

**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

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*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**

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*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.*

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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.*

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

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

### 1.1. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1S	1-2E	Raw Material Transfer and EAF	2011	26,685 lb/hr	Scrubber 1C & Dust Collector 2C
3S	3-4E	Spinner Collection Chamber #1	2011	30,360 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	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

<b>CAAA</b>	Clean Air Act Amendments	<b>NESHAPS</b>	National Emissions Standards for Hazardous Air Pollutants
<b>CBI</b>	Confidential Business Information	<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>CEM</b>	Continuous Emission Monitor	<b>NSPS</b>	New Source Performance Standards
<b>CES</b>	Certified Emission Statement	<b>PM</b>	Particulate Matter
<b>C.F.R. or CFR</b>	Code of Federal Regulations	<b>PM<sub>10</sub></b>	Particulate Matter less than 10µm in diameter
<b>CO</b>	Carbon Monoxide	<b>pph</b>	Pounds per Hour
<b>C.S.R. or CSR</b>	Codes of State Rules	<b>ppm</b>	Parts per Million
<b>DAQ</b>	Division of Air Quality	<b>PSD</b>	Prevention of Significant Deterioration
<b>DEP</b>	Department of Environmental Protection	<b>psi</b>	Pounds per Square Inch
<b>FOIA</b>	Freedom of Information Act	<b>SIC</b>	Standard Industrial Classification
<b>HAP</b>	Hazardous Air Pollutant	<b>SIP</b>	State Implementation Plan
<b>HON</b>	Hazardous Organic NESHAP	<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>HP</b>	Horsepower	<b>TAP</b>	Toxic Air Pollutant
<b>lbs/hr</b>	Pounds per Hour	<b>TPY</b>	Tons per Year
<b>LDAR</b>	Leak Detection and Repair	<b>TRS</b>	Total Reduced Sulfur
<b>m</b>	Thousand	<b>TSP</b>	Total Suspended Particulate
<b>MACT</b>	Maximum Achievable Control Technology	<b>USEPA</b>	United States Environmental Protection Agency
<b>mm</b>	Million	<b>UTM</b>	Universal Transverse Mercator
<b>mmBtu/hr</b>	Million British Thermal Units per Hour	<b>VEE</b>	Visual Emissions Evaluation
<b>mmft<sup>3</sup>/hr</b>	Million Cubic Feet Burned per Hour	<b>VOC</b>	Volatile Organic Compounds
<b>NA or N/A</b>	Not Applicable		
<b>NAAQS</b>	National Ambient Air Quality Standards		

### **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 JJJJJ – The Millwood plant does not operate boilers and is therefore not subject to the Subpart JJJJJ 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 “chemical 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 <sub>10</sub> <sup>1</sup>	2.6	11.4	
NO <sub>x</sub>	5.0	21.9	
SO <sub>2</sub>	55.94	245	
CO	5.0	21.9	See Condition 4.6.1.6.
VOC	5.0	21.9	
Mn	0.28	1.25	
Total HAP	0.28	1.25	

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

Source	PM		PM <sub>10</sub> <sup>1</sup>		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										

<sup>1</sup>All PM<sub>10</sub> is assumed to be PM<sub>2.5</sub> and all PM, PM<sub>10</sub>, PM<sub>2.5</sub> 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<sub>2</sub> 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<sub>2</sub> 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:

$$\text{Lime Injection Rate (lb/hr)} = 38,545 * \text{Baseline Slag Sulfur Content (\%)}$$

The subsequent required lime injection rate shall be determined based on initial testing and shall be sufficient to achieve the SO<sub>2</sub> control to meet the emissions requirements of conditions 4.1.1. and 4.1.2. of this permit. **[45CSR13, R13-2864, 4.1.3]**

- 4.1.4. For the purpose of complying with the PM/PM<sub>10</sub>/PM<sub>2.5</sub> 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:

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

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 controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.  
**[45CSR§7-5.2., 45CSR13, R13-2864, 4.1.10.4]**
- 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 2,000 parts per million by volume from existing source operations, except as provided in subdivisions 4.1.a through 4.1.e. of 45CSR10.  
**[45CSR§10-4.1., 45CSR13, R13-2864, 4.1.11. (IS)]**
- 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<sub>2</sub> continuous emissions monitoring systems ("CEMS") on the outlet stack of the EAF that meet the criteria set forth in 40CFR60, Appendix B.  
**[CO-R13-E-2013-14, Order for Compliance Condition 2. (IS)]**

## 4.2. Monitoring Requirements

- 4.2.1. The permittee shall install, maintain, and operate all monitoring equipment required by this permit in accordance with all manufacturers recommendations concerning maintenance and performance.  
**[45CSR13, R13-2864, 4.2.1]**
- 4.2.2. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

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

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

If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be

performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

**[45CSR13, R13-2864, 4.2.2 (1S, 3S, 4S, 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<sub>2</sub> limit in condition 4.1.2 of this permit, monthly SO<sub>2</sub> emissions from the submerged electric arc furnace shall be calculated (mass balance) by the 15<sup>th</sup> 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 15<sup>th</sup> 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<sub>x</sub>, CO, VOCs, SO<sub>2</sub>, PM and PM<sub>10</sub> 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<sub>10</sub> 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 $\leq 50\%$ of limits	Once/5 years
Once/3 years	After two successive tests indicate emission rates $< 90\%$ of limits	Once/3 years
Once/3 years	$\geq 90\%$ of limits	Annual
Once/5 years	After two successive tests indicate emission rates $< 10\%$ of limits	Upon Directors Request
Once/5 years	$\leq 50\%$ of limits	Once/5 years
Once/5 years	Between 50% and 90% of limits	Once/3 years
Once/5 years	$\geq 90\%$ 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 relative 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<sub>2</sub> data has been received and reviewed by the DAQ, a separate Consent Order 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, Armstrong shall limit CO emissions to less than 250 tons on a 12-month rolling basis. Armstrong 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 schedule of compliance were not or will not be met, 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 <sub>10</sub> <sup>1</sup>	
	lb/hr	tpy	lb/hr	tpy
10S	0.78	3.4	0.78	3.4
17S	0.42	1.8	0.42	1.8

<sup>1</sup>All PM<sub>10</sub> is assumed to be PM<sub>2.5</sub> and all PM, PM<sub>10</sub>, PM<sub>2.5</sub> 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
PM <sub>10</sub> <sup>1</sup>	0.26	1.1
NO <sub>x</sub>	6.47	28.3
VOC	0.21	0.9
SO <sub>2</sub>	0.01	0.04
CO	4.37	19.1
VOC HAP	0.01	0.04
Total HAP	0.01	0.04

<sup>1</sup>All PM<sub>10</sub> is assumed to be PM<sub>2.5</sub> and all PM, PM<sub>10</sub>, PM<sub>2.5</sub> emission limits include both filterable and condensable particulate matter.

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

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

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

NO <sub>x</sub> +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.

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### 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: \_\_\_\_\_

(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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<sup>1</sup>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.