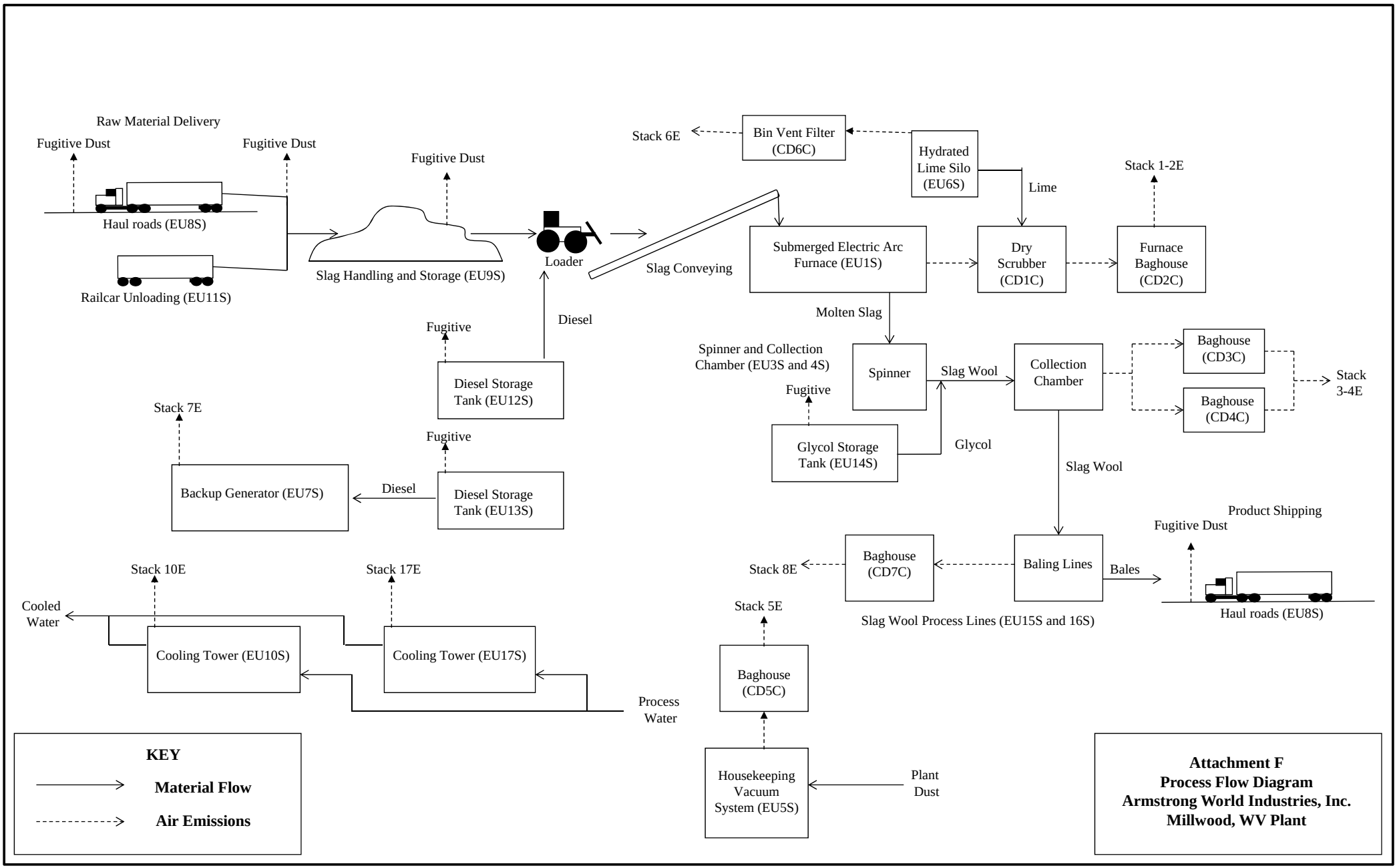
Liberty Environmental, Inc.
50 N. Fifth St. 5th Floor
Reading, PA 19601
Phone: 610-375-9301
Fax: 610-375-9302
www.libertyenviro.com

Attachment B - Plot Plan

Armstrong World Industries, Inc.
Millwood Plant
Millwood, Jackson County, West Virginia

PROJECT NO.: 120123	REV: 0	PREPARED BY: JPB
DATE: APRIL 11, 2013	SCALE: 1" = 80'	APPROVED BY: GLB

ATTACHMENT F
DETAILED PROCESS FLOW DIAGRAM


Raw Material Delivery
Fugitive Dust
Fugitive Dust
Fugitive Dust
Haul roads (EU8S)
Railcar Unloading (EU11S)
Slag Handling and Storage (EU9S)
Loader
Slag Conveying
Stack 6E
Bin Vent Filter (CD6C)
Hydrated Lime Silo (EU6S)
Lime
Stack 1-2E
Submerged Electric Arc Furnace (EU1S)
Dry Scrubber (CD1C)
Furnace Baghouse (CD2C)
Molten Slag
Fugitive
Diesel
Diesel Storage Tank (EU12S)
Spinner and Collection Chamber (EU3S and 4S)
Spinner
Slag Wool
Collection Chamber
Baghouse (CD3C)
Baghouse (CD4C)
Stack 3-4E
Fugitive
Glycol Storage Tank (EU14S)
Glycol
Slag Wool
Stack 7E
Fugitive
Backup Generator (EU7S)
Diesel
Diesel Storage Tank (EU13S)
Product Shipping
Fugitive Dust
Stack 8E
Baghouse (CD7C)
Baling Lines
Bales
Haul roads (EU8S)
Slag Wool Process Lines (EU15S and 16S)
Stack 10E
Stack 17E
Cooled Water
Cooling Tower (EU10S)
Cooling Tower (EU17S)
Process Water
Stack 5E
Baghouse (CD5C)
Housekeeping Vacuum System (EU5S)
Plant Dust
KEY
Material Flow
Air Emissions
Attachment F
Process Flow Diagram
Armstrong World Industries, Inc.
Millwood, WV Plant

ATTACHMENT G
PROCESS DESCRIPTION

ATTACHMENT G – PROCESS DESCRIPTION

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.

This permit modification does not involve any construction or alter the operation of the plant. The application requests revisions to the CO emission limits of the EAF and to several recordkeeping and monitoring requirements based on the proposed continued operation of continuous emissions monitoring systems (CEMS) for CO and for sulfur dioxide (SO2) at the EAF exhaust. A summary of the requested revisions is as follows:

1. Armstrong requests that the CO limits for the EAF (Emission Unit ID 1S) be revised from 5 lb/hr and 21.9 tons/year to 100 lb/hr (24-hr average), 55 lb/hr (30-day average), and 241 tons/year. [Condition 4.1 of both permits]

2. Armstrong requests that a new permit condition be added to the R13 permit to require CO and SO2 CEMS to monitor CO and SO2 emissions from the EAF outlet stack. [Condition 4.1.18 of Title V permit]

3. Armstrong requests that the dry lime scrubber (1C) operation and lime injection rates be contingent upon the SO2 CEMS emissions data. [Condition 4.1.3 of both permits]

4. Armstrong requests that several permit conditions requiring sulfur content analyses be deleted as unnecessary due to the use of the SO2 CEMS. [Conditions 4.1.8, 4.1.9, 4.2.4, 4.2.5, and 4.2.9 of R13 permit and Conditions 4.1.9, 4.1.10, 4.2.4, 4.2.5, and 4.2.8 of Title V permit]

5. Armstrong requests that several permit conditions requiring manganese content analyses be deleted as unnecessary based on the very low levels of manganese emissions measured at the baghouse exhausts (Emissions Units 1S, 3S, and 4S) during the January 2013 performance testing. [Conditions 4.1.5 and 4.2.8 of R13 permit and Conditions 4.1.5 and 4.2.7 of Title V permit]

6. Armstrong requests that the performance testing requirements for CO and SO2 be deleted as unnecessary due to the use of the CO and SO2 CEMS. [Condition 4.3.1.1 of both permits]

7. Armstrong requests that the annual emission limits for the diesel backup generator (Emission Unit ID 7S) be reduced to reflect a maximum annual

operating schedule of 500 hours/year. [Condition 4.1.1 of R13 permit and Condition 6.1.1 of Title V permit]

8. Armstrong requests corrections to the listed equipment “design capacity” rates for the EAF furnace (1S), the spinner collection chambers (3S and 4S) and the slag wool processing lines (15S and 16S). A revised facility-wide air emissions inventory is provided in Attachment N that reflects these requested revisions and the reduction in annual operating hours to 500 hours/year for the backup generator (7S). [Condition 1.0 of both permits]

ATTACHMENT H – NOT APPLICABLE
MATERIAL SAFETY DATA SHEETS

ATTACHMENT I
EMISSION UNITS TABLE

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
1S	1E	Raw Material Transfer and EAF	2011	40,000 lb/hr	Modification	1C
7S	7E	Backup Generator	2011	565 kW	Modification	NA
9S	Fugitive	Slag Handling and Storage	2011	NA	Modification	NA
11S	Fugitive	Railcar Unloading	2011	300 tph	Modification	NA

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

ATTACHMENT J
EMISSIONS POINT DATA SUMMARY SHEET

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data														
Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
1E	Upward Vertical Stack	1S	Raw Material Transfer and EAF	1C	Dry Scrubber	NA	NA	See Attachment N Table 2							
7E	Upward Vertical Stack	7S	Backup Generator	NA	NA	NA	NA	See Attachment N Table 6							

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

[2] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[3] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. **DO NOT LIST** H_2, H_2O, N_2, O_2, and Noble Gases.

[4] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[6] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

[7] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data								
Emission Point ID No. *(Must match Emission Units Table)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting
1E	4.17	150	50,000	~60	~610 ft	104	4,307.0	427.3
7E	0.2	893	7,900	N/D	~610 ft		4,307.0	427.2

[1] Give at operating conditions. Include inerts.
[2] Release height of emissions above ground level.

ATTACHMENT K
FUGITIVE EMISSIONS DATA SUMMARY SHEET

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? ☒ Yes ☐ No ***No Change to Emissions*** ☐ If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET. ***Previously Submitted***
2.) Will there be Storage Piles? ☒ Yes ☐ No ☒ If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? ☐ Yes ☒ No ☐ If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? ☐ Yes ☒ No ☐ If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS [1]	Maximum Potential Uncontrolled Emissions [2]		Maximum Potential Controlled Emissions [3]		Est. Method Used [4]
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads						
Unpaved Haul Roads	See Attachment N Table 7					
Storage Pile Emissions	See Attachment N Table 5					
Loading/Unloading Operations	See Attachment N Table 4					
Wastewater Treatment Evaporation & Operations						
Equipment Leaks		Does not apply		Does not apply		
General Clean-up VOC Emissions						
Other						

[1] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. DO NOT LIST H_2, H_2O, N_2, O_2, and Noble Gases.

[2] Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[3] Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[4] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

ATTACHMENT L
EMISSION UNITS DATA SHEETS

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 1S

1. Name or type and model of proposed affected source:

   Emission Unit 1S - Raw Material Transfer and EAF

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   40,000 pounds of slag per hour (daily average) and small quantities of other raw materials including recycled slag wool.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   34,500 pounds of slag wool an hour.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   Electric arc furnace melts slag. Graphite electrodes consumed during melt process result in generation of CO emissions. Oxidation and slag melt process result in generation of other pollutants from slag impurities.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

No combustion during normal operation - electric arc furnace. Small quantities of coke used following long outages (typically 4 times/year) to assist with arc ignition (typically 1,000 - 1,500 lb coke per startup).

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ °F and psia

a.	NO_X	See Attachment N, Table 2	lb/hr	grains/ACF
b.	SO_2	See Attachment N, Table 2	lb/hr	grains/ACF
c.	CO	See Attachment N, Table 2	lb/hr	grains/ACF
d.	PM_{10}	See Attachment N, Table 2	lb/hr	grains/ACF
e.	Hydrocarbons	See Attachment N, Table 2	lb/hr	grains/ACF
f.	VOCs	See Attachment N, Table 2	lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
	HAPs	See Attachment N, Table 2	lb/hr	grains/ACF
	CO2	See Attachment N, Table 9	lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Continued operation of CO and SO2 CEMS at EAF baghouse exhaust.	CO and SO2 hourly mass emission rates will be computed and recorded from CEMS data. CO emission rates will be recorded on a 24-hour and 30 day average basis.
REPORTING	**TESTING**
Annual reporting of CO and SO2 emission rates and compliance with permit limits.	Annual RATA testing of CO and SO2 CEMS in accordance with 40 CFR 60 Appendix F.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.
Identification Number (as assigned on *Equipment List Form*): 7S

1. Name or type and model of proposed affected source:

Emission unit 7S - Backup Generator, Volvo Penta Model TAD16416E

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

40.5 gallons ultra-low sulfur diesel fuel an hour.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

565 kilowatts an hour of electricity

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

Pollutants produced are the products of combustion of ultra-low sulfur diesel fuel in the internal combustion engine that powers the emergency generator.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

40.5 gallons ultra-low sulfur diesel fuel an hour

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

Ultra-low sulfur diesel fuel, 15ppm sulfur.

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

5670 mBTU/hr maximum heat input

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

Not Applicable

(g) Proposed maximum design heat input: 5.67 × 10^6 BTU/hr.

7. Projected operating schedule: maximum 500 hrs of operation a year

Hours/Day	Days/Week	Weeks/Year

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ °F and psia

a.	NO_X	See Attachment N Table 6	lb/hr	grains/ACF
b.	SO_2	See Attachment N Table 6	lb/hr	grains/ACF
c.	CO	See Attachment N Table 6	lb/hr	grains/ACF
d.	PM_{10}	See Attachment N Table 6	lb/hr	grains/ACF
e.	Hydrocarbons	See Attachment N Table 6	lb/hr	grains/ACF
f.	VOCs	See Attachment N Table 6	lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
	HAPS	See Attachment N Table 6	lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
No changes in any monitoring requirements from current Title V permit.	No changes in any monitoring requirements from current Title V permit. Records of operating hours are all already required to be kept.
REPORTING	**TESTING**
No changes in any reporting requirements from current Title V permit.	No changes in any testing requirements from current Title V permit.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
Emission Unit Data Sheet
(NONMETALLIC MINERALS PROCESSING)

Control Device ID No. (must match List Form):

Equipment Information

1. Plant Type:
   - ☐ Hot-mix asphalt facility that reduces the size of nonmetallic minerals embedded in recycled asphalt pavement
   - ☐ Plant without crushers or grinding mills and containing a stand-alone screening operation
   - ☐ Sand and gravel plant ☐ Common clay plant
   - ☐ Crushed stone plant ☐ Pumice plant
   - ☒ Other, specify Slag Wool Production Facility (fugitive slag material handling operations)

2. Plant Style: ☒ Fixed Plant ☐ Portable Plant

3. Plant Capacity: 20 (slag) tons/hr

4. Underground mine: ☐ Yes ☒ No

5. Storage: ☒ Open ☐ Enclosed

6.

Emission Facility Type	Equipment Type Used	ID Number of Emission Unit	Manufacturer	Model Number/ Serial Number	Date of Manufacture
Conveyors	BC - Belt Conv	9S	Misc.	Misc.	2011
Crusher					
Secondary Crushers					
Tertiary Crushers					
Grinder					
Hoppers	Grizzly Hoppers	9S	Misc.	Misc.	2011
Rock Drills					
Screens					
Enclosed Storage					
Other	Storage Pile	9S	N/A	N/A	2011
Other					
Other					

Emission Facility Type	Operation Rate Design Ton/hr	Operation Rate Design Ton/hr	Annual Production Tons/year	Number of Units	Air Pollution Control Device Used
Conveyors		20	175,200	6	None
Crusher					
Secondary Crushers					
Tertiary Crushers					
Grinder					
Hoppers		20	175,200	4	None
Rock Drills					
Screens					
Enclosed Storage					
Other: Storage Piles				10	None
Other					
Other					

7. Provide a diagram and/or schematic that shows the proposed process of the operation or plant. The diagram and/or schematic is to show all sources, components and facets of the operation or plant in an understandable line sequence of the operation. The diagram should include all the equipment involved in the operation; such as conveyors, transfer points, stockpiles, crushers, facilities, vents, screens, truck dump bins, truck, barge and railcar loading and unloading, etc. Appropriate sizing and specifications of equipment should be included in the diagram. The diagram shall logical follow the entire process load-in to load-out.

8. Roads

	Paved Miles of Road	**Unpaved Miles of Road**	**Watered**		**Other Control (Specify)**
			Miles	**Frequency**	
Plant Yard					
Access Roads					

9. Vehicle Type

Vehicle Type	**Mean Vehicle Speed in mph**	**Mean Vehicle Weight in Tons**		**Number of Wheels**	**Distance Traveled per Round Trip**	
		Empty	**Full**		**Paved** Feet or Miles	**Unpaved** Feet or Miles
Raw Aggregate						
Loaders						
Product Trucks						
Other						
Other						
Other						
Other						

10. Describe all proposed materials storage facilities associated with the **Emission Units** listed.

The facility has 10 slag storage piles of up to 0.2 acres in surface area for each pile.

Storage Activity

ID of Emission Unit	9S				
Type Storage	Slag Storage Pile				
Material Stored	Slag				
Typical Moisture Content (%)	3%				
Avg % of material passing through 200 mesh sieve					
Maximum Total Yearly Throughput in storage (tons)					
Maximum Stockpile Base Area (ft^2)	0.2 acres				
Maximum Stockpile height (ft)					
Dust control method applied to storage	High Inherent Moisture Content				
Method of material load-in to bin or stockpile	Truck				
Dust control method applied during load-in	High Inherent Moisture Content				
Method of material load-out to bin or stockpile	Front End Loader				
Dust control method applied during load-out	High Inherent Moisture Content				

Storagepiles	**Estimated Annual Tons**	**Turnover Rate (Ton/Month)**	**Wetted as Piled**	**Number of Sides Enclosed**	**Other Dust Control**	**Loading Method** (Loader, Conveyor) **IN/OUT**
Coarse: over 1”						
Fine: 1” to ¼“						
¼” and less						
MFG. Sand						
Other, specify						

Conveying and Transfer

Describe the conveying system including transfer points associated with proposed Emission Units (crushers, etc…).

Slag will be unloaded by truck into one of the outdoor slag storage piles. Front end loaders will load-out slag from the storage piles(s) to one of four grizzly hoppers (BN-0001 through BN-0004). Each hopper discharges to the associated discharge conveyor (CV-0001 through CV-0004), which feeds the Raw materials Transfer Conveyor (CV-0005). CV-0005 feeds the Raw Materials Inclined Conveyor (CV-0006), which enters the building and discharges into the Raw Materials Surge Hopper Diverter. All transfer points that follow (and are located within the building) will be controlled by the Furnace Dust Collector (2C).

Describe any methods of emission control to be used with these proposed conveying systems:

None. Fugitive dust will be minimized by minimizing drop heights and by the inherent moisture content of the slag.

ID of Emission Unit	Type Conveyor or Transfer Point	Material Handled [Note nominal size of material transferred (e.g. ¾" × 0)]	Material Conveying or Transfer Rate		Dust Control Measures Applied	Approximate Material Moisture Content (%)
			Max. TPH	Maximum TPY		
9S	Outdoor Belt Conveyors	Slag	20	175,200	N/A	3%
9S	Grizzly Hoppers	Slag	20	175,200	N/A	3%

Crushing and Screening (Not Applicable)

ID of Emission Unit						
Type Crusher or Screen						
Material Sized						
Material Sized Throughput:						
Tons/hr						
Tons/yr						
Material sized from/to						
Typical moisture content as crushed or screened (%)						
Dust control methods applied						
Stack Parameters:						
Height (ft)						
Diameter (ft)						
Volume (ACFM)						
Temp (°F)						
Maximum operating schedule:						
Hour/day						
Day/year						
Hour/year						
Approximate Percentage of Operation from:						
Jan – Mar						
April – June						
July – Sept						
Oct – Dec						
Maximum Particulate Emissions:						
LB/HR						
Ton/Year						

List emission sources with request information:

ID of Emission Unit	Type of Emission Unit and Use	Operating Schedule		Max. Amount of Stone Input to Emission (lb/hr)	Crushed or Screened From/To (size)	Date of Emission Unit was Manufacture
		Actual (hrs/yr)	Design (hrs/yr)			
N/A						

List emission sources with request information:

ID of Emission Unit	Maximum expected emissions from Emission Unit without Air Pollution Control Equipment				
	PM_{10} (lbs/hr)	**SO_2** (lbs/hr)	**CO** (lbs/hr)	**NO_x** (lbs/hr)	**VOC** (lbs/hr)
See Attachment N Tables 4 and 5					

ID of Emission Unit	Maximum expected emissions from Emission Unit without Air Pollution Control Equipment				
	PM_{10} (tons/yr)	**SO_2** (tons/yr)	**CO** (tons/yr)	**NO_x** (tons/yr)	**VOC** (tons/yr)
See Attachment N Tables 4 and 5					

Please fill out a separate Air Pollution Control Device Sheet for each Emission Unit equipped with an air pollution control system.

What type of stone will be quarried at this site? Not Applicable

How will it be quarried?

- ☐ Sawing
- ☐ Blasting
- ☐ Other, Specify:

If blasting is checked, complete the following:

- ☐ Frequency of blasting:
- ☐ What method of air pollution control will be employed during drilling and blasting?

ATTACHMENT M – NOT APPLICABLE
AIR POLLUTION CONTROL DEVICE SHEETS

ATTACHMENT N
SUPPORTING EMISSIONS CALCULATIONS

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		CO2		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	0.04	0.17	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	0.04	0.17	NA	NA	NA	NA	NA	NA	0.78	3.40	NA	NA
5S	5E	Housekeeping Vacuum System	Housekeeping Dust Collector	5C	0.34	1.50	0.34	1.50	0.34	1.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.04	0.16	NA	NA
6S	6E	Hydrated Lime Storage Silo	Silo Bin Vent Filter	6C	0.51	2.25	0.51	2.25	0.51	2.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7S	7E	Backup Generator	None	NA	0.25	0.06	0.25	0.06	0.25	0.06	6.46	1.62	0.20	0.05	0.011	0.003	4.36	1.09	NA	NA	NA	NA	0.010	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	Fugitive	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	Fugitive	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
Totals					**21.5**	**109.6**	**21.5**	**97.9**	**21.5**	**93.5**	**11.5**	**23.5**	**5.3**	**22.3**	**56.0**	**245.0**	**59.4**	**242.0**	**747**	**3,274**	**2.2**	**9.6**	**0.0**	**0.0**

TABLE 2
ELECTRIC ARC FURNACE (EU 1S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

	Slag Throughput		PM		PM_{10}		$PM_{2.5}$		NO_x		VOC		SO_2		CO		Mn	
Data Sources	**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] NOx, VOC rates from WVDEP Engineering Evaluation/Fact Sheet.[b] CO emissions based on CEMS data collected by AWI at EAF baghouse exhaust.[c] SO2 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/PM2.5 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			
					lb/hr	tpy	lb/hr	tpy	lb/hr PEG used	PEG % wt VOC	VOC lb/hr/line	tpy
3S	118,193	8,760	0.007	10.95	7.1	31.1	0.78	3.40	43.83	0.089	0.039	0.171
4S	118,193	8,760	0.007	10.95	7.1	31.1	0.78	3.40	43.83	0.089	0.039	0.171
5S	1,000	8,760	0.04	10.95	0.34	1.50	0.04	0.16	NA	NA	NA	NA
6S	1,500	8,760	0.04	10.95	0.51	2.25	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.

TABLE 4
FUGITIVE DUST FROM SLAG HANDLING & STORAGE (EU 9S & EU 11S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

EU ID	Transfer Points	Throughput		PM Emission Factor[a]	PM_{10} Emission Factor[a]	$PM_{2.5}$ Emission Factor[a]	Mn Content	PM Emissions		PM_{10} Emissions		$PM_{2.5}$ Emissions		Mn Emissions	
		ton/hr	ton/yr	(lb/ton)	(lb/ton)	(lb/ton)	(% wt)	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	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

[a]Emission 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

[a]Based on conical pile 7.6 meters high with a base diameter of 23.8 meters.

[b]Emission 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.

[c]Percent 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 7S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Rated Power	Maximum Fuel Usage[a]	Fuel Heating Rate	Maximum Operation Duration	Emissions											
				$PM/PM_{10}/PM_{2.5}$[b]		NO_x		SO_2		CO		VOC		Total HAPs	
(kW)	(gal/hr)	(MMBtu/gal)	(hrs)	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
565	40.5	0.14	500	0.2491	0.0623	6.4648	1.6162	0.0112	0.0028	4.3597	1.0899	0.1993	0.0498	0.0095	0.0024

VOC or THC

[a]Manufacturer specificifications indicate worst case fuel use of 228 g/kWh (25% load).
[b]All 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	0.2	g/kWh	NA
NO_x	5.19	g/kWh	NA
SO_2[c]	0.002	lb/MMBtu	0.000276
CO	3.5	g/kWh	NA
VOC	0.16	g/kWh	NA
Total HAP[d]	0.0017	lb/MMBtu	0.0002346

[c]SO_2 emission factor is based on 100% of engine load using fuel with 15 ppm sulfur content as required by NSPS IIII.
[d]Emission 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.

TABLE 7
FUGITIVE DUST FROM TRAFFIC EMISSIONS ON UNPAVED ROADS (EV 8S)
ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

	Emissions Factors			Emissions		
VMT (Total vehicle miles traveled/yr)	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

[a]Constants from EPA AP-42 Section 13.2.2 (11/2006), Table 13.2.2-2.
[b]Plant surface silt content; per EPA AP-42 Section 13.2.2 (11/2006), Table 13.2.2-1.
[c]Weighted mean vehicle weight (tons); calculation per Construction Permit Application, Exhibit N-15 (10/2010).
[d]Number 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	$\Sigma(\text{Vehicle Wt[tons]})_i$ $((\text{VMT[mi]})_i)^c$	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 Equiptment 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/PM10/PM2.5 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

[a]Overall average TDS content for induced flow cooling towers from US EPA, AP-42, Table 13.4-2.
[b]Assumed; per Construction Permit Application dated 10/2010.
[c]Densitiy of water is 8.34 lbs/gal.
[d]Calculation per US EPA, AP-42, Section 13.4.2 (11/2006).

TABLE 9

CARBON DIOXIDE (CO_2) EMISSIONS FROM ELECTRIC ARC FURNACE (EU 1S)

ARMSTRONG WORLD INDUSTRIES - MILLWOOD, WV

Material	Max. Hourly Throughput (lb/hr)	Carbon Content (%)	Molecular Weight of Carbon (lb/lbmol)	Molecular Weight of CO_2 (lb/lbmol)	Carbon converted to CO_2 (%)	CO_2 Emitted (lb/hr)[a]	CO_2 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%					

[a]Adapted from Equation K-1 from 40CFR98.113(b)(2)(i) where total CO_2 emitted = (molar ratio CO_2/C * carbon content electrodes consumed) + (molar ratio CO_2/C * carbon content of slag processed) + (molar ratio CO_2/C * carbon content of alloys in slag) - (molar ratio CO_2/C * carbon content of non-metals product processed).

[b]Based on 8,760 hours of operation a year.

ATTACHMENT O
MONITORING/RECORKEEPING/REPORTING/TESTING PLANS

ATTACHMENT O – MONITORING, RECORDKEEPING, REPORTING AND TESTING PLANS

Armstrong proposes the continued operation of CO and SO2 CEMS continuous monitoring systems on the EAF exhaust stack to measure CO and SO2 emissions and demonstrate compliance with the existing SO2 emissions limits and the proposed CO emissions limits of: 100 lb/hr (24-hr average); 55 lb/hr (30-day average); and, 241 tons/year. The CEMS will be operated, maintained, and certified in accordance with 40 CFR 60, Appendix F.

Armstrong will compute hourly average CO and SO2 emission rates from the CEMS data. The hourly CO data will be used to compute 24-hr and 30-day average CO emission rates. The CEMS data generated SO2 and CO emission rates will be used to demonstrate compliance with the short-term (hourly and 24-hr) and long-term (30-day and annual) emission limits for the EAF (Emission Unit 1S).

Armstrong requests that the existing permit requirements to analyze raw materials and products for sulfur content and to compute SO2 emissions using "mass balance" be deleted as unnecessary based on the use of the SO2 CEMS.

Armstrong requests that the existing permit requirement to conduct emissions testing for SO2 and CO at the EAF exhaust be deleted as unnecessary based on the use of the SO2 and CO CEMS.

Armstrong requests that the existing permit requirements to analyze raw materials and products for manganese content and to compute manganese emissions using "mass balance" be deleted as unnecessary based on the very low level of manganese emissions measured at the baghouse stacks (2C, 3C & 4C) during the initial performance testing in January 2013. Armstrong proposes to keep records of baghouse operating hours and to compute manganese emissions based on the results of the testing program.

ATTACHMENT P - PENDING
PUBLIC NOTICE

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Armstrong World Industries, Inc. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Modification Permit for their Millwood Slag Wool Manufacturing Plant located at the Jackson County Maritime and Industrial Center at 141 Sensenich Drive, AMillwood, WV 25262 in Jackson County, West Virginia. The latitude and longitude coordinates are: Latitude 38.9092, Longitude -81.8379.

The applicant estimates the increased potential to discharge the following Regulated Air Pollutants will be: 201 tons per year carbon monoxide (CO), 0.8 tons per year particulate matter (PM), 0.39 tons per year particulate matter less than 10 microns (PM10), 0.06 tons per year particulate matter less than 2.5 microns (PM2.5), and 0.09 tons per year of manganese (Mn).

There will be no construction activities as the plant is currently in operation. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.
Dated this the **(Day)** day of February, 2015.

By: Armstrong World Industries, Inc.
William S. Woolard
Plant Manager
141 Sensenich Drive
Millwood, WV 25262
(304) 273-3900

ATTACHMENT Q – NOT APPLICABLE
BUSINESS CONFIDENTIAL CLAIMS

ATTACHMENT R
AUTHORITY FORMS

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 Building Products, Millwood, WV Facility

DATE FORM PREPARED: March 7, 2013

FACILITY ID NO. (IF APPLICABLE): N/A

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:

Steve Woolard/ Matt McVay,

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

Executive VP & CEO ABP
TITLE OF SIGNATORY

Vic Grizzle
TYPED OR PRINTED NAME OF SIGNATORY

March / 11 / 2013
DATE

Steve Woolard/ Matt McVay
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.

ATTACHMENT S
TITLE V PERMIT REVISION INFORMATION

Attachment S

Title V Permit Revision Information

1. New Applicable Requirements Summary	
Mark all applicable requirements associated with the changes involved with this permit revision:	
☐ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☐ NESHAP (45CSR15)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS (Subpart(s)_____)	☐ Section 112(d) MACT standards (Subpart(s)_____)
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☐ 45CSR27 State enforceable only rule
☐ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ Compliance Assurance Monitoring (40CFR64) (1)
☐ NO_x Budget Trading Program Non-EGUs (45CSR1)	☐ NO_x Budget Trading Program EGUs (45CSR26)
(1) If this box is checked, please include **Compliance Assurance Monitoring (CAM) Form(s)** for each Pollutants Specific Emission Unit (PSEU) (See Attachment H to Title V Application). If this box is not checked, please explain why **Compliance Assurance Monitoring** is not applicable:	

2. Non Applicability Determinations

List all requirements, which the source has determined not applicable to this permit revision and for which a permit shield is requested. The listing shall also include the rule citation and a rationale for the determination.

(1) PSD construction permitting (40 CFR 52.21) – The Millwood plant is classified as a minor source under the PSD regulations because potential emissions are < 250 tpy for each criteria pollutant and < 100,000 tpy CO2e.

(2) NSPS (40 CFR 60) Subparts CC, OOO, and UUU – The Millwood plant does not include glass melting furnaces (Subpart CC is not applicable), slag is not classified as a "nonmetallic mineral" (Subpart OOO is not applicable), and the EAF is not classified as a calciner or dryer (Subpart UUU is not applicable).

(3) NESHAP (40 CFR 63) Subpart DDD – 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.

(4) NESHAP (40 CFR 63) Subpart JJJJJJ – The Millwood plant does not operate boilers or process heaters and is therefore not subject to the Subpart JJJJJ Area Source ICI Boiler NESHAP.

(5) WV PM "type b, c, and d" standards (45CSR7A) – The Millwood slag processing operations are classified as "type a" operations involving "physical changes" and are not subject to the type b, c , or d standards under 45 CSR 7A.

(6) WV Fugitive emissions from material handling (45 CSR 17) - Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule.

(7) WV NSR permitting for non-attainment areas and VOC Regulations (45 CSR 19 & 21) – Millwood plant is not located in affected areas.

(8) WV Emissions of toxic air pollutants (45 CSR 27) – Millwood plant does not operate any "chemical processing units" and does not use listed chemicals

☐ **Permit Shield Requested** *(not applicable to Minor Modifications)*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

3. Suggested Title V Draft Permit Language

Are there any changes involved with this Title V Permit revision outside of the scope of the NSR Permit revision? ☒ Yes ☐ No If Yes, describe the changes below.

Also, please provide **Suggested Title V Draft Permit language** for the proposed Title V Permit revision (including all applicable requirements associated with the permit revision and any associated monitoring /recordkeeping/ reporting requirements), OR attach a marked up pages of current Title V Permit. Please include appropriate citations (Permit or Consent Order number, condition number and/or rule citation (e.g. 45CSR§7-4.1)) for those requirements being added / revised.

See Attachment S-2

4. Active NSR Permits/Permit Determinations/Consent Orders Associated With This Permit Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
CO-R13-E-2014-31	12/15/2014	3
	/ /	
	/ /	

5. Inactive NSR Permits/Obsolete Permit or Consent Orders Conditions Associated With This Revision		
Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
CO-R13-E-2013-14	08/2013	
	/ /	
	/ /	

6. Change in Potential Emissions	
Pollutant	Change in Potential Emissions (+ or -), TPY
CO	+201 TPY
PM	+0.8 TPY
PM_{10}	+0.39 TPY
$PM_{2.5}$	+0.063 TPY
Mn	+0.09 TPY

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

7. Certification For Use Of Minor Modification Procedures ***(Required Only for Minor Modification Requests)***

Note:	*This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. The criteria for allowing the use of Minor Modification Procedures are as follows:*

i. Proposed changes do not violate any applicable requirement;

ii. Proposed changes do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;

iii. Proposed changes do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient air quality impacts, or a visibility increment analysis;

iv. Proposed changes do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement and which permit or condition has been used to avoid an applicable requirement to which the source would otherwise be subject (synthetic minor). Such terms and conditions include, but are not limited to a federally enforceable emissions cap used to avoid classification as a modification under any provision of Title I or any alternative emissions limit approved pursuant to regulations promulgated under § 112(j)(5) of the Clean Air Act;

v. Proposed changes do not involve preconstruction review under Title I of the Clean Air Act or 45CSR14 and 45CSR19;

vi. Proposed changes are not required under any rule of the Director to be processed as a significant modification;

Notwithstanding subparagraph 45CSR§30-6.5.a.1.A. (items i through vi above), minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in rules of the Director which are approved by the U.S. EPA as a part of the State Implementation Plan under the Clean Air Act, or which may be otherwise provided for in the Title V operating permit issued under 45CSR30.

Pursuant to 45CSR§30-6.5.a.2.C., the proposed modification contained herein meets the criteria for use of Minor permit modification procedures as set forth in Section 45CSR§30-6.5.a.1.A. The use of Minor permit modification procedures are hereby requested for processing of this application.

(Signed): Matthew S McVay *(Please use blue ink)* Date: 2 / 13 / 15 *(Please use blue ink)*

Named (typed): Matthew S. McVay Title: Production and Safety Manager

Note: Please check if the following included (if applicable):

☐	Compliance Assurance Monitoring Form(s)
☒	Suggested Title V Draft Permit Language

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT S-2
CURRENT TITLE V PERMIT – SUGGESTED EDITS MARKED

West Virginia Department of Environmental Protection
Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

Armstrong World Industries, Inc.

Armstrong Millwood Plant
R30-03500049-2014

John A. Benedict
Director

Issued: February 3, 2014 • Effective: February 17, 2014
Expiration: February 3, 2019 • Renewal Application Due: August 3, 2018

Permit Number: **R30-03500049-2014**
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 — 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 Code: 3296
UTM Coordinates: 427.2 km Easting • 4,307 km Northing • Zone 17

Permit Writer: Bobbie Scroggie

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.

Table of Contents

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 EAF	2011	~~26,685 lb/hr~~ 40,000 lb/hr	Scrubber 1C & Dust Collector 2C
3S	3-4E	Spinner Collection Chamber #1	2011	~~30,360 lb/hr~~ 34,500 lb/hr	Baghouse 3C
4S	3-4E	Spinner Collection Chamber #2	2011		Baghouse 4C
5S	5E	Housekeeping Vacuum System	2011	1,000 cfm	Dust Collector 5C
6S	6E	Hydrated Lime Storage Silo	2011	3,300 cf	Filter 6C
7S	7E	Backup Generator	2011	565 kW	N/A
8S	Fugitive	Haulroads	2011	8,880 VMT/yr	WS
9S	Fugitive	Slag Handling and Storage	2011	---	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	500 Gal	N/A
13S	Fugitive	Diesel Storage Tank #2	2011	500 Gal	N/A
14S	Fugitive	Glycol Additive Storage Tank	2011	10,000 Gal	N/A
15S	8E	Slag Wool Processing Line #1	2011	~~19,532 lb/hr~~ 28,000 lb/hr	Baghouse 7C
16S	8E	Slag Wool Processing Line #2	2011		Baghouse 7C
17S	17E	Cooling Tower #2	2011	800 GPM	N/A

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
R13-2864A	**November 16, 2011**

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.). 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	**NESHAPS**	National Emissions Standards for Hazardous Air Pollutants
CBI	Confidential Business Information		
CEM	Continuous Emission Monitor	**NO_x**	Nitrogen Oxides
CES	Certified Emission Statement	**NSPS**	New Source Performance Standards
C.F.R. *or* CFR	Code of Federal Regulations		
CO	Carbon Monoxide	**PM**	Particulate Matter
C.S.R. *or* CSR	Codes of State Rules	**PM_{10}**	Particulate Matter less than 10µm in diameter
DAQ	Division of Air Quality		
DEP	Department of Environmental Protection	**pph**	Pounds per Hour
		ppm	Parts per Million
FOIA	Freedom of Information Act	**PSD**	Prevention of Significant Deterioration
HAP	Hazardous Air Pollutant		
HON	Hazardous Organic NESHAP	**psi**	Pounds per Square Inch
HP	Horsepower	**SIC**	Standard Industrial Classification
lbs/hr	Pounds per Hour		
LDAR	Leak Detection and Repair	**SIP**	State Implementation Plan
m	Thousand	**SO_2**	Sulfur Dioxide
MACT	Maximum Achievable Control Technology	**TAP**	Toxic Air Pollutant
		TPY	Tons per Year
mm	Million	**TRS**	Total Reduced Sulfur
mmBtu/hr	Million British Thermal Units per Hour	**TSP**	Total Suspended Particulate
		USEPA	United States Environmental Protection Agency
$mmft^3/hr$	Million Cubic Feet Burned per Hour		
		UTM	Universal Transverse Mercator
NA *or* N/A	Not Applicable	**VEE**	Visual Emissions Evaluation
NAAQS	National Ambient Air Quality Standards	**VOC**	Volatile Organic Compounds

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]

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. 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.c.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.c.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§30-5.7.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§30-5.6.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§30-5.1.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 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 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 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]

3.2. Monitoring Requirements

3.2.1. None.

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.

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.]

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. **Confidential Information.** 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. **Correspondence.** Except for the electronic submittal of the annual certification to the USEPA as required in 3.5.5 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, mailed first class, or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

Associate Director
Office of Air Enforcement and Compliance
Assistance (3AP20)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

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.]**

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 annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. **[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. **[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.

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. None.

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. NSPS: 40 CFR 60 Subpart CC - The Millwood plant does not include glass melting furnaces.

b. NSPS: 40 CFR 60 Subpart OOO - Slag is not classified as a “nonmetallic mineral”.

c. NSPS: 40 CFR 60 Subpart UUU - The EAF is not classified as a calciner or dryer.

d. NESHAP: 40 CFR 63 Subpart DDD – 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. NESHAP: 40 CFR 63 Subpart JJJJJJ – The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJJ Area Source ICI Boiler NESHAP.

f. 45CSR7 - The Millwood slag processing operations are classified as " type a" operations involving "physical changes" and are not subject to the type b, c , or d standards under 45CSR7, Table 7A.

g. 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.

h. 45CSR19 & 21 - WV NSR permitting for non-attainment areas and VOC Regulations - Millwood plant is not located in affected areas.

i. 45CSR27 - WV Emissions of toxic air pollutants - Millwood plant does not operate any "chem ical processing units" and does not use listed chemicals.

4.0. Manufacturing Process Sources Requirements [1S, 3S, 4S, 5S, 6S, 9S, 11S, 15S, 16S]

4.1. Limitations and Standards

4.1.1. a. Emissions from the Raw Material Transfer and EAF (1S) shall not exceed the limitations set forth below:

Pollutant	Hourly limit in lbs/hr	Annual limit in tpy	Note
PM	2.6	11.4	
PM_{10}[1]	2.6	11.4	
NO_x	5.0	21.9	
SO_2	55.94	245	
CO	~~5.0~~	~~21.9~~ 241	See Condition ~~4.6.1.6~~.
VOC	5.0	21.9	
Mn	0.28	1.25	
Total HAP	0.28	1.25	

55.0 (30 day avg.)
100 (24-hr avg.

Requiring CO CEMS

b. Emissions from the following sources shall not exceed the limitations set forth below:

Source	PM		PM_{10}[1]		VOC		Mn		Total HAP	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
3S	7.1	31.1	7.1	31.1	0.05	0.2	0.78	3.4	0.78	3.4
4S	7.1	31.1	7.1	31.1	0.05	0.2	0.78	3.4	0.78	3.4
5S	0.34	1.5	0.34	1.5	---	---	0.04	0.16	0.04	0.16
6S	0.53	2.3	0.53	2.3	---	---	---	---	---	---
9S	---	1.2	---	0.6	---	---	---	0.13	---	0.13
11S	---	0.1	---	0.04	---	---	---	0.01	---	0.01
15S	2.4	10.5	2.4	10.4	---	---	0.26	1.15	0.26	1.15
16S										

[1]All PM_{10} is assumed to be $PM_{2.5}$ and all PM, PM_{10}, $PM_{2.5}$ emission limits include both filterable and condensable particulate matter.

Compliance with the PM emission limits shall demonstrate compliance with the less stringent PM emission limits of 45CSR§7-4.1. Annual limits are based on a rolling yearly total.

[45CSR13, R13-2864, 4.1.1 and 4.1.10.2, Tables 4.1.1.1 and 4.1.1.2, 45CSR§7-4.1.]

4.1.2. The total annual SO_2 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. For the purpose of complying with the 245 tpy SO_2 emission limitation, the Furnace Dry Scrubber (1C) shall be operated according to the following requirements:

~~During the initial shakedown period and the initial performance test for the furnace, the hydrated lime injection rate (pounds per hour) to the Dry Scrubber (1C) shall not fall below the rate determined based on the following equation:~~

~~Lime Injection Rate (lb/hr) = 38,545 * Baseline Slag Sulfur Content (%)~~

~~The subsequent required lime injection rate shall be determined based on initial testing and shall be sufficient to achieve the SO_2 control to meet the emissions requirements of conditions 4.1.1. and 4.1.2. of this permit.~~ ~~**[45CSR13, R13-2864, 4.1.3]**~~ The need for lime injection will be determined based on the CEMs data for SO2.

4.1.4. For the purpose of complying with the $PM/PM_{10}/PM_{2.5}$ 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 9.5 tons per year based on a rolling 12 month total basis.
[45CSR13, R13-2864, 4.1.13.]

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. A minimum of 65% of the sulfur contained in the slag shall be retained in the product mineral wool.~~
~~**[45CSR13, R13-2864, 4.1.8]**~~

~~4.1.10. Total slag throughput to the EAF shall not exceed the following:~~

$$\textit{E} \leq \frac{245 + 2WT \times (1 - CE)}{2S \times (1 - CE)}$$

~~Where:~~
~~E = Total (virgin + recycled) slag input to the EAF (tpy),~~
~~T = Sulfur concentration of the mineral wool (% by weight/100),~~
~~W = Wool production (tpy),~~
~~S = Sulfur concentration of the slag (% by weight/100),~~
~~CE = Minimum required dry scrubber control efficiency, determined based on the following equation:~~

$$CE = \frac{-0.00235}{S} + 1$$

~~**[45CSR13, R13-2864, 4.1.9]**~~

4.1.11. 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, 4.1.10.1 *(1S, 3S, 4S, 5S, 15S, 16S)*]

4.1.12. 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. 1.14. is required to have a full enclosure and be equipped with a particulate matter control device.
[45CSR§7-3.7. *(6S)*]

4.1.13. 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.]

4.1.14. 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, 4.1.10.3]

4.1.15. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlledaccess 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, 4.1.10.4]

4.1.16 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 2000 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, 4.1.11. *(1S)*]

4.1.17. **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§13-5.11., 45CSR13, R13-2864, 4.1.14]

4.1.18. Armstrong shall maintain CO and SO_2 continuous emissions monitoring systems ("CEMS") on theoutlet stack of the EAF that meet the criteria set forth in 40CFR60, Appendix B.
[CO-R13-E-2013-14, Order for Compliance Condition 2. *(1S)*]

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 from40CFR 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 onceper 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 a 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, 5S, 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]

~~4.2.4. For the purpose of determining compliance with the permit limits based on the hydrated lime injection rate associated with the Dry Scrubber as described in condition 4.1.3 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 sulfur content (percent sulfur by weight). The sulfur content from each type of slag shall be averaged in order to determine a baseline sulfur content for that suppliers slag to be used to identify the appropriate hydrated lime injection rate, as described in Section 4.1.3. 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 ensure that the sulfur content remains at or below the baseline value established. If the permittee changes slag suppliers, the permittee shall collect samples for each shipment for one week in order to establish a new baseline sulfur content for that supplier.~~

~~If the sulfur content of a suppliers slag exceed the baseline sulfur content used to identify the appropriate hydrate lime injection rate, as described in condition 4.1.3, the permittee shall maintain a record documenting that the sulfur content of the slag blend entering the furnace does not exceed the baseline sulfur content used to identify the appropriate hydrated lime injection rate.~~
~~[45CSR13, R13-2864, 4.2.4]~~

~~4.2.5. For the purposes of demonstrating compliance with the sulfur content limit in 4.1.16 of this permit, analytical testing results showing sulfur content shall be obtained from the fuel supplier with each shipment of fuel. 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 SO_2 limit in condition 4.1.2 of this permit, monthly SO_2 emissions from the submerged electric arc furnace shall be calculated (~~mass balance~~ 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, 4.2.6]

~~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, 4.2.8]

~~4.2.8. In order to determine compliance with conditions 4.1.2 and 4.1.9 of this permit, at least once per month, the permittee shall analyze a sample of product mineral wool for sulfur content.~~
~~**[45CSR13, R13-2864, 4.2.9]**~~

4.2.9. The permittee shall maintain monthly records of slag throughput to the EAF.
[45CSR13, R13-2864, 4.2.10]

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, 4.2.11]

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, ~~CO~~, VOCs, ~~SO_2~~, PM and PM_{10} 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 PM_{10} 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 according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 10% of limits	Upon Directors 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

Test	Test Results	Testing Frequency
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

[45CSR13, R13-2864, 4.3.2]

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 conditions 4.1.2. and 4.1.3. of this permit, the permittee shall keep hourly records of the hydrated lime injection rate to the scrubber and monthly records of the sulfur 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. 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, 4.4.5]**~~

4.4.5. 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, 4.2.7. and 4.4.6]

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.
[45CSR13, R13-2864, 4.4.7]

4.4.7. In order to determine compliance with the requirements of conditions 4.1.16 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, 4.4.8]

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.
[45CSR13, R13-2864, 4.4.9]

~~4.4.9. In order to determine compliance with condition 4.2.8 of this permit, the permittee shall keep monthly records of the sulfur content of the product mineral wool. Upon request the records shall be certified and made available to the Director or his/her duly authorized representative.~~
~~**[45CSR13, R13-2864, 4.4.10]**~~

4.4.10. 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, 4.4.11]

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]**

~~4.6. Compliance Plan~~

~~4.6.1. Armstrong shall immediately take all measures to initiate compliance with all terms and conditions of Permit R13-2864, except as noted in this Order. The permittee shall complete the following:~~

~~1. Armstrong shall comply with the quality assurance procedures in 40CFR60, Appendix F-"Quality Assurance Procedures". A test protocol for the rdative accuracy test audit (RATA) shall be submitted to the DAQ no later than thirty (30) days prior to the start of the test audits.~~

~~2. Results of the RATA shall be submitted to the DAQ no later than thirty (30) days after completion of the audit. All other quality assurance documentation shall be kept onsite and available for review by DAQ personnel.~~

~~3. CEMS data collection shall be performed in accordance with EPA approved methods. After certification, data shall be collected for a minimum of ninety (90) days but shall not exceed one hundred and twenty (120) days.~~

~~4. Results of the data collection shall be submitted to the DAQ for review no later than thirty (30) days after completion.~~

~~5. After the CO and SO_2 data has been received and reviewed by the DAQ, a separate ConsenOrder will be negotiated with Armstrong that will detail steps necessary to achieve full compliance with Permit R13-2864 and any other applicable air regulation.~~

~~6. As an interim emissions limitation during the term of this Consent Order, Arm strong shall limit CO emissions to less than 250 tons on a 12-m onth rolling basis. Arm strong shall calculate monthly CO emissions using the stack test results, and, when available, the CO CEMS data. Monthly CO emissions will be summed with the previous 11 months of CO emissions to calculate 12-month total CO emissions. This total must remain below 250 tons.~~

~~[CO-R13-E-2013-14, Order for Compliance]~~

~~4.6.2. **Submittal of Progress Reports.** The permittee shall report status of remedial actions and schedule every quarter starting on 10/01/2013. Such progress reports shall contain the following:~~

~~4.6.2.1. 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~~

~~4.6.2.2. An explanation of why any dates in the sch edule of compliance were not or will not be m et, and any preventive or corrective measures adopted.~~

~~[45CSR§30-5.3.d.]~~

5.0. Storage Tank[12S, 13S, 14S] and Cooling Tower [10S and 17S] Requirements

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	0.01	0.04	0.01	0.04	0.01	0.04
13S	0.01	0.04	0.01	0.04	0.01	0.04
14S	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	0.78	3.4	0.78	3.4
17S	0.42	1.8	0.42	1.8

[1]All PM_{10} is assumed to be $PM_{2.5}$ and all PM, PM_{10}, $PM_{2.5}$ 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. None.

5.3. Testing Requirements

5.3.1. None.

5.4. Recordkeeping Requirements

5.4.1. None.

5.5. Reporting Requirements

5.5.1. None.

5.6. Compliance Plan

5.6.1. None.

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	0.26	~~1.1~~ 0.07
PM_{10}[1]	0.26	~~1.1~~ 0.07
NO_x	6.47	~~28.3~~ 1.62
VOC	0.21	~~0.9~~ 0.053
SO_2	0.01	~~0.04~~ 0.003
CO	4.37	~~19.1~~ 1.1
VOC HAP	0.01	~~0.04~~ 0.003
Total HAP	0.01	~~0.04~~ 0.003

[1]All PM_{10} is assumed to be $PM_{2.5}$ and all PM, PM_{10}, $PM_{2.5}$ 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)
6.4	3.5	0.2

[40 CFR§60.4204(b), 45CSR13, R13-2864, 4.1.12.1, 45CSR16]

6.1.3. 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, 45CSR13, R13-2864, 4.1.12.2, 45CSR16]

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.

[40 CFR§60.4207(b), 45CSR13, R13-2864, 4.1.12.3, 45CSR16]

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 CFR§60.4211(a), (c), and (g); 45CSR16]

6.2. Monitoring Requirements

6.2.1. None.

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. None.

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. None.

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.

Signature[1] _____ _____

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

Name and Title _____ _____

(please print or type) Name Title

Telephone No. _____ Fax No. _____

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[1]This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

   (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or
   (ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of USEPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.