

TITLE V PERMIT RENEWAL APPLICATION

Steel of West Virginia, Inc.
Huntington Facility

Permit No. R30-0110009-2010

Prepared By:

TRINITY CONSULTANTS
4500 Brooktree Road
Suite 103
Wexford, PA 15090
(724) 935-2611

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1. INTRODUCTION

Steel of West Virginia, Inc. (SWVA) operates a steel manufacturing plant in Huntington, West Virginia. The Huntington Facility is an existing major source of criteria pollutants currently operating in accordance with West Virginia Department of Environmental Protection (WVDEP) Division of Air Quality Title V operating permit R30-01100009-2010, last issued on August 17, 2010. The facility is categorized as a minor source for hazardous air pollutants (HAP).

The current Title V permit expires on August 17, 2015. SWVA is submitting this timely and complete permit renewal application by the renewal submission deadline of February 17, 2015 (i.e., six months before the expiration of the current permit) in accordance with Series 30, Section 4.1.a.3 of the West Virginia Department of Environmental Protection Division of Air Quality Code of State Rules (C.S.R.). Presuming WVDEP finds this application administratively complete, SWVA may continue to operate the Huntington Facility under an application shield in accordance with the terms of the existing Title V permit until the renewed permit is issued, even if this issuance would occur after the current permit's expiration date.

1.1. FACILITY DESCRIPTION

SWVA manufactures hot-rolled steel products covered by Standard Industrial Classification (SIC) Code 3312. The facility has the potential to operate 24 hours per day, 7 days per week, and 52 weeks per year. The main emission sources at the facility include two electric arc furnaces (EAFs), a continuous caster and caster cutoff torches, scrap preparation torches, and ladle preheaters. The manufacturing steps include melting scrap steel, casting billets, reheating and hot rolling the billets, shot blasting, welding, punching and shearing. As noted above, this facility is located in Huntington, Cabell County, West Virginia, which is currently designated as attainment for all pollutants under the federal National Ambient Air Quality Standards (NAAQS). As such, the Huntington Facility is an existing major source with respect to the Prevention of Significant Deterioration (PSD) and Title V federal air quality permitting programs since its potential emissions for at least one regulated pollutant are above the corresponding major source thresholds.¹

¹ The Huntington Facility currently estimates potential emissions of carbon monoxide (CO), nitrogen oxides (NO_x), and volatile organic compounds (VOC) each to be greater than 100 tons per year (tpy).

1.2. TITLE V RENEWAL APPLICATION ORGANIZATION

This Title V permit renewal application is organized as follows:

- Section 2 contains an overview of regulatory applicability for the Huntington Facility;
- Section 3 contains a description of potential emissions calculations;
- Section 4 contains proposed changes to the permit;
- Section 5 contains the permit shield request;
- Section 6 contains the required WVDEP application forms and attachments; and
- Attachment A – Area Map
- Attachment B – Plot Plan
- Attachment C – Process Flow Diagrams
- Attachment D – Title V Equipment Table
- Attachment E – Emission Unit Form
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2. REGULATORY APPLICABILITY

A key objective of a Title V operating permit (TVOP) application is to compile all applicable Clean Air Act-derived requirements into one document. The requirements can be categorized as: (1) emission limits and work practice standards; and (2) testing, monitoring, recordkeeping, and reporting requirements. To compile a list of the requirements applicable to a facility, it is first necessary to determine which Federal and State air regulations apply to the facility as a whole, or to individual emission units. This section documents the applicability determinations made for Federal and State air quality regulations. Regulations potentially applicable to the Huntington Facility are detailed in the “*Applicable Requirements*” forms provided by the WVDEP in Section 4.

Additional details on applicability for several regulations are presented in this section. Specifically, the remainder of this section summarizes the air permitting requirements and key air quality regulations that apply to the operation of the Huntington Facility. Applicability or non-applicability of the following regulatory programs are addressed:

- Prevention of Significant Deterioration (PSD) permitting;
- Title V of the 1990 Clean Air Act Amendments;
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAP);
- Compliance Assurance Monitoring (CAM);
- Risk Management Plan (RMP);
- Stratospheric Ozone Protection;
- West Virginia State Implementation Plan (SIP) regulations.

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

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

2.1. PREVENTION OF SIGNIFICANT DETERIORATION SOURCE CLASSIFICATION

Federal construction permitting programs regulate new sources of attainment pollutants under Prevention of Significant Deterioration (PSD) and new sources of non-attainment pollutants under Non-Attainment New Source Review (NNSR). PSD and NNSR regulations apply when a new major stationary source is constructed or the major modification of any existing major stationary source, such as installing new equipment or modifying existing equipment where a significant increase in emissions results from the change.

This facility is located in Huntington, Cabell County, West Virginia, which is currently designated as attainment for all pollutants under the federal National Ambient Air Quality Standards (NAAQS). As such, the facility is potentially subject to PSD requirements. The Huntington Facility is an existing major source with respect to the

PSD program since its potential emissions for at least one regulated pollutant are above the PSD major source thresholds.

The original construction of the Huntington Facility, which was a new major stationary source, triggered PSD review for the following pollutants: PM, sulfur dioxide (SO₂), nitrogen oxide (NO_x), volatile organic compounds (VOC), and carbon monoxide (CO). Since the Huntington Facility is a major source with respect to the New Source Review (NSR) program, the facility may be subject to NSR permit requirements when undertaking modifications in the future. Because the Title V permit renewal process is not intended to accommodate any changes or modifications to the facility that are not currently permitted at the facility, NSR/PSD permitting is not triggered by this activity but could be triggered by future activities at the site. There have been no significant modifications to the Huntington Facility since the issuance of the current Title V permit.

2.2. TITLE V OPERATING PERMIT PROGRAM

Title 40 of the Code of Federal Regulations Part 70 (40 CFR 70) establishes the federal Title V operating permit program. West Virginia has incorporated the provisions of this federal program in its Title V operating permit program in 45 C.S.R. 30. The major source thresholds with respect to the West Virginia Title V operating permit program regulations are 10 tons per year (tpy) of a single hazardous air pollutant (HAP), 25 tpy of any combination of HAPs, and 100 tpy of all other regulated pollutants. The potential emissions of NO_x, VOC, and CO at the existing site are above the 100 tpy threshold. Therefore, the Huntington Facility is classified as a major source for Title V purposes. The Huntington Facility currently operates under Title V Operating Permit No. R30-0110009-2010, which expires on August 17, 2015. SWVA is submitting this timely and complete permit renewal application by the renewal submission deadline of February 17, 2015 (i.e., six months before the expiration of the current permit) in accordance with Series 30, Section 4.1.a.3. With the timely and complete submittal of this renewal application, SWVA specifically requests that the Huntington Facility be authorized to continue operation under an application shield in accordance with the terms of the existing Title V permit until the renewed permit is issued, even if this issuance would occur after the current permit's expiration date.

2.3. NEW SOURCE PERFORMANCE STANDARDS

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

2.3.1. NSPS Subparts D, Da, Db, and Dc - Steam Generating Units

These subparts apply to steam generating units of various sizes, all greater than 10 MMBtu/hr. For units greater than 100 MMBtu/hr (which would include the existing Reheat Furnace #2, EU016), Subpart Db potentially applies. For units between 10 MMBtu/hr and 100 MMBtu/hr (which would include the existing Reheat Furnace #1, EU014), Subpart Dc potentially applies. Subparts Db and Dc define steam generating unit as "a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium." The existing natural gas-fired reheat furnaces are direct fired (i.e., the heat from natural gas combustion will be used directly to heat the steel billets), and are not used to generate steam or for a heat transfer medium. As such, these furnaces are not subject to the requirements of NSPS Subparts Db or Dc.

2.3.2. NSPS Subparts K, Ka, and Kb - Standards of Performance for Petroleum Liquid Storage Vessels

These subparts apply to storage tanks for petroleum and other organic liquids of various sizes (the smallest of which is 19,813 gallons) built after specified dates. The Huntington Facility has several small storage tanks containing diesel, gasoline, hydraulic oil, and used oil. The largest of these tanks is 5,000 gallons in capacity. As such, there are no storage tanks at the Huntington Facility that are subject to requirements under NSPS Subparts K, Ka, or Kb.

2.3.3. NSPS Subparts N and Na - Standards of Performance for Basic Oxygen Process Furnaces

These subparts apply to basic oxygen process steelmaking furnaces constructed or modified after 1973. The steelmaking furnaces at the Huntington Facility are electric arc furnaces that do not meet the definition of basic oxygen process under 40 CFR §60.141. As such, this subpart does not apply.

2.3.4. NSPS Subparts AA and AAa - Standards of Performance for Steel Plants: Electric Arc Furnaces

These subparts apply to electric arc furnaces (EAFs) and dust handling systems. The Melt Shop at the Huntington Facility (containing the existing EAFs and associated baghouses) were constructed prior to October 21, 1974 and have not been modified as defined under 40 CFR 60.3 and thus are not subject to these subparts.

2.3.5. NSPS Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Subpart IIII applies to manufactures, owners and operators of stationary compression ignition (CI) engines constructed, reconstructed, or modified after July 11, 2005. Applicable requirements for individual engines differ depending on the manufacture date, size, and use of the engine. The Huntington Facility operates one (1) compression ignition, diesel-fired emergency generator engine. The engine was installed in 1996 and has not been modified or reconstructed as defined in 40 CFR 60. As such, NSPS Subpart IIII does not apply.

2.3.6. NSPS Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Subpart JJJJ applies to manufacturers, owners and operators of stationary spark ignition (SI) engines constructed, reconstructed, or modified after June 12, 2006. Applicable requirements for individual engines differ depending on the manufacture date, size, and use of the engine. The Huntington Facility operates two (2) natural gas-fired emergency generator engines: (1) a 255-HP engine installed in 2010; and (2) a 268-HP engine installed in 2013. As such, the Huntington Facility is subject to recordkeeping, reporting, maintenance, performance testing, and operation using good air pollution control practices as described in this subpart. Applicable requirements of Subpart JJJJ are detailed in Attachment K.

2.3.7. Non-applicability of Other NSPS

NSPS are developed for particular industrial source categories. Other than NSPS developed for primary metal industries specific to steel manufacturing, the applicability of a particular NSPS to the Huntington Facility can be readily ascertained based on the industrial source category covered. All other NSPS are categorically not applicable to the facility.

2.4. NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

Part 63 National Emission Standards for Hazardous Air Pollutants (NESHAP) allowable emission limits are established on the basis of maximum achievable control technology (MACT) for HAP major sources and generally achievable control technology (GACT) for HAP area sources. A HAP major source is defined as having potential emissions in excess of 25 tpy for total HAPs and/or potential emissions in excess of 10 tpy for any individual HAP. The Huntington Facility has been and continues to be an area source of HAP.

NESHAP apply to sources in specifically regulated industrial source categories (Clean Air Act Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type. In addition to 40 CFR 63 Subpart A (NESHAP Subpart A), which is similar to 40 CFR 63 Subpart A (NSPS Subpart A), several NESHAP could potentially apply to the Huntington Facility. The applicability of these NESHAP subparts is discussed in the following sections.

2.4.1. 40 CFR 63 Subpart ZZZZ - Reciprocating Internal Combustion Engines (RICE MACT)

40 CFR 63, Subpart ZZZZ (commonly referred to as the RICE MACT), applies to existing, new, reconstructed reciprocating internal combustion engines (RICE). The Huntington Facility has an emergency use 97-HP diesel-fired RICE that was installed in 1996. The engine is classified in this rule as an existing emergency use CI RICE located at an area source of HAP. The Huntington Facility is required to comply with the applicable operating limitations and other requirements in this subpart, and to operate and maintain the affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions. The applicable requirements of Subpart ZZZZ are detailed in Attachment J.

2.4.2. 40 CFR 63 Subpart DDDDD - Industrial, Commercial, and Institutional Boilers and Process Heaters

This MACT standard applies to industrial, commercial, or institutional boilers or process heaters as defined in 40 CFR §63.7575 that are located at, or is part of, a major source of HAP. As mentioned above, Huntington Facility is not a major source of HAP. Since the Huntington Facility is an area source of HAP, this Subpart does not apply.

2.4.3. 40 CFR 63 Subpart YYYYYY - Electric Arc Furnace Steelmaking Facilities

This MACT standard applies to Electric Arc Furnace Steelmaking Facilities at area sources of HAP. This NESHAP establishes standards for HAP emissions from EAFs and Argon Oxygen Decarburization (AOD) vessels. The existing EAFs at the Huntington Facility (EU006 and EU007) are subject to the requirements under Subpart YYYYYY. The requirements of Subpart YYYYYY as they apply to Huntington's EAFs were previously incorporated into the Title V permit during the last renewal.

2.4.4. 40 CFR 63 Subpart CCCCCC - Gasoline Dispensing Facilities

This subpart establishes emission limitations and management practices for HAP emitted from the loading of gasoline storage tanks at gasoline dispensing facilities (GDF). The Huntington Facility has a small gasoline storage tank which is used to fuel motor vehicles. The monthly throughput of the tank is less than 10,000 gallons. As such, the facility must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Management practices required by the rule include:

- Minimizing gasoline spills;
- Cleaning up spills as expeditiously as practicable;

- Covering all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use; and
- Minimizing gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

The Huntington Facility has a Spill Prevention, Control, and Countermeasures (SPCC) Plan and associated procedures, equipment, and training that cover these requirements.

2.4.5. 40 CFR 63 Subpart JJJJJJ - Industrial, Commercial, and Institutional Boilers

This MACT standard applies to industrial, commercial, and institutional boilers of various sizes and fuel types at an area source of HAP. The Huntington Facility does not currently operate any boilers. The existing reheat furnaces are classified as natural gas-fired process heaters, which are not regulated under the area source rule. Therefore, the Huntington Facility will not be subject to requirements under Subpart JJJJJJ.

2.5. COMPLIANCE ASSURANCE MONITORING

Under 40 CFR 64, the Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emissions units with the initial or renewal Title V operating permit application. CAM Plans are intended to provide an on-going and reasonable assurance of compliance with emission limits for sources that utilize active control devices. The regulatory requirement for addressing CAM is to do so at the time of the first Title V Operating Permit Renewal. CAM applicability for the Huntington Facility was addressed accordingly during the time of the first Title V permit renewal. The Electric Arc Furnaces at the Huntington Facility (EU006 and EU007) are subject to CAM and as such must comply with the CAM plan established during the last TVOP renewal application process, which is referenced in Section 4.2.4 of the current permit.

2.6. RISK MANAGEMENT PLAN REGULATIONS

Subpart B of 40 CFR 68 outlines requirements for risk management plans pursuant to Section 112(r) of the Clean Air Act. Applicability of the subpart is determined based on the type and quantity of chemicals stored at a facility. SWVA has evaluated the amount of Section 112(r) substances stored at the Huntington Facility and has determined that there are no listed substances stored at quantities greater than the corresponding applicability threshold. Therefore, the facility is not subject to this regulation.

2.7. WEST VIRGINIA SIP REGULATIONS

The Huntington Facility is currently permitted under the regulations contained in West Virginia's Title 45 Legislative Rule Department of Environmental Protection Office of Air Quality (WVDEP regulations). A federal operating permit must be issued by the agency upon determination that the facility can reasonably be expected to comply with the WVDEP regulations and all applicable federal requirements. The Code of State Regulations fall under two main categories, those regulations that are generally applicable (e.g., permitting requirements), and those that have specific applicability (e.g., PM standards for manufacturing equipment). This section of the application highlights specific West Virginia State Implementation Plan (SIP) regulations that apply to the Huntington Facility. The following information has been retrieved directly from the WVDEP Fact Sheet (R30-01100009-2010) and verified through review of the associated regulations.

2.7.1. 45 CSR 2: To Prevent and Control Particulate Air Pollution Control from Combustion of Indirect Heat Exchangers

45 CSR 2 establishes limitations for smoke and particulate matter from fuel burning units. The Continuous Wax Line Heater at the Huntington Facility is subject to an opacity limit under this ruling of no greater than 10 percent on a six-minute block average.

2.7.2. 45 CSR 4: To Prevent and Control the Discharge of Air Pollutants into the Open Air Which Causes or Contributes To an Objectionable Odor or Odors

According to 45 CSR 4-3:

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.

The Huntington Facility is generally subject to this requirement. However, due to the nature of the process at the facility, production of objectionable odor from the Huntington Facility during normal operation is unlikely.

2.7.3. 45 CSR 6: To Prevent and Control Air Pollution from Combustion of Refuse

45 CSR 6 establishes emission standards and requirements for activities involving refuse incineration, as well as the prohibition of open burning. The Huntington Facility is generally subject to this requirement. However, there are no refuse incineration or open burning activities at the facility during normal operation.

2.7.4. 45 CSR 7: To Prevent and Control Particulate Matter Air Pollution from Manufacturing Process and Associated Operations

45 CSR 7 applies to the PM emissions from the manufacturing process. According to the definition of manufacturing processes:

"Manufacturing Process" means any action, operation or treatment, embracing chemical, industrial or manufacturing efforts, and employing, for example, heat treating furnaces, by-product coke plants, core-baking ovens, mixing kettles, cupolas, blast furnaces, open hearth furnaces, heating and reheating furnaces, puddling furnaces, sintering plants, electric steel furnaces, ferrous and non-ferrous foundries, kilns, stills, driers, crushers, grinders, roasters, and equipment used in connection therewith and all other methods or forms of manufacturing or processing that may emit smoke, particulate matter or gaseous matter.

The individual sources at the Huntington Facility that contribute to the manufacturing process are subject to this regulation.

2.7.5. 45 CSR 10: To Prevent and Control Air Pollution from the Emission of Sulfur Oxides

45 CSR 10 establishes allowable sulfur dioxide (SO₂) emission rates. SWVA's Electric Arc Furnaces and Reheat Furnaces are subject to SO₂ emission limitations of 2,000 parts per million by volume (ppmv), as outlined in Subparts 4.1a through 4.1b.

2.7.6. 45 CSR 11: Prevention of Air Pollution Emergency Episodes

45 CSR 11 states:

Any person responsible for the operation of a source of air pollutants not set forth under Section 5.1. of this rule shall, when requested by the Director, prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Table I, II, and III of this rule.

The Huntington Facility is generally subject to this rule and has a standby emission reduction plan prepared accordingly.

2.7.7. 45 CSR 13: Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

45 CSR 13 establishes procedures for obtaining permits and associated actions for the construction, reconstruction, or modification of emission sources. Since the proposed project is for the renewal of a Title V operating permit, this regulation will not apply to this action.

2.7.8. 45 CSR 21: Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds

45 CSR 21 applies to the manufacture, mixing, storage, use, or application of VOC compounds and applies to sources in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The Huntington Facility is located in Cabell County and its paint application, wax application, and cold cleaner processes are subject to the limitations, recordkeeping, and reporting requirements of this regulation.

2.7.9. 45 CSR 29: Rule Requiring the Submission of Emission Statements for Volatile Organic Compound Emissions and Oxides of Nitrogen Emissions

According to 45 CSR 29:

This rule requires the submission of an emission statement from owners and operators of stationary sources emitting volatile organic compounds (VOCs) or oxides of nitrogen (NO_x). Facilities with less than 25 tons per year of plant-wide actual VOC or NO_x emissions are exempt from the requirements of this rule if such sources are included in the Director's base-year and periodic emissions inventories. This rule applies only to stationary sources located in Putnam, Kanawha, Cabell, Wayne, Wood, and Greenbrier Counties.

The Huntington Facility is located in Cabell County and emits greater than 25 tpy of NO_x. As such, the facility must submit an annual emissions statement to the Director.

2.7.10. 45 CSR 30: Requirements for Operating Permits

45 CSR 30 establishes the permitting system for Title V permits. The Huntington Facility is subject to this general requirement due to its status as a major source of emissions under Title V of the Clean Air Act. The facility is subject to the monitoring and recordkeeping requirements outlined in subpart 5.1.c. of this regulation,

2.7.11. 45 CSR 42: Greenhouse Gas Emissions Inventory Program

45 CSR 42, the Greenhouse Gas Emissions Inventory Program, was repealed as of June 1, 2012. Reporting of greenhouse gas emissions now falls under the authority of 40 CFR Part 98: Mandatory Greenhouse Gas Reporting. As such, the Huntington Facility is no longer subject to 45 CSR 42, but is required to comply with the greenhouse gas reporting requirements of 40 CFR 98.

2.7.12. Non-Applicability of Other SIP Rules

A thorough examination of the West Virginia SIP rule applicability to Huntington Facility reveals many SIP regulations that do not apply or impose additional requirements on operations. Such SIP rules include those specific to a particular type of industrial operation that is categorically not applicable to the Huntington Facility.

3. PROPOSED CHANGES TO OPERATING PERMIT

As part of the Title V operating permit renewal application development process, SWVA has reviewed their current operating permit to confirm whether any of the following changes have occurred:

- Removal of equipment no longer in service.
- Addition of equipment not included in the TVOP.
- Applicability of new requirements promulgated since the issuance of the current permit.
- Other miscellaneous administrative changes that affect the permit.

3.1. EQUIPMENT TO BE REMOVED FROM OPERATING PERMIT

In 2013, SWVA replaced the four (4) Ladle Preheater sources listed under EU005 with similar units. These are listed as EU005A in Attachment D. The replacement resulted in a small increase in emissions as the new sources are rated at a slightly higher capacity (5.5 MMBtu/hr each versus 4.0 MMBtu/hr each). The increase in emissions was below the construction permitting thresholds cited in 45 CSR 13 of 6 lbs/hr, 144 lbs/day, and 10 tpy of any regulated air pollutant (or 2 lbs/hr and 5 tpy of HAP). Furthermore, since these are very small natural gas-fired external combustion units, they are not subject to any applicable state or federal emissions standard or rule. As such, the replacement of the ladle preheaters was not subject to pre-construction permitting. Please see requested changes to the Title V operating permit pertaining to this change in Attachment I. No other equipment has been removed from the facility during the term of the permit.

3.2. EQUIPMENT TO BE ADDED TO OPERATING PERMIT AND UPDATES TO EXISTING SOURCES

SWVA has determined that miscellaneous sources with no applicable air quality requirements, not currently identified in the TVOP are currently in service at the Huntington Facility. SWVA requests that these additional miscellaneous sources be added to the new TVOP. It should be noted that this equipment (and fugitive emission sources) has not been recently installed at the facility, but rather was not reflected in the previous permit due to the insignificant nature of such activities. The changes to the facility's miscellaneous sources are detailed in Table 3-1 below and are included in Attachment I.

Table 3-1: Up-to-Date Miscellaneous Emission Sources

Emission Unit ID	Emission Point ID	Emission Unit Description	Design Capacity	Control Device
EU029	F029	Baghouse Dust Handling	NA	---
EU030	F030	Alloy Handling	NA	CE005
EU031	S031	East Cooling Towers (2)	1,800 gpm	---
EU032	S032	Melt Shop Cooling Towers (3)	5,273 gpm	---
EU033	S033	Space Heaters	5 MMBtu/hr	---

3.3. UPDATES TO FACILITY-WIDE PTE

SWVA has updated the site-wide potential emissions calculations to reflect all of the permitted and insignificant/miscellaneous sources at the site, as well as the most up-to-date facility data and published emission factors. One notable change is to the emission factors used for Reheat Furnace #1 (EU014) and Reheat Furnace #2 (EU016). The last Title V renewal application used AP-42 emission factors for external combustion of natural gas (Chapter 1.4). In this application SWVA has calculated potential emissions using AP-42 emission factors for steel reheat furnaces (Chapter 12.5) as these are consistent with the calculation methodology used for annual emissions inventory reports and are believed to be more representative of these sources. The updated PTE calculations included in Attachment M of this application show VOC as non-methane/non-ethane hydrocarbon (NMNEHC) inclusive of formaldehyde (HCHO) to be consistent with the regulatory definition of VOC.

3.4. NEW REQUIREMENT APPLICABILITY

SWVA has confirmed that no new applicable requirements have been promulgated by WVDEP since the last renewal application was submitted to WVDEP.

As previously discussed, SWVA requests that the facility's TVOP be updated to include applicable requirements mandatory for compliance with the Reciprocating Internal Combustion Engine (RICE) NESHAP, or RICE MACT, codified at 40 CFR Part 63, Subpart ZZZZ. SWVA also requests incorporation of the applicable requirements of the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, codified at 40 CFR 60, Subpart JJJJ. The applicable requirements of these subparts as they apply to individual sources at the facility are included in Attachments J and K.

4. POTENTIAL EMISSIONS CALCULATIONS

The characteristics of air emissions from the existing steel manufacturing operations, along with the methodology for calculating emissions, are briefly described in this section of the application. Detailed emission calculations are presented in Appendix J of this application.

- > **Natural Gas Combusting Equipment:** (Includes Cutting Torches, Ladle Preheaters, Continuous Caster, Reheat Furnaces, Paint Oven, Wax Line Heater, Space Heaters, and Natural Gas-Fired Internal Combustion Engines) Potential emissions from units combusting natural gas of all criteria pollutants and HAPs are calculated using U.S. EPA's AP-42 factors for the metallurgical industry and for natural gas combustion.^{2,3}
- > **Fugitive Emission Sources of Particulate Matter:** (Includes Lime Bins and Ladle Refurbishing) Potential emissions from the lime bins and ladle refurbishing operations include particulate matter. Emissions were calculated using engineering estimates of emission factors and U.S. EPA's AP-42 factors for fugitive dust sources.⁴
- > **Baghouses:** Potential emission from the baghouses include all criteria pollutants and HAPs. Emissions for total PM and some HAPs were calculated based on stack testing. Emissions for other criteria pollutants and remaining HAPs were calculated based on AP-42 factors specific to iron and steel production.⁵
- > **Tundish Cleaning and Refurbishing:** Potential emissions for tundish cleaning and refurbishing include all criteria pollutants and HAPs. Emissions for criteria pollutants and HAPs were calculated based on AP-42 factors for natural gas combustion.⁶ PM emissions from refurbishing were calculated using AP-42 factors for fugitive dust sources.⁷
- > **Sources of Particulate Matter:** (Includes Slag Handling and Continuous Caster) Potential emissions from slag handling and the continuous caster includes particulate matter. PM emissions were calculated using AP-42 factors for iron and steel production.⁸
- > **Rolling Mills:** Potential emissions from the rolling mill include particulate matter. Emissions were calculated using site-specific emission factors. For the rolling mill reheat furnaces, emissions were calculated using AP-42 factors from Chapter 12.5.
- > **Paint and Wax Applications:** Potential emissions from paint application includes VOC and HAPs. Potential emissions from wax application includes VOC. Emissions were calculated using emissions factors provided on the Material Safety Data Sheet for the paint and wax.
- > **Shot Blaster:** Potential emissions from the shot blaster includes particulate matter. PM emissions were calculated using site specific emission factors.

² U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 1.4, Natural Gas Combustion, July 1998.

³ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 12.5.1 Iron and Steel Production: Minimills, April 2009.

⁴ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 13.2.4 Introduction to Fugitive Dust Sources: Aggregate Handling and Storage Piles, November 2006.

⁵ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 12.5.1 Iron and Steel Production: Minimills, April 2009.

⁶ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 1.4, Natural Gas Combustion, July 1998.

⁷ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 13.2.4 Introduction to Fugitive Dust Sources: Aggregate Handling and Storage Piles, November 2006.

⁸ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 12.5.1 Iron and Steel Production: Minimills, April 2009.

- > **Welding:** Potential emissions from welding activities include particulate matter and HAPs. Emissions were calculated using AP-42 factors for electric arc welding.⁹
- > **Cold Cleaner:** Potential emissions from cold cleaners include VOC. Emissions were calculated using emission factors provided on the Material Safety Data Sheet for the cleaner.
- > **Roads:** Potential emissions for roadway activity includes particulate matter. PM emissions were calculated using AP-42 emission factors for paved roads.¹⁰
- > **Cooling Towers:** Potential emissions from cooling towers include particulate matter. PM emissions were calculated using AP-42 factors for Wet Cooling Towers.¹¹
- > **Melt Shop Fugitives:** Potential emissions from melt shop fugitives include particulate matter and HAPs. Emissions for particulate matter were calculated using AP-42 factors for Iron and Steel Production and control efficiencies of the canopy hood and melt shop building.¹² Emissions for HAPs were calculated based on monthly average dust analyses.
- > **Alloy Handling:** Potential emissions for alloy handling include particulate matter. Emissions were calculated based on AP-42 factors for Metallic Minerals Processing.¹³
- > **Greenhouse Gases:** Potential emissions of greenhouse gas emissions from the facility have been calculated using the methodology outlined in 40 CFR 98 Subpart C (for combustion sources) and Subpart Q (for steel-making sources).
- > **Insignificant Sources:** Potential emissions from internal combustion engines are insignificant due to the limited operation of these sources (they are all emergency use engines). Similarly, emissions from several small storage tanks are insignificant due to their small size, low vapor pressure, and low volume of throughput.

⁹ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 12.19, Electric Arc Welding, January 1995.

¹⁰ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 13.2.1, Paved Roads, January 2011.

¹¹ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 13.4, Wet Cooling Towers, January 1995.

¹² U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 12.5, Iron and Steel Production, October 1986.

¹³ U.S. EPA, AP-42, Fifth Edition, Volume 1, Chapter 11.24, Metallic Minerals Processing, January 1995.

5. APPLICATION SHIELD

5.1. RENEWAL APPLICATION SHIELD

Permit Condition No. 2.3.3 (from 45 CSR 30) states that a source shall lose its right to operate upon expiration of the current permit unless a timely and complete renewal application has been submitted to WVDEP. Since this Title V renewal application is being submitted at least six (6) months prior to the expiration of the current permit, the facility shall be protected from ceasing operation if the current Title V permit expires before WVDEP issues a renewal permit.

Additionally, Permit Condition No. 2.3.4 notes that if a timely and complete permit renewal application is submitted, but the Department fails to take final action to issue or deny the renewal permit before the end of the term of the previous permit, then the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue to be in effect.

5.2. REQUEST FOR PERMIT SHIELD

Section 504(f) of the Clean Air Act Amendments (CAAA) defines the permit shield provision, whereby the permitting authority is empowered to provide that compliance with a Part 70 permit shall constitute compliance with all other applicable provisions of the Act. A provision may be included in the Title V Operating Permit stating that compliance with the conditions of the permit shall be deemed compliant with all applicable requirements (as of the date of permit issuance) provided that the following conditions are met:

- Such applicable requirements are identified and included in the permit; and
- WVDEP, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes such determinations or concise summaries thereof.

WVDEP has incorporated a permit shield provision in the current Title V permit (Condition No. 2.21). SWVA is requesting through this application that WVDEP continue to include the permit shield provisions in the renewed Title V permit consistent with this regulation. Therefore, in addition to providing a summary of applicable requirements, this application also provides non-applicability determinations for certain regulations to assist WVDEP in determining that identified regulations are not applicable to facility operations. Note that this non-applicability review is limited to those regulations for which there may be some question of applicability specific to the Huntington Facility.

6. WVDEP APPLICATION FORMS

The WVDEP permit application general forms contained in this renewal application include facility-wide and emission source specific forms for the renewal of the Huntington Facility Title V permit.



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

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

www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

Form with 10 numbered sections: 1. Name of Applicant, 2. Facility Name or Location, 3. DAQ Plant ID No., 4. Federal Employer ID No. (FEIN), 5. Permit Application Type, 6. Type of Business Entity, 7. Is the Applicant the..., 8. Number of onsite employees, 9. Governmental Code, 10. Business Confidentiality Claims.

11. Mailing Address		
Street or P.O. Box: P.O. Box 2547		
City: Huntington	State: WV	Zip: 25726-2547
Telephone Number: (304) 696-8200	Fax Number: (304) 529-1479	

12. Facility Location		
Street: 2 nd Avenue & 17 th Street	City: Huntington	County: Cabell
UTM Easting: 375.03 km	UTM Northing: 4,253.77 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
Directions: From Charleston, WV, travel west on I-64 to Exit 15. Turn right onto West US-60 and continue for 5.3 miles. US-60 becomes 3 rd Avenue in Huntington. Turn right onto 17 th Street. SWVA office building is 153 yards on the left.		
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is facility located within a nonattainment area? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, for what air pollutants? Ozone; PM _{2.5}	
Is facility located within 50 miles of another state? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the affected state(s). Ohio Kentucky	
Is facility located within 100 km of a Class I Area ¹ ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the area(s).	
If no, do emissions impact a Class I Area ¹ ? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.		

13. Contact Information		
Responsible Official: John P. O'Connor		Title: Vice President - Administration
Street or P.O. Box: P.O. Box 2547		
City: Huntington	State: WV	Zip: 25726-2547
Telephone Number: (304) 696-8200		Fax Number: (304) 529-1479
E-mail address: joconnor@swvainc.com		
Environmental Contact: Christopher Artrip		Title: Manager, Environmental Health and Safety
Street or P.O. Box: P.O. Box 2547		
City: Huntington	State: WV	Zip: 25726-2547
Telephone Number: (304) 696-8200		Fax Number: (304) 529-1479
E-mail address: cartrip@swvainc.com		
Application Preparer: Christi Wilson		Title: Managing Consultant
Company: Trinity Consultants		
Street or P.O. Box: 4500 Brooktree Rd., Suite 103		
City: Wexford	State: PA	Zip: 15090-
Telephone Number: (724) 935-2611		Fax Number: () -
E-mail address: cwilson@trinityconsultants.com		

14. Facility Description

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

Process	Products	NAICS	SIC
Melting scrap steel	Molten steel	331110	3312
Casting billets	Steel billets	331110	3312
Hot rolling purchased steel	Structural beams, channels, and sections	331221	3312

Provide a general description of operations.

Scrap steel, alloys, and fluxes are melted in an electric arc furnace.
 Molten steel from the electric arc furnace is transferred by ladle to the continuous caster.
 The drawn steel from the continuous caster is made into billets.
 Billets may be sold. Billets may be bought. Billets are reheated and rolled.
 The cold steel may be fabricated into cut-to-length sections, clipped, punched, welded, or given tabbed ends.
 Rust inhibitive coatings may be applied to the cold steel products.

- 15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.
- 16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."
- 17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input type="checkbox"/> Section 111 NSPS	<input checked="" type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqs.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input checked="" type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> CAIR NO _x Annual Trading Program (45CSR39)	<input type="checkbox"/> CAIR NO _x Ozone Season Trading Program (45CSR40)
<input type="checkbox"/> CAIR SO ₂ Trading Program (45CSR41)	

19. Non Applicability Determinations
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</p> <p>Not applicable.</p>
<input type="checkbox"/> Permit Shield

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

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

Permit Shield

20. Facility-Wide Applicable Requirements

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

Open Burning – 45 CSR § 6-3.1; Permit R30-01100009-2010, Condition 3.1.1 and 3.1.2

Asbestos – 40 CFR Part 61; Permit R30-01100009-2010, Condition 3.1.3

Odor – 45 CSR § 4-3.1; Permit R30-01100009-2010, Condition 3.1.4

Standby Plan for Reducing Emisisions – 45 CSR § 11-5.2; Permit R30-01100009-2010, Condition 3.1.5

Emissions Inventory – 45 CSR § 22-5-4.a.14; Permit R30-01100009-2010, Condition 3.1.6

Ozone-Depleting Substances – 40 C.F.R. Part 82, Subpart F; Permit R30-01100009-2010, Condition 3.1.7

Risk Management Plan – 40 C.F.R. Part 68; Permit R30-01100009-2010, Condition 3.1.8

Minimize Emissions of Fugitive PM - 45 CSR § 7-5.1; Permit R30-01100009-2010, Condition 3.1.9

Particulate Matter Control – 45 CSR § 7-5.2; Permit R30-01100009-2010, Condition 3.1.10

Emissions Statement – 45 CSR 29-4.1; Permit R30-01100009-2010, Condition 3.1.11

Permit Shield

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

Monitoring:

Visible Emission Checks – 45 CSR §30-5.1.c.; Permit R30-01100009-2010, Condition 3.2.1.

Testing:

Stack Testing – WV Code § 22-5-4(a)(15) and 45 CSR 13; Permit R30-01100009-2010, Condition 3.3.1.

Recordkeeping:

Monitoring Information – 45 CSR §30-5.1.c.2.A.; Permit R30-01100009-2010, Condition 3.4.1.

Retention of Records – 45 CSR §30-5.1.c.2.B.; Permit R30-01100009-2010; Condition 3.4.2

Odor Complaint Records - 45CSR§30-5.1.c.; Permit R30-01100009-2010; Condition 3.4.3

Reporting:

Submission of Reports to Responsible Official – 45 CSR §30-4.4. and 5.1.c.3.D.; Permit R30-01100009-2010; Condition 3.5.1.

All notices, requests, demands, submissions, and other communications shall be made in writing and delivered to the Department by certified mail – Permit R30-01100009-2010; Condition 3.5.3.

Submission of certified emissions statement and payment of applicable fees – 45 CSR §30-8.; Permit R30-01100009-2010; Condition 3.5.4.

Compliance Certification – 45 CSR §30-5.3.e.; Permit R30-01100009-2010; Condition 3.5.5.

Semi-annual monitoring reports – 45 CSR §30-5.1.c.3.A.; Permit R30-01100009-2010; Condition 3.5.6.

Deviation reporting - 45 CSR §30-4.3.h.1.B.; Permit R30-01100009-2010; Condition 3.5.8.

Compliance with new requirements - [45CSR§30-4.3.h.1.B.]; Permit R30-01100009-2010; Condition 3.5.

Emission Statement Requirements - 45CSR§29-5.; Permit R30-01100009-2010; Condition 3.5.10.

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

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

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

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

Not applicable.

Permit Shield

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

Not applicable.

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

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

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	331.54
Nitrogen Oxides (NO _x)	244.36
Lead (Pb)	0.69
Particulate Matter (PM _{2.5}) ¹	54.37
Particulate Matter (PM ₁₀) ¹	64.12
Total Particulate Matter (TSP)	99.18
Sulfur Dioxide (SO ₂)	35.73
Volatile Organic Compounds (VOC)	72.30
Hazardous Air Pollutants ²	Potential Emissions
2-Methylnaphthalene	2.75E-05
3-Methylchloranthene	2.07E-06
7,12-Dimethylbenz(a)anthracene	1.84E-05
Acenaphthene	2.07E-06
Acenaphthylene	2.07E-06
Anthracene	2.75E-06
Benz(a)anthracene	2.07E-06
Benzene	2.41E-03
Benzo(a)pyrene	1.38E-06
Benzo(b)fluoranthene	2.07E-06
Benzo(g,h,i)perylene	1.38E-06
Benzo(j)fluoranthene	2.07E-06
Chrysene	2.07E-06
Dibenzo(a,h) anthracene	1.38E-06
Dichlorobenzene	1.38E-03
Fluoranthene	3.44E06
Fluorene	3.21E-06

Formaldehyde	8.61E-02
Hexane	2.07
Indo(1,2,3-cd)pyrene	2.07E-06
Napthalene	7.00E-04
Phenanthrene	1.95E-05
Pyrene	5.74E-06
Toluene	3.90E-03
Xylene	0
Propylene	0
1,3-Butadiene	0
Acetaldehyde	0
Acrolein	0
2-Propoxyethanol (Propyl Cellosolve)	4.34
Tetrachloroethylene	1.76E-02
Arsenic Compounds	3.90E-04
Beryllium Compounds	6.38E-05
Cadmium Compounds	2.44E-02
Chromium Compounds	5.25E-02
Cobalt Compounds	2.73E-03
Lead Compounds	6.93E-01
Manganese Compounds	2.05
Mercury Compounds	1.96E-03
Nickel Compounds	1.13E-02
Selenium Compounds	2.75E-05
Regulated Pollutants other than Criteria and HAP	Potential Emissions

Greenhouse Gases (GHGs)	Potential Emissions
Carbon Dioxide (CO ₂)	135,594
Nitrous Oxide (N ₂ O)	0.23
Methane (CH ₄)	2.30
Hydrofluorocarbons (HFCs)	0
Perfluorocarbons (PFCs)	0
Sulfur hexafluoride (SF ₆)	0
CO ₂ equivalent (CO ₂ e)	135,720
¹ PM _{2.5} and PM ₁₀ are components of TSP. ² For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.	

Section 4: Insignificant Activities

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

24. Insignificant Activities (Check all that apply)	
<input type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input checked="" type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input checked="" type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input checked="" type="checkbox"/>	26. Fire suppression systems.
<input checked="" type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input checked="" type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input checked="" type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant

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

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

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

Section 6: Certification of Information

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

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

a. Certification of Truth, Accuracy and Completeness

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

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name: John P. O'Connor

Title: Vice President of Administration

Responsible official's signature:

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

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

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

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

ATTACHMENT A: AREA MAP

ATTACHMENT A: AREA MAP

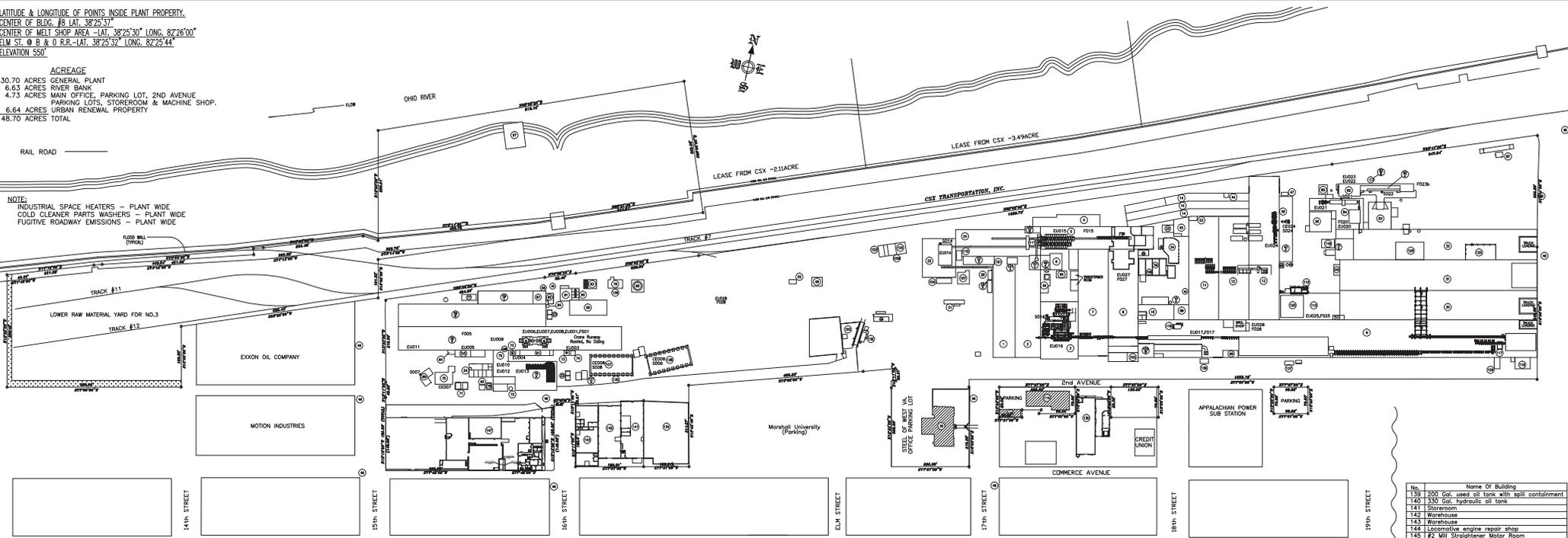


ATTACHMENT B: PLOT PLAN

LATITUDE & LONGITUDE OF POINTS INSIDE PLANT PROPERTY.
 CENTER OF BLDG. #8 LAT. 38°25'30" LONG. 82°26'00"
 CENTER OF MELT SHOP AREA -LAT. 38°25'30" LONG. 82°26'00"
 ELM ST. @ B & O R.R. -LAT. 38°25'32" LONG. 82°25'44"
 ELEVATION 550'

ACREAGE
 30.70 ACRES GENERAL PLANT
 6.63 ACRES RIVER BANK
 4.73 ACRES MAIN OFFICE, PARKING LOT, 2ND AVENUE
 PARKING LOTS, STOREROOM & MACHINE SHOP.
 6.64 ACRES URBAN RENEWAL PROPERTY - PLANT WIDE
 48.70 ACRES TOTAL

NOTE:
 INDUSTRIAL SPACE HEATERS - PLANT WIDE
 COLD CLEANER PARTS WASHERS - PLANT WIDE
 FUGITIVE ROADWAY EMISSIONS - PLANT WIDE



INDEX TO BUILDINGS																																																																																																																																																																																																					
No. 1	Lower Breaker Building	No. 21	Fairbanks R.R. Track Scales	No. 34	Transformers	No. 44	Lock Room	No. 54	Delomite Silo	No. 64	Sub-Station 1000 Kva	No. 74	Continuous Casting Building	No. 84	Argon Tank	No. 94	No. 2 Mill Furnace Reservoir & Cooling Tower	No. 104	Sub-Station	No. 114	No. 1 Mill Pulpit	No. 124	Ferro-Alloy Boshouse - West Fabric Filter	No. 134	3000 Gallon Acid Lube Tank	No. 144	200 Gal. used oil tank with spill containment	No. 154	330 Gal. hydraulic oil tank	No. 164	200 Gal. used oil tank with spill containment	No. 174	330 Gal. hydraulic oil tank	No. 184	200 Gal. used oil tank with spill containment	No. 194	330 Gal. hydraulic oil tank	No. 204	200 Gal. used oil tank with spill containment	No. 214	330 Gal. hydraulic oil tank	No. 224	200 Gal. used oil tank with spill containment	No. 234	330 Gal. hydraulic oil tank	No. 244	200 Gal. used oil tank with spill containment	No. 254	330 Gal. hydraulic oil tank	No. 264	200 Gal. used oil tank with spill containment	No. 274	330 Gal. hydraulic oil tank	No. 284	200 Gal. used oil tank with spill containment	No. 294	330 Gal. hydraulic oil tank	No. 304	200 Gal. used oil tank with spill containment	No. 314	330 Gal. hydraulic oil tank	No. 324	200 Gal. used oil tank with spill containment	No. 334	330 Gal. hydraulic oil tank	No. 344	200 Gal. used oil tank with spill containment	No. 354	330 Gal. hydraulic oil tank	No. 364	200 Gal. used oil tank with spill containment	No. 374	330 Gal. hydraulic oil tank	No. 384	200 Gal. used oil tank with spill containment	No. 394	330 Gal. hydraulic oil tank	No. 404	200 Gal. used oil tank with spill containment	No. 414	330 Gal. hydraulic oil tank	No. 424	200 Gal. used oil tank with spill containment	No. 434	330 Gal. hydraulic oil tank	No. 444	200 Gal. used oil tank with spill containment	No. 454	330 Gal. hydraulic oil tank	No. 464	200 Gal. used oil tank with spill containment	No. 474	330 Gal. hydraulic oil tank	No. 484	200 Gal. used oil tank with spill containment	No. 494	330 Gal. hydraulic oil tank	No. 504	200 Gal. used oil tank with spill containment	No. 514	330 Gal. hydraulic oil tank	No. 524	200 Gal. used oil tank with spill containment	No. 534	330 Gal. hydraulic oil tank	No. 544	200 Gal. used oil tank with spill containment	No. 554	330 Gal. hydraulic oil tank	No. 564	200 Gal. used oil tank with spill containment	No. 574	330 Gal. hydraulic oil tank	No. 584	200 Gal. used oil tank with spill containment	No. 594	330 Gal. hydraulic oil tank	No. 604	200 Gal. used oil tank with spill containment	No. 614	330 Gal. hydraulic oil tank	No. 624	200 Gal. used oil tank with spill containment	No. 634	330 Gal. hydraulic oil tank	No. 644	200 Gal. used oil tank with spill containment	No. 654	330 Gal. hydraulic oil tank	No. 664	200 Gal. used oil tank with spill containment	No. 674	330 Gal. hydraulic oil tank	No. 684	200 Gal. used oil tank with spill containment	No. 694	330 Gal. hydraulic oil tank	No. 704	200 Gal. used oil tank with spill containment	No. 714	330 Gal. hydraulic oil tank	No. 724	200 Gal. used oil tank with spill containment	No. 734	330 Gal. hydraulic oil tank	No. 744	200 Gal. used oil tank with spill containment	No. 754	330 Gal. hydraulic oil tank	No. 764	200 Gal. used oil tank with spill containment	No. 774	330 Gal. hydraulic oil tank	No. 784	200 Gal. used oil tank with spill containment	No. 794	330 Gal. hydraulic oil tank	No. 804	200 Gal. used oil tank with spill containment	No. 814	330 Gal. hydraulic oil tank	No. 824	200 Gal. used oil tank with spill containment	No. 834	330 Gal. hydraulic oil tank	No. 844	200 Gal. used oil tank with spill containment	No. 854	330 Gal. hydraulic oil tank	No. 864	200 Gal. used oil tank with spill containment	No. 874	330 Gal. hydraulic oil tank	No. 884	200 Gal. used oil tank with spill containment	No. 894	330 Gal. hydraulic oil tank	No. 904	200 Gal. used oil tank with spill containment	No. 914	330 Gal. hydraulic oil tank	No. 924	200 Gal. used oil tank with spill containment	No. 934	330 Gal. hydraulic oil tank	No. 944	200 Gal. used oil tank with spill containment	No. 954	330 Gal. hydraulic oil tank	No. 964	200 Gal. used oil tank with spill containment	No. 974	330 Gal. hydraulic oil tank	No. 984	200 Gal. used oil tank with spill containment	No. 994	330 Gal. hydraulic oil tank

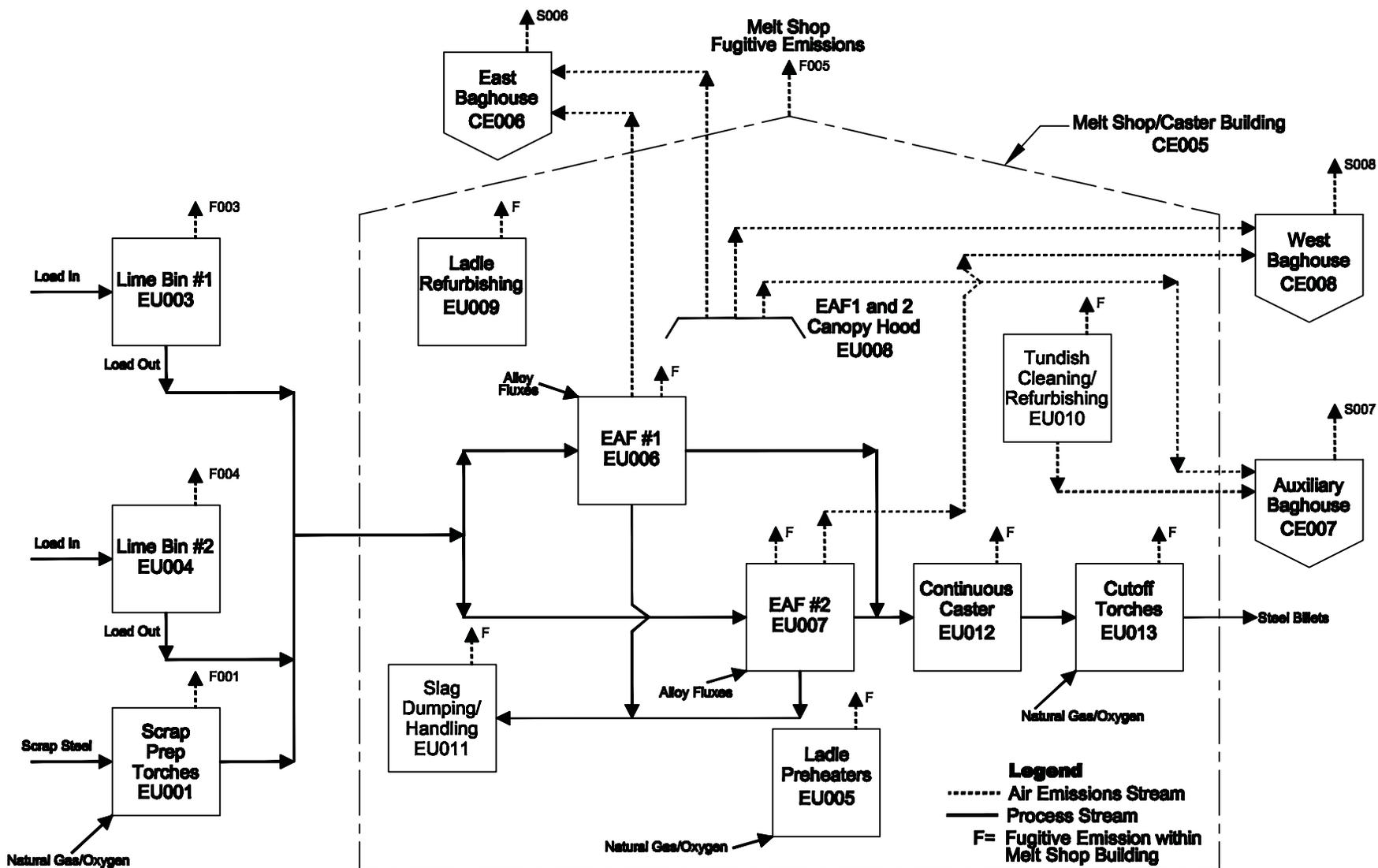
REVISION				REVISION				REVISION				REVISION				REVISION							
NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY																
1				1				1				1				1				1			

STEEL OF WEST VIRGINIA HUNTINGTON, W.VA. 1"=100' SCALE: 100 50 0 100 Scale in Feet. EQUIPMENT NO. M21-00. DATE 11-13-2004. DRAWING NO. J-13 TITLE V PERMIT



CADSERVERPROJECTS04-3079-00_2004041118_03P04EPLAN_V04

ATTACHMENT C: PROCESS FLOW DIAGRAMS



2	REV. PER PENDING CHANGES	REH	7/24/09
1	GEN. REV.	REH	7/23/09
No.	Revisions	By	Date

STEEL OF WEST VIRGINIA
 HUNTINGTON, WEST VIRGINIA

DEPT. MELT SHOP

EQUIP. PROCESS FLOW DIAGRAM

DETAIL <u>FUTURE-EFFECTIVE FALL '10</u>	
SCALE <u>NTS</u>	EQUIPMENT No.
DATE <u>4/2/01</u>	<u>3A-246</u>
DRAWN BY <u>CAJ</u>	
APPROVED BY	

ATTACHMENT D: TITLE V EQUIPMENT TABLE

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

Emission Point ID ¹	Control Device ¹	Emission Unit ID ¹	Emission Unit Description	Design Capacity	Year Installed/Modified
F001	---	EU001	Scrap Preparation Torches (Insignificant Emission Unit [IEU])	0.5 MMBtu/hr	1952
S008, F003	CE008	EU003	Lime Bin #1 Load-in; H. K. Porter	0.83 tons/hr	1970
S007, F004	CE007	EU004	Lime Bin #2 Load-in; H. K. Porter	0.83 tons/hr	1970
F005	CE005	EU005	Ladle Preheaters; SWVA, Inc. (4)	4 MMBtu/hr each	1983
F005A	CE005	EU005A	Ladle Preheaters; Eclipse	5.5 MMBtu/hr each	2013
S008, F005	CE008	EU006	Electric Arc Furnace #1; Lectramelt	20 tons/hr	1979
S007, F005	CE007	EU007	Electric Arc Furnace #2; Lectramelt	20 tons/hr	1979
S008, S006	CE006, CE008	EU008	EAF Canopy Hood	40 tons/hr	1989
F005	CE005	EU009	Ladle Refurbishing (IEU)	0.105 tons/hr	1950
S007, F005	CE007	EU010	Tundish Cleaning/Refurbishing (IEU)	0.02 tons/hr	1975
F005	CE005	EU011	Slag Handling	40 tons/hr	1950
F005	CE005	EU012	Continuous Caster; Concast	40 tons/hr	1975
F005	CE005	EU013	Caster Cutoff Torches	40 tons/hr	1975
S014	---	EU014	Reheat Furnace #1; Brickmont	96 MMBtu/hr	1984
F015	CE015	EU015	Hot Rolling Mill #1	40 tons/hr	1985
S016	---	EU016	Reheat Furnace #2; Brickmont	130 MMBtu/hr	1997
F017	CE017	EU017	Hot Rolling Mill #2	32 tons/hr	1994
F020	---	EU020	Paint Application	20 gal/hr	1997
S021	---	EU021	Paint Drying Oven (IEU)	4 MMBtu/hr	1997
S022	---	EU022	Continuous Wax Line Heater	4 MMBtu/hr	1997
F023a, b	---	EU023	Wax Application	33 gal/hr	1997
S024	CE024	EU024	Shot Blaster	2.4 tons/hr	1986
F025	---	EU025	Welding	10 tons/hr	1986
F026	---	EU026	Cold Cleaner	0.3 gal/hr	1975
F027	---	EU027	Scrap Cutup Torches (IEU)	2.6 MMBtu/hr	1952
F028	---	EU028	Plant Roads	3.2 miles	1952
F029	---	EU029	Baghouse Dust Handling	NA	1989
F030	---	EU030	Alloy Handling	NA	1979

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

Emission Point ID ¹	Control Device ¹	Emission Unit ID ¹	Emission Unit Description	Design Capacity	Year Installed/Modified
S031	---	EU031	East Cooling Towers	1,800 gpm	2000
S032	---	EU032	Melt Shop Cooling Towers	5,273 gpm	1999
S033	---	EU033	Space Heaters (Natural Gas fired)	5 MMBtu/hr	1982

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

ATTACHMENT E: EMISSION UNIT FORM

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU001	Emission unit name: Scrap Preparation Torches	List any control devices associated with this emission unit:
--	---	---

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Fugitive emissions associated with cutting torches, used to size scrap metal prior to furnace charging. Natural gas flame torches are used on an in-frequent basis (scrap dealers bring scrap into the plant in manageable sizes) at two locations near the Melt Shop.
 Natural gas is used to keep the torch lit and to heat the metal. Once the metal is hot, predominantly oxygen is used during cutting.

Manufacturer: SWVA	Model number: Various	Serial number:
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Construction date: 06/01/1952	Installation date: 06/01/1952	Modification date(s): 06/01/1952
---	---	--

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

Maximum Hourly Throughput: 0.5 Mscf/hr	Maximum Annual Throughput: 4.592 MMscf/yr	Maximum Operating Schedule: 8760 hr/yr
--	---	--

Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: 0.5 MMBtu/hr	Type and Btu/hr rating of burners:
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 Primary fuel type is natural gas.
 Maximum hourly fuel usage: 0.5 Mscf/hy
 Maximum annual fuel usage: 4.592 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	15 ppmv	Unknown	1020 BTU/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.04	0.19
Nitrogen Oxides (NO _x)	0.05	0.23
Lead (Pb)	2.6E-07	1.1E-06
Particulate Matter (PM _{2.5})	0.14	0.62
Particulate Matter (PM ₁₀)	0.14	0.62
Total Particulate Matter (TSP)	0.14	0.62
Sulfur Dioxide (SO ₂)	0.00	0.00
Volatile Organic Compounds (VOC)	0.00	0.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	1.3E-08	5.5E-08
3-Methychloranthrene	9.4E-10	4.1E-09
7,12-Dimethylbenz(a)anthracene	8.4E-09	3.7E-08
Acenaphthene	9.4E-10	4.1E-09
Acenaphthylene	9.4E-10	4.1E-09
Anthracene	1.3E-09	5.5E-09
Benz(a)anthracene	9.4E-10	4.1E-09
Benzene	1.1E-06	4.8E-06
Benzo(a)pyrene	6.3E-10	2.8E-09
Benzo(b)fluoranthene	9.4E-10	4.1E-09
Benzo(g,h,i)perylene	6.3E-10	2.8E-09
Benzo(k)fluoranthene	9.4E-10	4.1E-09
Chrysene	9.4E-10	4.1E-09
Dibenzo(a,h) anthracene	6.3E-10	2.8E-09
Dichlorobenzene	6.3E-07	2.8E-06
Fluoranthene	1.6E-09	6.9E-09
Fluorene	1.5E-09	6.4E-09
Hexane	9.4E-04	4.1E-03
Indo(1,2,3-cd)pyrene	9.4E-10	4.1E-09
Naphthalene	3.2E-07	1.4E-06
Phenanthrene	8.9E-09	3.9E-08

Pyrene	2.6E-09	1.1E-08
Toluene	1.8E-06	7.8E-06
Arsenic	1.0E-07	4.6E-07
Beryllium	6.3E-09	2.8E-08
Cadmium	5.8E-07	2.5E-06
Chromium	7.3E-07	3.2E-06
Cobalt	4.4E-08	1.9E-07
Manganese	2.0E-07	8.7E-07
Mercury	1.4E-07	6.0E-07
Nickel	1.1E-06	4.8E-06
Selenium	1.3E-08	5.5E-08
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>AP-42, Table 12.5.1-1 (04/09), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98).</p>		

Applicable Requirements

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

NA

Permit Shield

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

NA

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU003	Emission unit name: Lime Bin #1	List any control devices associated with this emission unit: CE008 West Baghouse
--	---	--

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Storage silo for lime used in the EAFs. Emissions during filling are exhausted to the West Baghouse. Fugitive emissions during unloading may be generated.
 0.83 tons per hour may be moved in or out of the silo.

Manufacturer: H. K. Porter	Model number:	Serial number:
--------------------------------------	----------------------	-----------------------

Construction date: 06/01/1970	Installation date: 06/01/1970	Modification date(s): 06/01/1970
---	---	--

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

Maximum Hourly Throughput: 0.83 tons/hr	Maximum Annual Throughput: 7292 tons/yr	Maximum Operating Schedule: 8760 hr/yr
---	---	--

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.01	0.03
Particulate Matter (PM ₁₀)	0.02	0.06
Total Particulate Matter (TSP)	0.02	0.10
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM emission factors based on engineering estimates.
Fugitive PM emission factors based on AP-42, Section 13.2.4 (11/06).

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

No Visible Emissions - [45CSR§7-3.7. (EU003 and EU004)]; Title V Permit Condition 4.1.2.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

NA

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU004	Emission unit name: Lime Bin #2	List any control devices associated with this emission unit: CE007 Wheelabrator (Auxiliary) Baghouse
--	---	---

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Storage silo for lime used in the EAFs. Emissions during filling are exhausted to the Wheelabrator (Auxiliary) Baghouse. Fugitive emissions during unloading may be generated.
 0.83 tons per hour may be moved in or out of the silo.

Manufacturer: H. K. Porter	Model number:	Serial number:
--------------------------------------	----------------------	-----------------------

Construction date: 06/01/1970	Installation date: 06/01/1970	Modification date(s): 06/01/1970
---	---	--

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

Maximum Hourly Throughput: 0.83 tons/hr	Maximum Annual Throughput: 7292 tons/yr	Maximum Operating Schedule: 8760 hr/yr
---	---	--

Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.01	0.03
Particulate Matter (PM ₁₀)	0.02	0.06
Total Particulate Matter (TSP)	0.02	0.10
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

PM emission factors based on engineering estimates.
Fugitive PM emission factors based on AP-42, Section 13.2.4 (11/06).

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

No Visible Emissions - [45CSR§7-3.7.]; Title V Permit Condition 4.1.2.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

NA

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU005A	Emission unit name: Ladle preheaters	List any control devices associated with this emission unit: CE005 Melt Shop / Caster Building
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 There are four ladle preheater stations which use direct-fired natural gas flame to preheat ladle before molten steel is poured from the EAFs into the ladle. All four ladle preheaters were replaced in 2013. Each ladle preheater station is rated at 5.5 MMBtu/hr. Natural gas combustion produces fugitive emissions. The Melt Shop/Caster Building captures 100% and control 70% of the particulate emissions.

Manufacturer: Eclipse	Model number: TJ0500	Serial number:
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Construction date: 2013	Installation date: 2013	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 5.5 MMBtu/hr for each of the four stations

Maximum Hourly Throughput: 5.5 Mscf/hr (each)	Maximum Annual Throughput: 48.18 Mscf/yr (each)	Maximum Operating Schedule: 8760 hr/yr
--	--	--

Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: 5.5 MMBtu/hr for each of the four stations	Type and Btu/hr rating of burners: 5.5 MMBtu/hr (each)
--	---

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

Primary fuel is natural gas.
 Maximum hourly fuel usage: **5.5 Mscf/hr (each)**
 Maximum annual fuel usage: **48.18 Mscf/yr (each)**

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	15 ppmv	Unknown	1020 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	1.34	5.88
Nitrogen Oxides (NO _x)	1.60	7.00
Lead (Pb)	8.0E-06	3.50E-05
Particulate Matter (PM _{2.5})	0.12	0.53
Particulate Matter (PM ₁₀)	0.12	0.53
Total Particulate Matter (TSP)	0.12	0.53
Sulfur Dioxide (SO ₂)	0.01	0.04
Volatile Organic Compounds (VOC)	0.09	0.39
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	3.8E-07	1.68E-06
3-Methylchloranthrene	2.9E-08	1.26E-07
7,12-Dimethylbenz(a)anthracene	2.6E-07	1.12E-06
Acenaphthene	2.9E-08	1.26E-07
Acenaphthylene	2.9E-08	1.26E-07
Anthracene	3.8E-08	1.68E-07
Benz(a)anthracene	2.9E-08	1.26E-07
Benzene	3.4E-05	1.47E-04
Benzo(a)pyrene	1.9E-08	8.40E-08
Benzo(b)fluoranthene	2.9E-08	1.26E-07
Benzo(g,h,i)perylene	1.9E-08	8.40E-08
Benzo(k)fluoranthene	2.9E-08	1.26E-07
Chrysene	2.9E-08	1.26E-07
Dibenzo(a,h) anthracene	1.9E-08	8.40E-08
Dichlorobenzene	1.9E-05	8.40E-05
Fluoranthene	4.8E-08	2.10E-07
Fluorene	4.5E-08	1.96E-07
Hexane	2.9E-02	1.26E-01
Indo(1,2,3-cd)pyrene	2.9E-08	1.26E-07
Naphthalene	9.7E-06	4.27E-05
Phenanthrene	2.7E-07	1.19E-06
Pyrene	8.0E-08	3.50E-07
Toluene	5.4E-05	2.38E-04

Arsenic	3.2E-06	1.40E-05
Beryllium	1.9E-07	8.40E-07
Cadmium	1.8E-05	7.70E-05
Chromium	2.2E-05	9.80E-05
Cobalt	1.3E-06	5.88E-06
Manganese	6.1E-06	2.66E-05
Mercury	4.2E-06	1.82E-05
Nickel	3.4E-05	1.47E-04
Selenium	3.8E-07	1.68E-06
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>AP-42, Tables 1.4-1, 1.4-2, 1.4-3., and 1.4-4 (07/98).</p>		

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

Maximum Allowable PM Emission Limit (lb/hr): 29.4 - [45CSR§7-4.1.]; Title V Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Title V Permit Condition 4.1.6.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU006	Emission unit name: Electric Arc Furnace #1	List any control devices associated with this emission unit: Primary – CE008 Secondary – CE005, CE006, CE008
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 EAF #1 produces molten steel by melting scrap steel, alloys and flux materials. Emissions are primarily controlled by a side-draft hood and baghouse (CE008). Any fugitive emissions are captured by the Melt Shop/Caster Building (CE005) and may be controlled by the Canopy Hood (EU008), which employs 2 baghouses (CE006 and CE008). Potential emissions include both stack (S008 and S006) and fugitive (F005).

Manufacturer: Lectramelt	Model number: 1952-80	Serial number:
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Construction date: 06/01/1952	Installation date: 06/01/1952	Modification date(s): 06/01/1952
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 20 tons/hr

Maximum Hourly Throughput: 20 tons/hr	Maximum Annual Throughput: 175,200 tons/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

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

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

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

The furnace derives its heat from electricity (no fuel combustion).

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	36.00	157.68
Nitrogen Oxides (NO _x)	4.40	19.27
Lead (Pb)	3.78E-02	1.66E-01
Particulate Matter (PM _{2.5})	2.08	9.09
Particulate Matter (PM ₁₀)	2.11	9.24
Total Particulate Matter (TSP)	2.53	11.08
Sulfur Dioxide (SO ₂)	4.00	17.52
Volatile Organic Compounds (VOC)	0.46	2.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Arsenic	8.75E-06	3.83E-05
Beryllium	5.60E-06	2.45E-05
Cadmium	1.26E-03	5.53E-03
Chromium	2.64E-03	1.16E-02
Fluoride Compounds	1.18E+00	5.17E+00
Manganese	3.78E-02	1.66E-01
Mercury	9.10E-05	3.99E-04
Nickel	6.61E-02	2.89E-01
Zinc	3.44E-04	1.51E-03
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Filterable PM emission factors based on stack testing. PM₁₀ is assumed to be 76% of total PM – AP-42 Table 12.5-2 (01/95) PM_{2.5} is assumed to be 74% of total PM – AP-42 Table 12.5-2 (01/95) Condensable PM – AP-42 Section 12.5, Table 12.5.1-2 (04/09) NO_x – AP-42 Section 12.5, Table 12.5.1-4 (04/09) VOC – AP-42 Section 12.5, Table 12.5.1-8 (04/09) SO₂ – AP-42 Section 12.5, Table 12.5.1-6 (04/09) CO – AP-42 Section 12.5, Table 12.5.1-5 (04/09) As, Ca, Cr, Pb, Mn, Hg, Ni, Zn from baghouse dust analysis. Be, F – AP-42 Table 12.5.1-9 (04/09)</p>		

Applicable Requirements

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

Maximum Allowable PM Emission (lb/hr): 28.0 - [45CSR§7-4.1.]; Title V Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Title V Permit Condition 4.1.6.

Emissions of Hazardous Material - [45CSR§7-4.13. (*EU006 and EU007*)]; Title V Permit Condition 4.1.7.

Sulfur Dioxide Emission Limit 2,000 parts per million by volume - [45CSR§10-4.1. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.1.8.

Requirements for control of contaminated scrap - [40 CFR § 63.10685(a) and (b); and 45CSR34]; Title V Permit Condition 4.1.10

Control requirements for electric arc furnaces:

-PM emission limit 0.0052 gr/dscf

-6% opacity limit

[40 CFR § 63.10686(a) and (b); and 45CSR34 and 45CSR§7-3.1. (*EU006 and EU007*)]; Title V Permit Condition 4.1.11.

Weekly visible emission checks of baghouse emissions - [45CSR§30-5.1.c., 40 CFR §63.10686(e), and 40 CFR § 64.3(a)(1) and (2) (*CE006, CE007, and CE008*)]; Title V Permit Condition 4.2.1.

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.2.2.

Compliance with Section 4.1.7. of this permit by minimizing HAP emissions from the Electric Arc Furnaces by operating and maintaining equipment in accordance with good plant operating procedures. [45CSR§30-5.1.c. (*EU006 and EU007*)]; Title V Permit Condition 4.2.3.

Monitoring and Recordkeeping of capture system and PM control device – [40 CFR part 63, subpart YYYYY, 40 CFR part 64, 40 CFR § 63.10686(e) (*EU006 and EU007*)]; Title V Permit Condition 4.2.4.

Maintain baghouse fan amperage between 185 and 205 amps ±15% for CE006 and CE008; and 60 to 65 amps ± 15% for CE007 - [45CSR§30-5.1.c., 40 CFR §63.10686(e), 40 CFR § 64.3(a)(1) and (2) (*CE006, CEU007, and CE008*)]; Title V Permit Condition 4.2.5.

Emissions test data to be collected during continuous operation - [45CSR§30-5.1.c., 40 CFR § 64.7(c) (*CE006, CEU007, and CE008*)]; Title V Permit Condition 4.2.6.

Response to excursions or exceedance - [45CSR§30-5.1.c., 40 CFR § 64.7(d) (*CE006, CEU007, and CE008*)]; Title V Permit Condition 4.2.7.

Documentation of need for improved monitoring - [45CSR§30-5.1.c., 40 CFR § 64.7(e) (*CE006, CEU007, and CE008*)]; Title V Permit Condition 4.2.8.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Initial compliance demonstration - [40 CFR § 63.10686(b) and 45CSR34 (*EU006 and EU007*)]; Title V Permit

Condition 4.3.3.

Recordkeeping of required monitoring data for a minimum of 5 years - [45CSR§10-8.3.a. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.4.1.

Daily recordkeeping of the time and duration of each charge; and the time and duration of each tap - [45CSR§30-5.1.c.]; Title V Permit Condition 4.4.3.

Recordkeeping and Reporting Requirements - [40 CFR § 63.10685(c)(1) and (2) and 45CSR34]; Title V Permit Condition 4.4.4.

Submission of exception report - [45CSR§10-8.3.b. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.5.1.

Semiannual compliance reports to the Administrator for the control of contaminants from scrap - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Permit Shield

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

Monitoring:

Weekly visible emission checks of baghouse emissions - [45CSR§30-5.1.c., 40 CFR §63.10686(e), and 40 CFR § 64.3(a)(1) and (2) (*CE006, CE007, and CE008*)]; Title V Permit Condition 4.2.1.

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.2.2.

Monitoring and Recordkeeping of capture system and PM control device – [40 CFR part 63, subpart YYYYYY, 40 CFR part 64, 40 CFR § 63.10686(e) (*EU006 and EU007*)]; Title V Permit Condition 4.2.4.

Testing:

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.2.2.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Initial compliance demonstration - [40 CFR § 63.10686(b) and 45CSR34 (*EU006 and EU007*)]; Title V Permit Condition 4.3.3

Recordkeeping:

Monitoring and Recordkeeping of capture system and PM control device – [40 CFR part 63, subpart YYYYYY, 40 CFR part 64, 40 CFR § 63.10686(e) (*EU006 and EU007*)]; Title V Permit Condition 4.2.4.

Recordkeeping of required monitoring data for a minimum of 5 years - [45CSR§10-8.3.a. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.4.1.

Daily recordkeeping of the time and duration of each charge; and the time and duration of each tap - [45CSR§30-5.1.c.]; Permit Condition 4.4.3

Recordkeeping and Reporting Requirements - [40 CFR § 63.10685(c)(1) and (2) and 45CSR34]; Permit Condition 4.4.4

Reporting:

Submission of exception report - [45CSR§10-8.3.b. (*EU006, EU007, EU014, EU016*)]; Permit Condition 4.5.1.

Semiannual compliance reports to the Administrator for the control of contaminants from scrap - [40 CFR § 63.10685(c)(3) and 45CSR34]; Permit Condition 4.5.2.

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU007	Emission unit name: Electric Arc Furnace #2	List any control devices associated with this emission unit: Primary – CE007 Secondary – CE005, CE006, CE008
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 EAF #2 produces molten steel by melting scrap steel, alloys and flux materials. Emissions are primarily controlled by a side-draft hood and baghouse (CE007). Any fugitive emissions are captured by the Melt Shop/Caster Building (CE005) and may be controlled by the Canopy Hood (EU008), which employs 2 baghouses (CE006 and CE008). Potential emissions include both stack (S007, S006, S008) and fugitive (F005).

Manufacturer: Lectramelt	Model number: 1964-80	Serial number:
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Construction date: 06/01/1964	Installation date: 06/01/1964	Modification date(s): 06/01/1979
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 20 tons/hr

Maximum Hourly Throughput: 20 tons/hr	Maximum Annual Throughput: 175,200 tons/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

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

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

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

The furnace derives its heat from electricity (no fuel combustion).

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	36.00	157.68
Nitrogen Oxides (NO _x)	4.40	19.27
Lead (Pb)	2.25E-02	9.85E-02
Particulate Matter (PM _{2.5})	1.55	6.79
Particulate Matter (PM ₁₀)	1.57	6.88
Total Particulate Matter (TSP)	1.82	7.97
Sulfur Dioxide (SO ₂)	4.00	17.52
Volatile Organic Compounds (VOC)	0.46	2.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Arsenic	5.20E-06	2.28E-05
Beryllium	5.60E-06	2.45E-05
Cadmium	7.50E-04	3.28E-03
Chromium	1.57E-03	6.87E-03
Fluoride Compounds	1.18E+00	5.17E+00
Manganese	3.93E-02	1.72E-01
Mercury	3.93E-02	1.72E-01
Nickel	2.05E-04	8.97E-04
Zinc	2.96E-01	1.29E+00
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). Filterable PM emission factors based on stack testing. PM₁₀ is assumed to be 76% of total PM – AP-42 Table 12.5-2 (01/95) PM_{2.5} is assumed to be 74% of total PM – AP-42 Table 12.5-2 (01/95) Condensable PM – AP-42 Section 12.5, Table 12.5.1-2 (04/09) NO_x – AP-42 Section 12.5, Table 12.5.1-4 (04/09) VOC – AP-42 Section 12.5, Table 12.5.1-8 (04/09) SO₂ – AP-42 Section 12.5, Table 12.5.1-6 (04/09) CO – AP-42 Section 12.5, Table 12.5.1-5 (04/09) As, Ca, Cr, Pb, Mn, Hg, Ni, Zn from baghouse dust analysis. Be, F – AP-42 Table 12.5.1-9 (04/09)</p>		

Applicable Requirements

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

Maximum Allowable PM Emission (lb/hr): 28.0 - [45CSR§7-4.1.]; Title V Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Title V Permit Condition 4.1.6.

Emissions of Hazardous Material - [45CSR§7-4.13. (*EU006 and EU007*)]; Title V Permit Condition 4.1.7.

Sulfur Dioxide Emission Limit 2,000 parts per million by volume - [45CSR§10-4.1. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.1.8.

Requirements for control of contaminated scrap - [40 CFR § 63.10685(a) and (b); and 45CSR34]; Title V Permit Condition 4.1.10

Control requirements for electric arc furnaces:

-PM emission limit 0.0052 gr/dscf

-6% opacity limit

[40 CFR § 63.10686(a) and (b); and 45CSR34 and 45CSR§7-3.1. (*EU006 and EU007*)]; Title V Permit Condition 4.1.11.

Weekly visible emission checks of baghouse emissions - [45CSR§30-5.1.c., 40 CFR §63.10686(e), and 40 CFR § 64.3(a)(1) and (2) (*CE006, CE007, and CE008*)]; Title V Permit Condition 4.2.1.

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.2.2.

Compliance with Section 4.1.7. of this permit by minimizing HAP emissions from the Electric Arc Furnaces by operating and maintaining equipment in accordance with good plant operating procedures. [45CSR§30-5.1.c. (*EU006 and EU007*)]; Title V Permit Condition 4.2.3.

Monitoring and Recordkeeping of capture system and PM control device – [40 CFR part 63, subpart YYYYY, 40 CFR part 64, 40 CFR § 63.10686(e) (*EU006 and EU007*)]; Title V Permit Condition 4.2.4.

Maintain baghouse fan amperage between 185 and 205 amps ±15% for CE006 and CE008; and 60 to 65 amps ± 15% for CE007 - [45CSR§30-5.1.c., 40 CFR §63.10686(e), 40 CFR § 64.3(a)(1) and (2) (*CE006, CEU007, and CE008*)]; Title V Permit Condition 4.2.5.

Emissions test data to be collected during continuous operation - [45CSR§30-5.1.c., 40 CFR § 64.7(c) (*CE006, CEU007, and CE008*)]; Title V Permit Condition 4.2.6.

Response to excursions or exceedance - [45CSR§30-5.1.c., 40 CFR § 64.7(d) (*CE006, CEU007, and CE008*)]; Title V Permit Condition 4.2.7.

Documentation of need for improved monitoring - [45CSR§30-5.1.c., 40 CFR § 64.7(e) (*CE006, CEU007, and CE008*)]; Title V Permit Condition 4.2.8.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Initial compliance demonstration - [40 CFR § 63.10686(b) and 45CSR34 (*EU006 and EU007*)]; Title V Permit Condition 4.3.3.

Recordkeeping of required monitoring data for a minimum of 5 years - [45CSR§10-8.3.a. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.4.1.

Daily recordkeeping of the time and duration of each charge; and the time and duration of each tap - [45CSR§30-5.1.c.]; Title V Permit Condition 4.4.3.

Recordkeeping and Reporting Requirements - [40 CFR § 63.10685(c)(1) and (2) and 45CSR34]; Title V Permit Condition 4.4.4.

Submission of exception report - [45CSR§10-8.3.b. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.5.1.

Semiannual compliance reports to the Administrator for the control of contaminants from scrap - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Permit Shield

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

Monitoring:

Weekly visible emission checks of baghouse emissions - [45CSR§30-5.1.c., 40 CFR §63.10686(e), and 40 CFR § 64.3(a)(1) and (2) (*CE006, CE007, and CE008*)]; Title V Permit Condition 4.2.1.

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.2.2.

Monitoring and Recordkeeping of capture system and PM control device – [40 CFR part 63, subpart YYYYYY, 40 CFR part 64, 40 CFR § 63.10686(e) (*EU006 and EU007*)]; Title V Permit Condition 4.2.4.

Testing:

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.2.2.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Initial compliance demonstration - [40 CFR § 63.10686(b) and 45CSR34 (*EU006 and EU007*)]; Title V Permit Condition 4.3.3

Recordkeeping:

Monitoring and Recordkeeping of capture system and PM control device – [40 CFR part 63, subpart YYYYYY, 40 CFR part 64, 40 CFR § 63.10686(e) (*EU006 and EU007*)]; Title V Permit Condition 4.2.4.

Recordkeeping of required monitoring data for a minimum of 5 years - [45CSR§10-8.3.a. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.4.1.

Daily recordkeeping of the time and duration of each charge; and the time and duration of each tap - [45CSR§30-5.1.c.]; Permit Condition 4.4.3

Recordkeeping and Reporting Requirements - [40 CFR § 63.10685(c)(1) and (2) and 45CSR34]; Permit Condition 4.4.4

Reporting:

Submission of exception report - [45CSR§10-8.3.b. (*EU006, EU007, EU014, EU016*)]; Permit Condition 4.5.1.

Semiannual compliance reports to the Administrator for the control of contaminants from scrap - [40 CFR § 63.10685(c)(3) and 45CSR34]; Permit Condition 4.5.2.

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU008	Emission unit name: Electric Arc Furnace Canopy Hood	List any control devices associated with this emission unit: CE008 West Baghouse CE006 East Baghouse
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 The Canopy Hood is not a true emission unit. This Emission Unit Form and a Control Device Form were created to show the configuration and to describe the emission stream. The Canopy Hood collects fugitive emissions captured by the Melt Shop/Caster Building (CE005).

Emissions are stack (S008 and S006).

The Melt Shop/Caster Building (CE005) captures 100% of the fugitive emissions generated by emission units EU005, EU006, EU007, EU009, EU010, EU011, EU012, and EU013. The Melt Shop/Caster Building controls 70% of the particulate emissions due to settling effects.

Manufacturer:	Model number:	Serial number:
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Construction date: 06/01/1989	Installation date: 06/01/1989	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 40 tons/hr of EAF throughput

Maximum Hourly Throughput: 40 tons/hr	Maximum Annual Throughput: 350,400 tons/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA (Already accounted for in EAF #1 & EAF #2 emissions)	
Nitrogen Oxides (NO _x)	NA (Already accounted for in EAF #1 & EAF #2 emissions)	
Lead (Pb)	3.74E-02	1.64E-01
Particulate Matter (PM _{2.5})	2.84	12.44
Particulate Matter (PM ₁₀)	2.87	12.59
Total Particulate Matter (TSP)	3.29	14.41
Sulfur Dioxide (SO ₂)	NA (Already accounted for in EAF #1 & EAF #2 emissions)	
Volatile Organic Compounds (VOC)	NA (Already accounted for in EAF #1 & EAF #2 emissions)	
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Arsenic	8.65E-06	3.79E-05
Beryllium	NA (Already accounted for in EAF #1 & EAF #2 emissions)	
Cadmium	1.25E-03	5.46E-03
Chromium	2.61E-03	1.14E-02
Fluoride Compounds	NA (Already accounted for in EAF #1 & EAF #2 emissions)	
Manganese	6.53E-02	2.86E-01
Mercury	9.00E-05	3.94E-04
Nickel	3.41E-04	1.49E-03
Zinc	4.92E-01	2.15E+00
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Filterable PM based on stack testing. PM₁₀ is assumed to be 76% of total PM – AP-42 Table 12.5-2 (01/95) PM_{2.5} is assumed to be 74% of total PM – AP-42 Table 12.5-2 (01/95) Condensable PM – AP-42 Section 12.5, Table 12.5.1-2 (04/09) As, Ca, Cr, Pb, Mn, Hg, Ni, Zn from baghouse dust analysis.</p>		

Applicable Requirements

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

Not applicable.

Permit Shield

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

Not applicable.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU009	Emission unit name: Ladle Refurbishing	List any control devices associated with this emission unit: CE005 Melt Shop/Caster Building
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Fugitive emissions associated with mechanically removing refractory material from the ladle shell and handling the refractory material for offsite shipment.

Manufacturer:	Model number:	Serial number:
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Construction date: 06/01/1950	Installation date: 06/01/1950	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
None – This emission unit is a batch process performed on an as needed basis.

Maximum Hourly Throughput: 0.105 tons of refractory	Maximum Annual Throughput: 919.8 tons of refractory	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	1.32E-04	5.76E-04
Particulate Matter (PM ₁₀)	1.99E-05	8.73E-05
Total Particulate Matter (TSP)	2.78E-04	1.22E-03
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42, Section 13.2.4

The Melt Shop/Caster Building captures and controls 70% of the particulate emissions.

Applicable Requirements

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

NA

Permit Shield

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

NA

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU010	Emission unit name: Tundish Cleaning and Refurbishing	List any control devices associated with this emission unit: CE007 – Wheelabrator (Auxiliary) Baghouse
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Fugitive emissions associated with refurbishing the refractory material inside the tundish shell and handling the refractory material for offsite shipment.
 Stack emissions from the baghouse associated with removing metal from the tundish.
 Metal is removed from the tundish using a natural gas/oxygen torch.

Manufacturer:	Model number:	Serial number:
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Construction date: 06/01/1975	Installation date: 06/01/1975	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 None – This emission unit is a batch process performed on an as-needed basis.

Maximum Hourly Throughput: 0.02 tons of refractory	Maximum Annual Throughput: 131.4 tons of refractory	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: 0.5 MMBtu/hr	Type and Btu/hr rating of burners: Torches with burning tips
--	--

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	15 ppmv	Unknown	1020 BTU/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.25	1.08
Nitrogen Oxides (NO _x)	0.29	1.29
Lead (Pb)	5.0E-04	6.44E-06
Particulate Matter (PM _{2.5})	0.02	0.07
Particulate Matter (PM ₁₀)	0.02	0.10
Total Particulate Matter (TSP)	0.03	0.11
Sulfur Dioxide (SO ₂)	0.00	0.01
Volatile Organic Compounds (VOC)	0.02	0.07
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	7.1E-08	3.09E-07
3-Methylchloranthrene	5.3E-09	2.32E-08
7,12-Dimethylbenz(a)anthracene	4.7E-08	2.06E-07
Acenaphthene	5.3E-09	2.32E-08
Acenaphthylene	5.3E-09	2.32E-08
Anthracene	7.1E-09	3.09E-08
Benz(a)anthracene	5.3E-09	2.32E-08
Benzene	6.2E-06	2.71E-05
Benzo(a)pyrene	3.5E-09	1.55E-08
Benzo(b)fluoranthene	5.3E-09	2.32E-08
Benzo(g,h,i)perylene	3.5E-09	1.55E-08
Benzo(k)fluoranthene	5.3E-09	2.32E-08
Chrysene	5.3E-09	2.32E-08
Dibenzo(a,h) anthracene	3.5E-09	1.55E-08
Dichlorobenzene	3.5E-06	1.55E-05
Fluoranthene	8.8E-09	3.86E-08
Fluorene	8.2E-09	3.61E-08
Hexane	2.2E-04	9.66E-04
Indo(1,2,3-cd)pyrene	5.3E-03	2.32E-02
Napthalene	5.3E-09	2.32E-08
Phenanthrene	1.8E-06	7.86E-06
Pyrene	5.0E-08	2.19E-07

Toluene	1.0E-05	4.38E-05
Arsenic	5.9E-07	2.58E-06
Beryllium	3.5E-08	1.55E-07
Cadmium	3.2E-06	1.42E-05
Chromium	4.1E-06	1.80E-05
Cobalt	2.5E-07	1.08E-06
Manganese	1.1E-06	4.90E-06
Mercury	7.6E-07	3.35E-06
Nickel	6.2E-06	2.71E-05
Selenium	7.1E-08	3.09E-07
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p><u>Refurbishing</u> PM – AP-42, Section 13.2.4</p> <p><u>Gas Combustion</u> Criteria pollutants – AP-42 Tables 1.4-1 and 1.4-2 (July 1998)</p> <p>The Melt Shop/Caster Building captures and controls 70% of the particulate emissions.</p>		

Applicable Requirements

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

NA

Permit Shield

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

NA

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU011	Emission unit name: Slag Handling	List any control devices associated with this emission unit: CE005 – Melt Shop/Caster Building
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Fugitive emissions associated with slag handling operations commencing after the slag has been poured from the ladles.

Manufacturer:	Model number:	Serial number:
Construction date: 06/07/1950	Installation date: 06/07/1950	Modification date(s):

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
Process operations performed on an as-need basis.
Slag generated from a maximum of 40 tons/hr of steel from the EAFs.

Maximum Hourly Throughput: 40 tons/hr	Maximum Annual Throughput: 350,400 tons/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.18	0.81
Particulate Matter (PM ₁₀)	0.52	2.28
Total Particulate Matter (TSP)	1.04	4.56
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42, Section 12.5-4 (01/95)

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

NA

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU012	Emission unit name: Continuous Caster	List any control devices associated with this emission unit: CE005 – Melt Shop/Caster Building
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fugitive emissions associated with producing steel billets from molten steel.
Emissions are generated from the exposed molten steel in the ladle and tundish.

Manufacturer: Concast	Model number:	Serial number:
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Construction date: 06/01/1975	Installation date: 06/01/1975	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

40 tons/hr of molten steel from the EAFs.

Maximum Hourly Throughput: 40 tons/hr	Maximum Annual Throughput: 350,400 tons/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	1.21	5.32
Particulate Matter (PM ₁₀)	1.24	5.45
Total Particulate Matter (TSP)	1.59	6.96
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Filterable TSP - AP-42, Table 12.5.1-8 (04/09)
 Filterable PM_{2.5} - 74% of total PM is PM_{2.5} - AP-42 Table 12.5-2 (01/95)
 Filterable PM₁₀ - 76% of total PM is PM₁₀ - AP-42 Table 12.5-2 (01/95)
 Condensable PM - Ratio of baghouse PM_{CON} to PM_{FIL}

The Melt Shop/Caster Building captures and controls 70% of the particulate emissions.

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

Maximum Allowable PM Emission Limit (lb/hr): 32.2 - [45CSR§7-4.1.]; Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Permit Condition 4.1.6.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Permit Condition 4.3.2.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU013	Emission unit name: Caster Cutoff Torches	List any control devices associated with this emission unit: CE005 – Melt Shop/Caster Building
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fugitive emissions associated with cutting torches used to size the cast steel billets.
Natural gas and oxygen flame torches are used.
This unit is treated as a manufacturing process source.

Manufacturer: Concast	Model number:	Serial number:
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Construction date: 06/01/1974	Installation date: 06/01/1975	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Able to manage sizing of 40 tons/hr of billet steel
Estimated to use 0.2 MMBtu/hr

Maximum Hourly Throughput: 0.2 Mcf/hr	Maximum Annual Throughput: 1.752 MMcf/yr	Maximum Operating Schedule: 8760 hr/yr
---	--	--

Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: 0.2 MMBtu/hr	Type and Btu/hr rating of burners:
--	---

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

Primary fuel is natural gas
Maximum hourly fuel usage: 0.2 Mscf/hr
Maximum annual fuel usage: 1.752 MMscf/hr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	15 ppmv	Unknown	1020 BTU/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.017	0.074
Nitrogen Oxides (NO _x)	0.02	0.09
Lead (Pb)	1.0E-07	4.38E-07
Particulate Matter (PM _{2.5})	1.28	5.61
Particulate Matter (PM ₁₀)	1.28	5.61
Total Particulate Matter (TSP)	1.28	5.61
Sulfur Dioxide (SO ₂)	1.2E-04	5.3E-04
Volatile Organic Compounds (VOC)	1.1E-03	4.8E-03
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	4.8E-09	2.10E-08
3-Methylchloranthrene	3.6E-10	1.58E-09
7,12-Dimethylbenz(a)anthracene	3.2E-09	1.40E-08
Acenaphthene	3.6E-10	1.58E-09
Acenaphthylene	3.6E-10	1.58E-09
Anthracene	4.8E-10	2.10E-09
Benz(a)anthracene	3.6E-10	1.58E-09
Benzene	4.2E-07	1.84E-06
Benzo(a)pyrene	2.4E-10	1.05E-09
Benzo(b)fluoranthene	3.6E-10	1.58E-09
Benzo(g,h,i)perylene	2.4E-10	1.05E-09
Benzo(k)fluoranthene	3.6E-10	1.58E-09
Chrysene	3.6E-10	1.58E-09
Dibenzo(a,h) anthracene	2.4E-10	1.05E-09
Dichlorobenzene	2.4E-07	1.05E-06
Fluoranthene	6.0E-10	2.63E-09
Fluorene	5.6E-10	2.45E-09
Hexane	3.6E-04	1.58E-03
Indo(1,2,3-cd)pyrene	3.6E-10	1.58E-09
Napthalene	1.2E-07	5.34E-07
Phenanthrene	3.4E-09	1.49E-08
Pyrene	1.0E-09	4.38E-09

Toluene	6.8E-07	2.98E-06
Arsenic	4.0E-08	1.75E-07
Beryllium	2.4E-09	1.05E-08
Cadmium	2.2E-07	9.64E-07
Chromium	2.8E-07	1.23E-06
Cobalt	1.7E-08	7.36E-08
Manganese	7.6E-08	3.33E-07
Mercury	5.2E-08	2.28E-07
Nickel	4.2E-07	1.84E-06
Selenium	4.8E-09	2.10E-08
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Emissions are generated from combustion of natural gas and from metal vaporization. Emission calculations are based on natural gas combustion and billet metal removed.</p> <p>Filterable PM - AP-42 Table 1.4-1 (07/98) Condensable PM - AP-42 Table 12.5.1-1 (04/09) Other Criteria Pollutants - AP-42 Table 1.4-1 and 1.4-2 (07/98) HAPs - AP-42 Tables 1.4-3 and 1.4-4 (07/98)</p>		

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

Maximum Allowable PM Emission Limit (lb/hr): 32.2 - [45CSR§7-4.1.]; Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Permit Condition 4.1.6.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Permit Condition 4.3.2.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU014	Emission unit name: Reheat Furnace #1	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 A direct-fired natural gas furnace used to heat steel billets prior to hot rolling. Based on West Virginia regulations, this unit is treated as a manufacturing process. AP-42 emission factors are used to calculate emissions while the allowable emission rate is based on process weight rate.
 Emissions are vented to Stack S014

Manufacturer: Brickmont	Model number:	Serial number:
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Construction date: 06/01/1984	Installation date: 06/01/1984	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 96 MMBtu/hr heat input
 Able to process 40 tons/hr of steel

Maximum Hourly Throughput: 96 Mcf/hr	Maximum Annual Throughput: 841 MMcf/yr	Maximum Operating Schedule: 8760 hr/yr
--	--	--

Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: 96 MMBtu/hr	Type and Btu/hr rating of burners:
---	---

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

Primary fuel is natural gas
 Maximum hourly fuel usage: 96 Mcf/hr
 Maximum annual fuel usage: 841 MMcf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	15 ppmv	Unknown	1020 BTU/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.13	0.56
Nitrogen Oxides (NO _x)	18.61	81.49
Lead (Pb)	4.8E-05	2.10E-04
Particulate Matter (PM _{2.5})	0.51	2.24
Particulate Matter (PM ₁₀)	0.51	2.24
Total Particulate Matter (TSP)	0.51	2.24
Sulfur Dioxide (SO ₂)	0.06	0.25
Volatile Organic Compounds (VOC)	0.03	0.13
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	2.3E-06	1.01E-05
3-Methylchloranthrene	1.7E-07	7.57E-07
7,12-Dimethylbenz(a)anthracene	1.5E-06	6.73E-06
Acenaphthene	1.7E-07	7.57E-07
Acenaphthylene	1.7E-07	7.57E-07
Anthracene	2.3E-07	1.01E-06
Benz(a)anthracene	1.7E-07	7.57E-07
Benzene	2.0E-04	8.83E-04
Benzo(a)pyrene	1.2E-07	5.05E-07
Benzo(b)fluoranthene	1.7E-07	7.57E-07
Benzo(g,h,i)perylene	1.2E-07	5.05E-07
Benzo(k)fluoranthene	1.7E-07	7.57E-07
Chrysene	1.7E-07	7.57E-07
Dibenzo(a,h) anthracene	1.2E-07	5.05E-07
Dichlorobenzene	1.2E-04	5.05E-04
Fluoranthene	2.9E-07	1.26E-06
Fluorene	2.7E-07	1.18E-06
Hexane	1.7E-01	7.57E-01
Indo(1,2,3-cd)pyrene	1.7E-07	7.57E-07
Napthalene	5.9E-05	2.57E-04
Phenanthrene	1.6E-06	7.15E-06
Pyrene	4.8E-07	2.10E-06

Toluene	3.3E-04	1.43E-03
Arsenic	1.9E-05	8.41E-05
Beryllium	1.2E-06	5.05E-06
Cadmium	1.1E-04	4.63E-04
Chromium	1.3E-04	5.89E-04
Cobalt	8.1E-06	3.53E-05
Manganese	4.8E-05	2.10E-04
Mercury	2.5E-05	1.09E-04
Nickel	2.0E-04	8.83E-04
Selenium	2.3E-06	1.01E-05
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>SO₂ – AP-42, Table 1.4-2 Other Criteria Pollutants – AP-42, Table 12.5.1-1, 12.5.1-2, 12.5.1-4, 12.5.1-5, and 12.5.1-8 (04/09) HAPs - AP-42 Tables 1.4-3 and 1.4-4 (07/98)</p>		

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

Maximum Allowable PM Emission Limit (lb/hr): 33.4 - [45CSR§7-4.1.]; Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Title V Permit Condition 4.1.6.

Sulfur Dioxide Emission Limit 2,000 parts per million by volume - [45CSR§10-4.1. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.1.8.

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.2.2.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if required by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Recordkeeping of required monitoring data for a minimum of 5 years - [45CSR§10-8.3.a. (EU006, EU007, EU014, EU016)]; Permit Condition 4.4.1.

Submission of exception report - [45CSR§10-8.3.b. (EU006, EU007, EU014, EU016)]; Permit Condition 4.5.1.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.2.2.

Testing:

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Permit Condition 4.3.1.

Stack testing if required by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (EU006, EU007, EU014, EU016)]; Permit Condition 4.2.2.

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Recordkeeping of required monitoring data for a minimum of 5 years - [45CSR§10-8.3.a. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.4.1.

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.
Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.
Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.
Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.
Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.
Submission of exception report - [45CSR§10-8.3.b. (*EU006, EU007, EU014, EU016*)]; Permit Condition 4.5.1.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU015	Emission unit name: Hot Rolling Mill #1	List any control devices associated with this emission unit: CE015 - #1 Mill Building
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fugitive particulate emissions generated from mill scale breaking during rolling operations.
Rolling Mill #1 is able to process 40 tons/hr of heated steel billets.
The billets are rolled into shapes having various cross-sections.

Manufacturer: Meeco	Model number:	Serial number:
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Construction date: 06/01/1985	Installation date: 06/01/1985	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Process operations performed on a maximum of 40 tons/hr of steel.

Maximum Hourly Throughput: 40 tons/hr	Maximum Annual Throughput: 350,400 tons/yr	Maximum Operating Schedule: 8760 hr/yr
---	--	--

Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.77	3.36
Particulate Matter (PM ₁₀)	0.77	3.36
Total Particulate Matter (TSP)	0.77	3.36
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Particulate matter emissions calculated based on quantities of mill scale generated per ton of steel rolled (SWVA site-specific emission factor).

PM emissions assume that 20% of the mill scale becomes airborne.

The #1 Mill Building captures and controls 70% of the particulate emissions.

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

Maximum Allowable PM Emission Limit (lb/hr): 32.2 - [45CSR§7-4.1.]; Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Permit Condition 4.1.6.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Permit Condition 4.3.2.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU016	Emission unit name: Reheat Furnace #2	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 A direct-fired natural gas furnace used to heat steel billets prior to hot rolling. Based on West Virginia regulations, this unit is treated as a manufacturing process. AP-42 emission factors are used to calculate emissions while the allowable emission rate is based on process weight rate.
 Emissions are vented to Stack S016.

Manufacturer: Bricmont	Model number:	Serial number:
Construction date: 06/01/1957	Installation date: 06/01/1957	Modification date(s): 06/01/1997

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 130 MMBtu/hr heat input
 Able to process 32 tons/hr of steel

Maximum Hourly Throughput: 130 Mcf/hr	Maximum Annual Throughput: 1,139 MMcf/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: 130 MMBtu/hr	Type and Btu/hr rating of burners:

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

Primary fuel is natural gas.
 Maximum hourly fuel usage: 130 Mcf/hr
 Maximum annual fuel usage: 1,139 MMcf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	15 ppmv	Unknown	1020 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.17	0.76
Nitrogen Oxides (NO _x)	25.20	110.37
Lead (Pb)	6.5E-05	2.85E-04
Particulate Matter (PM _{2.5})	1.70	7.4
Particulate Matter (PM ₁₀)	1.70	7.4
Total Particulate Matter (TSP)	1.70	7.4
Sulfur Dioxide (SO ₂)	0.08	0.34
Volatile Organic Compounds (VOC)	0.04	0.17
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	3.1E-06	1.37E-05
3-Methylchloranthrene	2.3E-07	1.03E-06
7,12-Dimethylbenz(a)anthracene	2.1E-06	9.11E-06
Acenaphthene	2.3E-07	1.03E-06
Acenaphthylene	2.3E-07	1.03E-06
Anthracene	3.1E-07	1.37E-06
Benz(a)anthracene	2.3E-07	1.03E-06
Benzene	2.7E-04	1.20E-03
Benzo(a)pyrene	1.6E-07	6.83E-07
Benzo(b)fluoranthene	2.3E-07	1.03E-06
Benzo(g,h,i)perylene	1.6E-07	6.83E-07
Benzo(k)fluoranthene	2.3E-07	1.03E-06
Chrysene	2.3E-07	1.03E-06
Dibenzo(a,h) anthracene	1.6E-07	6.83E-07
Dichlorobenzene	1.6E-04	6.83E-04
Fluoranthene	3.9E-07	1.71E-06
Fluorene	3.6E-07	1.59E-06
Hexane	2.3E-01	1.03E+00
Indo(1,2,3-cd)pyrene	2.3E-07	1.03E-06
Napthalene	7.9E-05	3.47E-04
Phenanthrene	2.2E-06	9.68E-06
Pyrene	6.5E-07	2.85E-06
Toluene	4.4E-04	1.94E-03

Arsenic	2.6E-05	1.14E-04
Beryllium	1.6E-06	6.83E-06
Cadmium	1.4E-04	6.26E-04
Chromium	1.8E-04	7.97E-04
Cobalt	1.1E-05	4.78E-05
Manganese	4.9E-05	2.16E-04
Mercury	3.4E-05	1.48E-04
Nickel	2.7E-04	1.20E-03
Selenium	3.1E-06	1.37E-05
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

SO₂ – AP-42, Table 1.4-2

Other Criteria Pollutants – AP-42, Table 12.5.1-1, 12.5.1-2, 12.5.1-4, 12.5.1-5, and 12.5.1-8 (04/09)

HAPs - AP-42 Tables 1.4-3 and 1.4-4 (07/98)

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

Maximum Allowable PM Emission Limit (lb/hr): 21.9 - [45CSR§7-4.1.]; Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Allowable emissions for duplicate source operation - [45CSR§7-4.4. (EU016, EU017)]; Permit Condition 4.1.5.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Title V Permit Condition 4.1.6.

Sulfur Dioxide Emission Limit 2,000 parts per million by volume - [45CSR§10-4.1. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.1.8.

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.2.2.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Recordkeeping of required monitoring data for a minimum of 5 years - [45CSR§10-8.3.a. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.4.1.

Submission of exception report - [45CSR§10-8.3.b. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.5.1.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.2.2.

Testing:

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2. Testing and/or monitoring to demonstrate compliance with SO₂ emission limit - [45CSR§10-8.2.c. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.2.2.

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Recordkeeping of required monitoring data for a minimum of 5 years - [45CSR§10-8.3.a. (EU006, EU007, EU014, EU016)]; Title V Permit Condition 4.4.1.

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

Submission of exception report - [45CSR§10-8.3.b. (*EU006, EU007, EU014, EU016*)]; Title V Permit Condition 4.5.1.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU017	Emission unit name: Hot Rolling Mill #2	List any control devices associated with this emission unit: CE017 - #2 Mill Building
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fugitive particulate emissions generated from mill scale breaking during rolling operations.
 Rolling Mill #2 is able to process 32 tons/hr of heated steel billets.
 The billets are rolled into shapes having various cross-sections.

Manufacturer: Meeco/SWVA	Model number:	Serial number:
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Construction date: 06/01/1994	Installation date: 06/01/1994	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Process operations performed on a maximum of 32 tons/hr of steel.

Maximum Hourly Throughput: 32 tons/hr	Maximum Annual Throughput: 280,320 tons/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.61	2.69
Particulate Matter (PM ₁₀)	0.61	2.69
Total Particulate Matter (TSP)	0.61	2.69
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Particulate matter emissions calculated based on quantities of mill scale generated per ton of steel rolled (SWVA site-specific emission factor).

PM emissions assume that 20% of the mill scale becomes airborne.

The #1 Mill Building captures and controls 70% of the particulate emissions.

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

Maximum Allowable PM Emission Limit (lb/hr): 14.3 - [45CSR§7-4.1.]; Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Permit Condition 4.1.6.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Permit Condition 4.3.2.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU020	Emission unit name: Paint Application	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fugitive emissions associated with painting fabricated steel pieces.
Compliant coatings are used.
This unit is treated as an air-dried coating process source.

Manufacturer:	Model number:	Serial number:
Construction date: 06/01/1997	Installation date: 06/01/1997	Modification date(s):

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

Maximum Hourly Throughput: 20 gal/hr	Maximum Annual Throughput: 65,200 gal/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	NA	NA
Particulate Matter (PM ₁₀)	NA	NA
Total Particulate Matter (TSP)	NA	NA
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	10.00	43.82
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Propoxyethanol (Propyl Cellosolve)	0.991	4.342
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Columbia Paint Corporation MSDS for product identification: 17-415A W/R Black LF (06/09/08)</p>		

Applicable Requirements

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

Certification of method of compliance for coating line - [45CSR§21-4.3.a. (EU020, EU023)]; Permit Condition 6.1.1.; [45CSR§21-4.4.a. (EU020, EU023)]; Title V Permit Condition 6.1.2.

VOC emission limitation of 3.5 lbs per volume of coating in gallons for coating line - [45CSR§21-19.3.a.4. (EU020, EU023)]; Title V Permit Condition 6.1.3.

HAP emission limitation of 5.7 tons per year (rolling total) for paint application – [45CSR§30-12.7.]; Title V Permit Condition 6.1.5.

Daily recordkeeping of the name and ID number of each coating and mass of VOC per volume of coating applied. Maintain records for 3 years. – [45CSR§21-4.3.b. (EU020, EU023)]; Title V Permit Condition 6.4.1

Daily recordkeeping of records required by Condition 6.4.1. and daily weighted average of VOC content of all coatings. Maintain records for 3 years. – [45CSR§21-4.4.b. (EU020, EU023)]; Title V Permit Condition 6.4.2.

Compliance with certification, recordkeeping, and reporting requirements of permit conditions 6.1.1., 6.4.1., & 6.5.1. - [45CSR§21-19.7.b. (EU020, EU023)]; Title V Permit Condition 6.4.3.

Compliance with certification, recordkeeping, and reporting requirements of permit conditions 6.1.2., 6.4.2., & 6.5.2. - [45CSR§21-19.7.c. (EU020, EU023)]; Title V Permit Condition 6.4.4.

Calculation method for daily weighted average of VOC - [45CSR§21-43.1. (EU020, EU023)]; Title V Permit Condition 6.4.5.

Recordkeeping of amount and type of coatings applied HAP emissions (rolling 12-month basis) - [45CSR§30-5.1.c. (EU020)]; Title V Permit Condition 6.4.6.

Report use on non-complying coatings within 30 days. Submit notification 30 days prior to changing means of compliance for coatings.- [45CSR§21-4.3.c. (EU020, EU023)]; Permit Condition 6.5.1.; [45CSR§21-4.4.c. (EU020, EU023)]; Title V Permit Condition 6.5.2.

Permit Shield

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

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Daily recordkeeping of the name and ID number of each coating and mass of VOC per volume of coating applied. Maintain records for 3 years. – [45CSR§21-4.3.b. (EU020, EU023)]; Title V Permit Condition 6.4.1

Daily recordkeeping of records required by Condition 6.4.1. and daily weighted average of VOC content of all coatings. Maintain records for 3 years. – [45CSR§21-4.4.b. (EU020, EU023)]; Title V Permit Condition 6.4.2.

Compliance with certification, recordkeeping, and reporting requirements of permit conditions 6.1.1., 6.4.1., & 6.5.1. - [45CSR§21-19.7.b. (EU020, EU023)]; Title V Permit Condition 6.4.3.

Compliance with certification, recordkeeping, and reporting requirements of permit conditions 6.1.2., 6.4.2., & 6.5.2. - [45CSR§21-19.7.c. (EU020, EU023)]; Title V Permit Condition 6.4.4.

Recordkeeping of amount and type of coatings applied HAP emissions (rolling 12-month basis) - [45CSR§30-5.1.c. (EU020)]; Title V Permit Condition 6.4.6.

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

Report use on non-complying coatings within 30 days. Submit notification 30 days prior to changing means of compliance for coatings.- [45CSR§21-4.3.c. (EU020, EU023)]; Permit Condition 6.5.1.; [45CSR§21-4.4.c. (EU020, EU023)]; Title V Permit Condition 6.5.2.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU021	Emission unit name: Paint Drying Oven	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

A direct-fired natural gas oven used to air-dry coatings.
Oven design capacity is 4 MMBtu/hr
Emissions are vented to Stack S021

Manufacturer:	Model number:	Serial number:
Construction date: 06/01/1997	Installation date: 06/01/1997	Modification date(s):

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

4 MMBtu/hr heat input

Maximum Hourly Throughput: 4 Mcf/hr	Maximum Annual Throughput: 35 MMcf/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: 4 MMBtu/hr	Type and Btu/hr rating of burners:

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

Primary fuel is natural gas.
Maximum hourly fuel usage: 4 Mcf/hr
Maximum annual fuel usage: 35 MMcf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	15 ppmv	Unknown	1020 BTU/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.34	1.47
Nitrogen Oxides (NO _x)	0.40	1.75
Lead (Pb)	2.0E-06	8.75E-06
Particulate Matter (PM _{2.5})	0.03	0.13
Particulate Matter (PM ₁₀)	0.03	0.13
Total Particulate Matter (TSP)	0.03	0.13
Sulfur Dioxide (SO ₂)	0.00	0.01
Volatile Organic Compounds (VOC)	0.02	0.10
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	9.6E-08	4.20E-07
3-Methylchloranthrene	7.2E-09	3.15E-08
7,12-Dimethylbenz(a)anthracene	6.4E-08	2.80E-07
Acenaphthene	7.2E-09	3.15E-08
Acenaphthylene	7.2E-09	3.15E-08
Anthracene	9.6E-09	4.20E-08
Benz(a)anthracene	7.2E-09	3.15E-08
Benzene	8.4E-06	3.68E-05
Benzo(a)pyrene	4.8E-09	2.10E-08
Benzo(b)fluoranthene	7.2E-09	3.15E-08
Benzo(g,h,i)perylene	4.8E-09	2.10E-08
Benzo(k)fluoranthene	7.2E-09	3.15E-08
Chrysene	7.2E-09	3.15E-08
Dibenzo(a,h) anthracene	4.8E-09	2.10E-08
Dichlorobenzene	4.8E-06	2.10E-05
Fluoranthene	1.2E-08	5.25E-08
Fluorene	1.1E-08	4.90E-08
Hexane	7.2E-03	3.15E-02
Indo(1,2,3-cd)pyrene	7.2E-09	3.15E-08
Napthalene	2.4E-06	1.07E-05
Phenanthrene	6.8E-08	2.98E-07
Pyrene	2.0E-08	8.75E-08

Toluene	1.4E-05	5.95E-05
Arsenic	8.0E-07	3.50E-06
Beryllium	4.8E-08	2.10E-07
Cadmium	4.4E-06	1.93E-05
Chromium	5.6E-06	2.45E-05
Cobalt	3.4E-07	1.47E-06
Manganese	1.5E-06	6.65E-06
Mercury	1.0E-06	4.55E-06
Nickel	8.4E-06	3.68E-05
Selenium	9.6E-08	4.20E-07
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>AP-42, 5th Edition, January 1995, Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.</p>		

Applicable Requirements

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

NA

Permit Shield

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

NA

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU022	Emission unit name: Continuous Wax Line Heater	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

An indirect process heater firing natural gas to heat wax prior to application.
 Heater capacity is 4 MMBtu/hr
 Emissions are vented to Stack S022

Manufacturer:	Model number:	Serial number:
Construction date: 06/01/1997	Installation date: 06/01/1997	Modification date(s):

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

4 MMBtu/hr heat input

Maximum Hourly Throughput: 4 Mcf/hr	Maximum Annual Throughput: 35 MMcf/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input checked="" type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: 4 MMBtu/hr	Type and Btu/hr rating of burners:

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

Primary fuel is natural gas.
 Maximum hourly fuel usage: 4 Mcf/hr
 Maximum annual fuel usage: 35 MMcf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	15 ppmv	Unknown	1020 BTU/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.34	1.47
Nitrogen Oxides (NO _x)	0.40	1.75
Lead (Pb)	2.0E-06	8.75E-06
Particulate Matter (PM _{2.5})	0.03	0.13
Particulate Matter (PM ₁₀)	0.03	0.13
Total Particulate Matter (TSP)	0.03	0.13
Sulfur Dioxide (SO ₂)	0.00	0.01
Volatile Organic Compounds (VOC)	0.02	0.10
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	9.6E-08	4.20E-07
3-Methylchloranthrene	7.2E-09	3.15E-08
7,12-Dimethylbenz(a)anthracene	6.4E-08	2.80E-07
Acenaphthene	7.2E-09	3.15E-08
Acenaphthylene	7.2E-09	3.15E-08
Anthracene	9.6E-09	4.20E-08
Benz(a)anthracene	7.2E-09	3.15E-08
Benzene	8.4E-06	3.68E-05
Benzo(a)pyrene	4.8E-09	2.10E-08
Benzo(b)fluoranthene	7.2E-09	3.15E-08
Benzo(g,h,i)perylene	4.8E-09	2.10E-08
Benzo(k)fluoranthene	7.2E-09	3.15E-08
Chrysene	7.2E-09	3.15E-08
Dibenzo(a,h) anthracene	4.8E-09	2.10E-08
Dichlorobenzene	4.8E-06	2.10E-05
Fluoranthene	1.2E-08	5.25E-08
Fluorene	1.1E-08	4.90E-08
Hexane	7.2E-03	3.15E-02
Indo(1,2,3-cd)pyrene	7.2E-09	3.15E-08
Napthalene	2.4E-06	1.07E-05
Phenanthrene	6.8E-08	2.98E-07
Pyrene	2.0E-08	8.75E-08

Toluene	1.4E-05	5.95E-05
Arsenic	8.0E-07	3.50E-06
Beryllium	4.8E-08	2.10E-07
Cadmium	4.4E-06	1.93E-05
Chromium	5.6E-06	2.45E-05
Cobalt	3.4E-07	1.47E-06
Mercury	1.0E-06	4.55E-06
Nickel	8.4E-06	3.68E-05
Selenium	9.6E-08	4.20E-07
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>AP-42, 5th Edition, January 1995, Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.</p>		

Applicable Requirements

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

10% Opacity Limit - [45CSR§2-3.1]; Title V Permit Condition 5.1.1.

Operate and maintain with good operating practices. Fuel limited to natural gas. – [45CSR§30-5.1.c.]; Title V Permit Condition 5.2.1.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

NA

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU023	Emission unit name: Wax Application	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fugitive emissions associated with coating fabricated steel pieces.
 Compliant coatings are used.
 This unit is treated as an air-dried coating process source.
 The same type of wax is applied at two different locations.
 One wax application process is a batch while the other is a continuous process.

Manufacturer:	Model number:	Serial number:
Construction date: 06/01/1997	Installation date: 06/01/1997	Modification date(s):

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

Maximum Hourly Throughput: 33 gal/hr	Maximum Annual Throughput: 287,500 gal/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA

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

The heater for the continuous line is listed as EU022.
 The heater for the batch dip line is electrical.

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	NA	NA
Particulate Matter (PM ₁₀)	NA	NA
Total Particulate Matter (TSP)	NA	NA
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	3.28	14.38
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Daughbert Chemical Company MSDS for product name: NON-RUST 1210 (02/19/03)

VOC content as applied (including water and exempt compounds): <0.1 lb/gal

VOC content (excluding water and exempt compounds): <0.1 lb/gal

Applicable Requirements

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

Certification of method of compliance for coating line - [45CSR§21-4.3.a. (EU020, EU023)]; Permit Condition 6.1.1.; [45CSR§21-4.4.a. (EU020, EU023)]; Title V Permit Condition 6.1.2.

VOC emission limitation of 3.5 lbs per volume of coating in gallons for coating line - [45CSR§21-19.3.a.4. (EU020, EU023)]; Title V Permit Condition 6.1.3.

HAP emission limitation of 5.7 tons per year (rolling total) for paint application – [45CSR§30-12.7.]; Title V Permit Condition 6.1.5.

Daily recordkeeping of the name and ID number of each coating and mass of VOC per volume of coating applied. Maintain records for 3 years. – [45CSR§21-4.3.b. (EU020, EU023)]; Title V Permit Condition 6.4.1

Daily recordkeeping of records required by Condition 6.4.1. and daily weighted average of VOC content of all coatings. Maintain records for 3 years. – [45CSR§21-4.4.b. (EU020, EU023)]; Title V Permit Condition 6.4.2.

Compliance with certification, recordkeeping, and reporting requirements of permit conditions 6.1.1., 6.4.1., & 6.5.1. - [45CSR§21-19.7.b. (EU020, EU023)]; Title V Permit Condition 6.4.3.

Compliance with certification, recordkeeping, and reporting requirements of permit conditions 6.1.2., 6.4.2., & 6.5.2. - [45CSR§21-19.7.c. (EU020, EU023)]; Title V Permit Condition 6.4.4.

Calculation method for daily weighted average of VOC - [45CSR§21-43.1. (EU020, EU023)]; Title V Permit Condition 6.4.5.

Report use on non-complying coatings within 30 days. Submit notification 30 days prior to changing means of compliance for coatings.- [45CSR§21-4.3.c. (EU020, EU023)]; Permit Condition 6.5.1.; [45CSR§21-4.4.c. (EU020, EU023)]; Title V Permit Condition 6.5.2.

Permit Shield

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

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Daily recordkeeping of the name and ID number of each coating and mass of VOC per volume of coating applied. Maintain records for 3 years. – [45CSR§21-4.3.b. (EU020, EU023)]; Title V Permit Condition 6.4.1

Daily recordkeeping of records required by Condition 6.4.1. and daily weighted average of VOC content of all coatings. Maintain records for 3 years. – [45CSR§21-4.4.b. (EU020, EU023)]; Title V Permit Condition 6.4.2.

Compliance with certification, recordkeeping, and reporting requirements of permit conditions 6.1.1., 6.4.1., & 6.5.1. - [45CSR§21-19.7.b. (EU020, EU023)]; Title V Permit Condition 6.4.3.

Compliance with certification, recordkeeping, and reporting requirements of permit conditions 6.1.2., 6.4.2., & 6.5.2. - [45CSR§21-19.7.c. (EU020, EU023)]; Title V Permit Condition 6.4.4.

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

Report use on non-complying coatings within 30 days. Submit notification 30 days prior to changing means of compliance for coatings.- [45CSR§21-4.3.c. (*EU020, EU023*)]; Permit Condition 6.5.1.; [45CSR§21-4.4.c. (*EU020, EU023*)]; Title V Permit Condition 6.5.2.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU024	Emission unit name: Shot Blaster	List any control devices associated with this emission unit: CE024 Shotblast Baghouse
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Mill scale is removed from the surface of steel pieces utilizing steel shot as the cleaning media. Particulate matter emissions are exhausted to the baghouse.
 Baghouse emissions are emitted through Stack S024.

Manufacturer: Blast Cleaning Products	Model number:	Serial number:
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Construction date: 06/01/1986	Installation date: 06/01/1986	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 2.43 tons/hr of steel pieces

Maximum Hourly Throughput: 2.43 tons/hr of steel pieces	Maximum Annual Throughput: 21,286 tons/yr of steel pieces	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.01	0.05
Particulate Matter (PM ₁₀)	0.01	0.05
Total Particulate Matter (TSP)	0.01	0.05
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Potential Emission Factor of 0.202 lb of PM/ton of steel processed, based on SWVA material balance. Assumes 99% capture/control efficiency of baghouse (accounted for in the factor).

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Title V Title V Permit Condition 4.1.6.

Particulate Matter emission limit of 0.295 lb/hr - [45CSR13 - Permit R13-0834, Condition (A) and 45CSR§7-4.1. (EU024)]; Permit Condition 4.1.9.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Visible emission checks in accordance with condition 3.2.1. Monthly recordkeeping of tons of steel produced and operating hours of the shot blaster. - [45CSR§30-5.1.c. (EU024)]; Title V Permit Condition 4.4.2.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Visible emission checks in accordance with condition 3.2.1. - [45CSR§30-5.1.c. (EU024)]; Title V Permit Condition 4.4.2.

Testing:

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Monthly recordkeeping of tons of steel produced and operating hours of the shot blaster. - [45CSR§30-5.1.c. (EU024)]; Title V Permit Condition 4.4.2.

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU025	Emission unit name: Welding	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fugitive particulate emissions generated from robotic or manual welding operations.
 MIG welding is performed at various locations at the east end of the facility.
 This operation can process 10 tons/hr of steel shapes and pieces.
 Emissions are based upon the weight of welding wire used.

Manufacturer: Trucut/SWVA/Y&L	Model number:	Serial number:
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Construction date: 06/01/1985	Installation date: 06/01/1986	Modification date(s): 04/01/2003
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Process operations performed on a maximum of 10 tons/hr of steel.
 Throughput, given below, is the weight (M=1000) of welding wire used.

Maximum Hourly Throughput: 0.060 M lb/hr	Maximum Annual Throughput: 526 M lb/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

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

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

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

NA

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.312	1.368
Particulate Matter (PM ₁₀)	0.312	1.368
Total Particulate Matter (TSP)	0.312	1.368
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Chromium	6.0E-04	2.6E-03
Cobalt	6.0E-04	2.6E-03
Manganese	1.9E-01	8.4E-01
Nickel	6.0E-04	2.6E-03
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>AP-42, 5th Edition, January 1995, Section 12.19 for GMAW and E70S electrode.</p>		

Applicable Requirements

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

20% Opacity Limit - [45CSR§7-3.1.]; Title V Permit Condition 4.1.1.

Maximum Allowable PM Emission Limit (lb/hr): 14.3 - [45CSR§7-4.1.]; Permit Condition 4.1.3.

No circumvention of exhaust - [45CSR§7-4.3.]; Title V Permit Condition 4.1.4.

Establish stack flow patterns consistent with acceptable stack sampling procedures - [45CSR§7-4.12.]; Title V Permit Condition 4.1.6.

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Permit Shield

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

Monitoring:

Visual emission checks for opacity limits - [45CSR§30-5.1.c.]; Title V Permit Condition 3.2.1

Testing:

Emission testing requirements - [45CSR§§7A-3.1.a., b., c., d., and e.]; Title V Permit Condition 4.3.1.

Stack testing if requested by the Director - [45CSR§10-8.1.a.]; Title V Permit Condition 4.3.2.

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU026	Emission unit name: Cold Cleaner	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Fugitive emissions associated with cold cleaning solvent.
 Items to be cleaned include metal process equipment parts during maintenance work.
 The solvent is used to remove grease, oil, paint or other petroleum based products.

Manufacturer: Safety Kleen	Model number:	Serial number:
Construction date: 06/01/1975	Installation date: 06/01/1975	Modification date(s):

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

Maximum Hourly Throughput: 0.3 gal/hr	Maximum Annual Throughput: 2900 gal/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	NA	NA
Particulate Matter (PM ₁₀)	NA	NA
Total Particulate Matter (TSP)	NA	NA
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	2.01	8.80
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Tetrachloroethylene	4.0E-03	1.8E-02
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
None		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Safety Kleen delivers and picks up the cold cleaner. Purchasing records are used to calculate the difference (material balance). VOC content is 6.75 lb/gal, 100% volatile. Tetrachloroethylene is 0.2 wt. % per Safety Kleen 105 MSDS.</p>		

Applicable Requirements

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

Work practice requirements for cold cleaning facility - [45CSR§21-30.3.a. (EU026)]; Title V Permit Condition 6.1.4.

Permit Shield

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

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU027	Emission unit name: Scrap Cut-up Torches	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Fugitive emissions associated with cutting torches used to size in-house generated scrap metal. Natural gas flame torches are used on an in-frequent basis at various locations at the east end of the facility.
 Natural gas is used to keep the torch lit and to heat the metal. Once the metal is hot, predominantly oxygen is used during cutting.

Manufacturer: SWVA	Model number:	Serial number:
Construction date: 06/01/1952	Installation date: 06/01/1952	Modification date(s): 06/01/1952

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

Maximum Hourly Throughput: 2.6 Mcf/hr	Maximum Annual Throughput: 23 MMcf/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: 2.6 MMBtu/hr	Type and Btu/hr rating of burners:
--	---

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

Primary fuel is natural gas.
 Maximum hourly fuel usage: 2.6 Mcf/hr
 Maximum annual fuel usage: 23 MMcf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	15 ppmv	Unknown	1020 BTU/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.22	0.97
Nitrogen Oxides (NO _x)	0.26	1.15
Lead (Pb)	1.3E-06	5.75E-06
Particulate Matter (PM _{2.5})	0.16	0.69
Particulate Matter (PM ₁₀)	0.16	0.69
Total Particulate Matter (TSP)	0.16	0.69
Sulfur Dioxide (SO ₂)	0.002	0.007
Volatile Organic Compounds (VOC)	0.01	0.06
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	6.3E-08	2.76E-07
3-Methylchloranthrene	4.7E-09	2.07E-08
7,12-Dimethylbenz(a)anthracene	4.2E-08	1.84E-07
Acenaphthene	4.7E-09	2.07E-08
Acenaphthylene	4.7E-09	2.07E-08
Anthracene	6.3E-09	2.76E-08
Benz(a)anthracene	4.7E-09	2.07E-08
Benzene	5.5E-06	2.42E-05
Benzo(a)pyrene	3.2E-09	1.38E-08
Benzo(b)fluoranthene	4.7E-09	2.07E-08
Benzo(g,h,i)perylene	3.2E-09	1.38E-08
Benzo(k)fluoranthene	4.7E-09	2.07E-08
Chrysene	4.7E-09	2.07E-08
Dibenzo(a,h) anthracene	3.2E-09	1.38E-08
Dichlorobenzene	3.2E-06	1.38E-05
Fluoranthene	7.9E-09	3.45E-08
Fluorene	7.4E-09	3.22E-08
Hexane	4.7E-03	2.07E-02
Indo(1,2,3-cd)pyrene	4.7E-09	2.07E-08
Napthalene	1.6E-06	7.02E-06
Phenanthrene	4.5E-08	1.96E-07
Pyrene	1.3E-08	5.75E-08

Toluene	8.9E-06	3.91E-05
Arsenic	5.3E-07	2.30E-06
Beryllium	3.2E-08	1.38E-07
Cadmium	2.9E-06	1.27E-05
Chromium	3.7E-06	1.61E-05
Cobalt	2.2E-07	9.66E-07
Manganese	1.0E-06	4.37E-06
Mercury	6.8E-07	2.99E-06
Nickel	5.5E-06	2.42E-05
Selenium	6.3E-08	2.76E-07
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>PM - AP-42 Table 12.5.1-1 (04/09) Other Criteria Pollutants and HAPs - AP-42 Table 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98)</p>		

Applicable Requirements

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

NA

Permit Shield

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

NA

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU028	Emission unit name: Plant Roads	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Fugitive emissions associated with SWVA owned vehicle operations on plant property.
 Operations are predominantly near the Melt Shop (west end of the facility).

Manufacturer:	Model number:	Serial number:
Construction date: 06/01/1950	Installation date: 06/01/1950	Modification date(s):

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 Process operations performed on an as needed basis.

Maximum Hourly Throughput: 3.2 mile/hr	Maximum Annual Throughput: 28,000 mile/yr	Maximum Operating Schedule: 8760 hr/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.21	0.90
Particulate Matter (PM ₁₀)	1.85	8.10
Total Particulate Matter (TSP)	7.12	31.17
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.). Plant data was used to determine vehicle characteristics and vehicle miles traveled.</p> <p><u>Paved Roadways</u> Particle Size Multiplier for Paved Road Equation from AP-42 Chapter 13.2.1, Table 13.2.1-1 (1/11). Typical Silt Loading Value for Iron and Steel Production Facilities from AP-42 Chapter 13.2.1, Table 13.2.1-3 (1/11). Average Vehicle Weight represents the "fleet" average weight of all vehicles traveling the specified road segment, in accordance with calculation methodology specified for Equations 1 and 2 from AP-42, Chapter 13.2.1, Section 13.2.1.3 (1/11). Total Loading Factor for Iron & Steel Production from AP-42 Chapter 13.2.1, Table 13.2.1-3 (1/11). Annual Emission Factor calculated in accordance with Equation 2 of AP-42 Chapter 13.2.1 (1/11). $E = [k (sL)0.91 * (W)1.02 * (1-P/4N)]$, where N is the number of days in the period (per year in this case).</p> <p><u>Unpaved Roadways</u> Particle Size Multiplier for Industrial Roads Equation 1a from AP-42 Chapter 13.2.2, Table 13.2.2-2 (11/06). Mean Silt Content for Iron & Steel Production Plant Roads from AP-42 Chapter 13.2.2, Table 13.2.2-1 (11/06). Average Vehicle Weight represents the "fleet" average weight of all vehicles traveling the specified road segment, in accordance with calculation methodology specified for Equation 1a from AP-42, Chapter 13.2.2, Section 13.2.2.2 (11/06). Mean number of days with 0.01 inch or more of precipitation for Huntington, WV from AP-42 Chapter 13.2.2, Figure 13.2.2-1 (11/06). Annual Emission Factor calculated in accordance with Equations 1a and 2 of AP-42 Chapter 13.2.2 (11/06). $E = [k (s/12)a * (W/3)b] * [(365-P/365)]$, where a = 0.9 and b = 0.45 from Table 13.2.2-2.</p>		

Applicable Requirements

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

Particulate matter emission control measures - [45CSR§7-5.2.]; Title V Permit Condition 3.1.10.

Permit Shield

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

Recordkeeping:

Monitoring Information – [45 CSR §30-5.1.c.2.A.]; Title V Permit Condition 3.4.1.

Retention of Records for 5 years – [45 CSR §30-5.1.c.2.B.]; Title V Permit Condition 3.4.2

Reporting:

Semi-annual compliance reports - [40 CFR § 63.10685(c)(3) and 45CSR34]; Title V Permit Condition 4.5.2.

Annual emissions statement – [45 CSR §30-8.]; Title V Permit Condition 3.5.4.

Annual compliance certification – [45 CSR §30-5.3.e.]; Title V Permit Condition 3.5.5.

Semi-annual monitoring reports – [45 CSR §30-5.1.c.3.A.]; Title V Permit Condition 3.5.6.

Semi-annual deviation reporting – [45 CSR §30-4.3.h.1.B.]; Title V Permit Condition 3.5.8.

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU029	Emission unit name: Baghouse Dust Handling	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Fugitive emissions from handling of dust collected in East Baghouse (CE006), Wheelabrator (Auxiliary) Baghouse (CE007), and West Baghouse (CE008). Minimal fugitive emissions occur as a result of routine sweeping and housekeeping activities, as well as from transferring dust from storage silos into trucks for off-site transport.

Manufacturer: NA	Model number: NA	Serial number: NA
Construction date: NA	Installation date: NA	Modification date(s): NA

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

Maximum Hourly Throughput:	Maximum Annual Throughput: ~16,000 tons of dust	Maximum Operating Schedule: 8,760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___Yes ___X_ No	If yes, is it? ___ Indirect Fired ___Direct Fired
--	---

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	3.30E-03	1.45E-02
Particulate Matter (PM _{2.5})	0.01	0.05
Particulate Matter (PM ₁₀)	0.07	0.32
Total Particulate Matter (TSP)	0.15	0.67
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Arsenic (As)	7.63E-07	3.34E-06
Beryllium (Be)	NA	NA
Cadmium (Ca)	1.10E-04	4.82E-04
Chromium (Cr)	2.30E-04	1.01E-03
Fluoride (F)	NA	NA
Mercury (Hg)	7.94E-06	3.48E-05
Manganese (Mn)	5.76E-03	2.52E-02
Nickel (Ni)	3.00E-05	1.32E-04
Zinc (Zn)	4.34E-02	1.90E-01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>PM – AP-42, Section 13.2.4 (11/06) HAPs – Dust analysis</p>		

Applicable Requirements

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

NA

____ Permit Shield

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

NA

Are you in compliance with all applicable requirements for this emission unit? ___Yes ___No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU030	Emission unit name: Alloy Handling	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Fugitive emissions from handling of alloy material. Minimal fugitive emissions occur as a result of routine sweeping and housekeeping activities, as well as from manual transfer of alloys into the EAFs.

Manufacturer: NA	Model number: NA	Serial number: NA
Construction date: NA	Installation date: NA	Modification date(s):

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

Maximum Hourly Throughput:	Maximum Annual Throughput: ~8,500 tons of alloy	Maximum Operating Schedule: 8,760 hrs/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: NA	Type and Btu/hr rating of burners: NA

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.06	0.25
Particulate Matter (PM ₁₀)	0.06	0.25
Total Particulate Matter (TSP)	0.12	0.51
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>AP-42, Section 11.24-2 (01/95)</p>		

Applicable Requirements

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

NA

____ Permit Shield

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

NA

Are you in compliance with all applicable requirements for this emission unit? ___Yes ___No

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU031	Emission unit name: East Cooling Towers	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Emissions from two (2) East Cooling towers, with a combined recirculation rate of 700 gallons per minute.

Manufacturer:	Model number:	Serial number:
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Construction date: 06/2000	Installation date:	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
Recirculation Rate 1,800 gpm

Maximum Hourly Throughput: 108,000 gph	Maximum Annual Throughput: 946 MM gpy	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___Yes ___X___ No	If yes, is it? ___ Indirect Fired ___ Direct Fired
--	--

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.42	1.83
Particulate Matter (PM ₁₀)	0.42	1.83
Total Particulate Matter (TSP)	0.42	1.83
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Table 13.4-1 (09/95)

Applicable Requirements

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

NA

Permit Shield

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

NA

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU032	Emission unit name: Melt Shop Cooling Towers	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Emissions from three (3) Melt Shop Cooling towers, with a combined recirculation rate of 1,400 gallons per minute.

Manufacturer:	Model number:	Serial number:
----------------------	----------------------	-----------------------

Construction date: 02/1999	Installation date:	Modification date(s): 11/2010
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
Recirculation Rate 5,273 gpm

Maximum Hourly Throughput: 316,380 gph	Maximum Annual Throughput: 2,771 MMgpy	Maximum Operating Schedule: 8760 hours
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Fuel Usage Data (fill out all applicable fields)

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

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

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

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
NA			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	1.22	5.36
Particulate Matter (PM ₁₀)	1.22	5.36
Total Particulate Matter (TSP)	1.22	5.36
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>AP-42 Table 13.4-1 (09/95)</p>		

Applicable Requirements

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

NA

Permit Shield

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

NA

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

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

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: EU033	Emission unit name: Space Heaters	List any control devices associated with this emission unit: NA
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Natural gas-fired space heaters with a combined rating of 5 MMBtu/hr.

Manufacturer:	Model number:	Serial number:
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Construction date: 1982	Installation date:	Modification date(s):
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
5 MMBtu/hr

Maximum Hourly Throughput: 4.9 Mscf/hr	Maximum Annual Throughput: 42.9 MMscf/yr	Maximum Operating Schedule: 8760
--	--	--

Fuel Usage Data (fill out all applicable fields)

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

Maximum design heat input and/or maximum horsepower rating: 5 MMBtu/hr	Type and Btu/hr rating of burners:
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Primary fuel type is natural gas.
Maximum hourly fuel usage: 4.9 Mscf/hr
Maximum annual fuel usage: 42.9 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural gas	15 ppmv	Unknown	1020 BTU/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.41	1.80
Nitrogen Oxides (NO _x)	0.49	2.15
Lead (Pb)	2.5E-06	1.07E-05
Particulate Matter (PM _{2.5})	0.04	0.16
Particulate Matter (PM ₁₀)	0.04	0.16
Total Particulate Matter (TSP)	0.04	0.16
Sulfur Dioxide (SO ₂)	0.00	0.01
Volatile Organic Compounds (VOC)	0.03	0.12
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
2-Methylnaphthalene	1.2E-07	5.15E-07
3-Methylchloranthrene	8.8E-09	3.86E-08
7,12-Dimethylbenz(a)anthracene	7.8E-08	3.44E-07
Acenaphthene	8.8E-09	3.86E-08
Acenaphthylene	8.8E-09	3.86E-08
Anthracene	1.2E-08	5.15E-08
Benz(a)anthracene	8.8E-09	3.86E-08
Benzene	1.0E-05	4.51E-05
Benzo(a)pyrene	5.9E-09	2.58E-08
Benzo(b)fluoranthene	8.8E-09	3.86E-08
Benzo(g,h,i)perylene	5.9E-09	2.58E-08
Benzo(k)fluoranthene	8.8E-09	3.86E-08
Chrysene	8.8E-09	3.86E-08
Dibenzo(a,h) anthracene	5.9E-09	2.58E-08
Dichlorobenzene	5.9E-06	2.58E-05
Fluoranthene	1.5E-08	6.44E-08
Fluorene	1.4E-08	6.01E-08
Formaldehyde	3.7E-04	1.61E-03
Hexane	8.8E-03	3.86E-02
Indo(1,2,3-cd)pyrene	8.8E-09	3.86E-08
Napthalene	3.0E-06	1.31E-05
Phenanthrene	8.3E-08	3.65E-07
Pyrene	2.5E-08	1.07E-07
Toluene	1.7E-05	7.30E-05

Arsenic	9.8E-07	4.29E-06
Beryllium	5.9E-08	2.58E-07
Cadmium	5.4E-06	2.36E-05
Chromium	6.9E-06	3.01E-05
Cobalt	4.1E-07	1.80E-06
Manganese	1.9E-06	8.16E-06
Mercury	1.3E-06	5.58E-06
Nickel	1.0E-05	4.51E-05
Selenium	1.2E-07	5.15E-07
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (07/98).

Applicable Requirements

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

NA

Permit Shield

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

NA

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

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

ATTACHMENT F: SCHEDULE OF COMPLIANCE FORM *(NOT APPLICABLE)*

ATTACHMENT G: AIR POLLUTION CONTROL DEVICE FORM

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: CE005	List all emission units associated with this control device. Primary - EU005, EU011, EU012, EU013, EU009 Secondary – EU006, EU007
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Manufacturer: NA	Model number: NA	Installation date:
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Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
Particulate matter	100%	70%

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

CE005 is the Melt Shop/Caster Building which serves as a primary control device for Ladle Preheaters, Ladle Refurbishing, Slag Handling, Continuous Caster, and Caster Cutoff Torches. CE005 provides secondary control to Electric Arc Furnaces #1 and #2.

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** CAM was addressed in 2009 permit renewal.

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

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: CE006	List all emission units associated with this control device. EU008 Secondary – EU006, EU007	
Manufacturer:	Model number:	Installation date:

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
Particulate Matter	99%	99%

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

CE006 is the East Baghouse, located in the Melt Shop, which serves as a primary control device for the Melt Shop Canopy Hood and as a secondary control device for Electric Arc Furnaces #1 and #2.

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** CAM was addressed in 2009 permit renewal.

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

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: CE007	List all emission units associated with this control device. EU004, EU007, EU010	
Manufacturer:	Model number:	Installation date:

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
Particulate matter	99%	99%

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

CE007 is the Wheelabrator Baghouse, located in the Melt Shop, which serves as a primary control device for Electric Arc Furnace #2, Lime Bin #2 Load-In, and Tundish Cleaning and Refurbishing.

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** CAM was addressed in 2009 permit renewal.

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

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: CE008	List all emission units associated with this control device. Primary - EU003, EU006, EU008 Secondary – EU006, EU007
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Manufacturer:	Model number:	Installation date:
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Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
Particulate matter	99%	99%

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

CE007 is the West Baghouse, located in the Melt Shop, which serves as the primary control device for Electric Arc Furnace #1, Lime Bin #1 Load-In, and the Melt Shop Canopy Hood. CE007 is a secondary control device for Electric Arc Furnaces #1 and #2.

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** CAM was addressed in 2009 permit renewal.

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

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: CE015 #1 Mill Building	List all emission units associated with this control device. EU015	
Manufacturer:	Model number:	Installation date:

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
Particulate matter		

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

CE015 is the #1 Mill Building which serves as a primary control device for Hot Rolling Mill #1.

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** CAM was addressed in 2009 permit renewal.

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

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: CE017 #2 Mill Building	List all emission units associated with this control device. EU017	
Manufacturer:	Model number:	Installation date:

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
Particulate matter		

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

CE017 is the #2 Mill Building which serves as a primary control device for Hot Rolling Mill #2.

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** CAM was addressed in 2009 permit renewal.

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

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
CE024 Shotblast Baghouse

List all emission units associated with this control device.
EU024

Manufacturer:

Model number:

Installation date:

Type of Air Pollution Control Device:

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

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

Pollutant	Capture Efficiency	Control Efficiency
Particulate matter	99%	99%

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

CE024 is the Shotblast Baghouse which serves as the primary control device for the Shot Blaster.

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

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** CAM was addressed in 2009 permit renewal.

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

ATTACHMENT H: COMPLIANCE ASSURANCE MONITORING *(NOT APPLICABLE)*

ATTACHMENT I: LIST OF PROPOSED CONDITION CHANGES

Company Name: Steel of West Virginia
 Facility Name: Huntington Facility
 Project Description: Title V Operating Permit Renewal Application

Attachment I: List of Proposed Condition Changes

Permit Section	Permit Page #	Permit Condition #	Source ID	Current Condition Language	Proposed Modification	Reason for Change																														
1.0.	4	1.1.	List of Emission Units	Emission Unit ID: EU005 Emission Point ID: F005 Emission Unit Description: Ladle Preheaters, SWVA, Inc. (4) Year Installed: 1983 Design Capacity: 4 MMBtu/hr each Control Device: Building CE005	Emission Unit ID: EU005A Emission Point ID: F005 Emission Unit Description: Ladle Preheaters, Eclipse (4) Year Installed: 2013 Design Capacity: 5.5 MMBtu/hr each Control Device: Building CE005	Ladle Preheaters were replaced in 2013. Update to reflect specifications of new ladle preheaters.																														
1.0.	4	1.1.	List of Emission Units	---	Please add the following emission units: <table border="1" style="margin-top: 5px;"> <thead> <tr> <th>Emission Unit ID</th> <th>Emission Point ID</th> <th>Emission Unit Description</th> <th>Design Capacity</th> <th>Control Device</th> </tr> </thead> <tbody> <tr> <td>EU029</td> <td>F029</td> <td>Baghouse Dust Handling</td> <td>NA</td> <td>---</td> </tr> <tr> <td>EU030</td> <td>F030</td> <td>Alloy Handling</td> <td>NA</td> <td>CE005</td> </tr> <tr> <td>EU031</td> <td>S031</td> <td>East Cooling Towers (2)</td> <td>1,800 gpm</td> <td>---</td> </tr> <tr> <td>EU032</td> <td>S032</td> <td>Melt Shop Cooling Towers (3)</td> <td>5,273 gpm</td> <td>---</td> </tr> <tr> <td>EU033</td> <td>S033</td> <td>Space Heaters</td> <td>5 MMBtu/hr</td> <td>---</td> </tr> </tbody> </table>	Emission Unit ID	Emission Point ID	Emission Unit Description	Design Capacity	Control Device	EU029	F029	Baghouse Dust Handling	NA	---	EU030	F030	Alloy Handling	NA	CE005	EU031	S031	East Cooling Towers (2)	1,800 gpm	---	EU032	S032	Melt Shop Cooling Towers (3)	5,273 gpm	---	EU033	S033	Space Heaters	5 MMBtu/hr	---	Update list of emission units to include existing sources accounted for in annual reporting.
Emission Unit ID	Emission Point ID	Emission Unit Description	Design Capacity	Control Device																																
EU029	F029	Baghouse Dust Handling	NA	---																																
EU030	F030	Alloy Handling	NA	CE005																																
EU031	S031	East Cooling Towers (2)	1,800 gpm	---																																
EU032	S032	Melt Shop Cooling Towers (3)	5,273 gpm	---																																
EU033	S033	Space Heaters	5 MMBtu/hr	---																																
3.0.	14	3.1.12.	---	When emissions on an annual basis of one or more of the greenhouse gases listed below are greater than the de minimis amounts listed below, all greenhouse gases emitted above the de minimis amounts shall be reported to the Secretary under 45CSR§42-4. (see Section 3.5.11.): Greenhouse Gas Compound tons/year Carbon Dioxide 10,000 Methane 476 Nitrous Oxide 32.6 Hydrofluorocarbons 0.855 Perfluorocarbons 1.09 Sulfur Hexafluoride 0.42 [45CSR§42-3.1., State-Enforceable only.]	Remove condition.	45 CSR 42, the Greenhouse Gas Emissions Inventory Program, was repealed effective June 1, 2012 due to the U.S. EPA's promulgation of Mandatory Greenhouse Gas Reporting. The authority for reporting of greenhouse gases now comes from 40 CFR 98.																														
3.0.	19	3.5.11.	---	3.5.11. Greenhouse Gas Reporting Requirements. When applicable, as determined in Section 3.1.12., greenhouse gas emissions shall be reported pursuant to 45CSR§42-4. as follows: a. In accordance with a reporting cycle provided by the Secretary, affected sources shall report to the Secretary the quantity of all greenhouse gases emitted above de minimis amounts in the years specified by the Secretary. [45CSR§42-4.1., State-Enforceable only.] b. Affected sources shall only be required to report annual quantities of anthropogenic non-mobile source greenhouse gases emitted at the stationary source, and shall not be required to report biogenic emissions of greenhouse gases. [45CSR§42-4.2., State-Enforceable only.] c. Reports of greenhouse gas emissions submitted to the Secretary under 45CSR§42-4. shall be signed by a responsible official and shall include the following certification statement: "I, the undersigned, hereby certify that the data transmitted to the West Virginia Department of Environmental Protection is true, accurate, and complete, based upon information and belief formed after reasonable inquiry. [45CSR§42-4.5., State-Enforceable only.]	Remove condition.	45 CSR 42, the Greenhouse Gas Emissions Inventory Program, was repealed effective June 1, 2012 due to the U.S. EPA's promulgation of Mandatory Greenhouse Gas Reporting. The authority for reporting of greenhouse gases now comes from 40 CFR 98.																														
4.0.	21	4.0.	EU005	Source-Specific Requirements [Manufacturing Processes EU003, EU004, EU005, EU006, EU007, EU011, EU0012, EU013, EU014, EU015, EU016, EU017, EU024, EU025]	Source-Specific Requirements [Manufacturing Processes EU003, EU004, EU005A, EU006, EU007, EU011, EU0012, EU013, EU014, EU015, EU016, EU017, EU024, EU025]	Ladle Preheaters were replaced in 2013. Update to reflect Emission Unit ID change for new Ladle Preheaters.																														
4.0.	21	4.1.3.	EU005	Emission Unit ID: EU005	Emission Unit ID: EU005A	Ladle Preheaters were replaced in 2013. Update to reflect Emission Unit ID change for new Ladle Preheaters.																														

ATTACHMENT J: LIST OF APPLICABLE RICE MACT PROVISIONS FOR INCLUSION

Company Name: Steel of West Virginia
 Facility Name: Huntington Facility
 Project Description: Title V Operating Permit Renewal Application

Attachment J: List of Applicable RICE MACT Provisions for Inclusion

Source ID(s)	Type of Condition	Proposed Language
<p>Diesel-fired Internal Combustion Engine: Harper Detroit 97 hp Emergency Generator</p>	<p>Work Practice Standard</p>	<p>§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions? Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.</p> <p>(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.</p> <p>(b) - (f) n/a</p> <p>§63.6605 What are my general requirements for complying with this subpart?</p> <p>(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.</p> <p>(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.</p> <p>§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?</p> <p>(a) - (d) n/a</p> <p>(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:</p> <p>(1) - (2) n/a</p> <p>(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;</p> <p>(4) - (10) n/a</p> <p>(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.</p> <p>(g) n/a</p> <p>(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply .</p> <p>(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.</p> <p>(j) n/a</p> <p>§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?</p> <p>(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.</p> <p>(b– (d) n/a</p> <p>(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.</p>
	<p>Work Practice Standard</p>	<p>(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.</p> <p>(1) There is no time limit on the use of emergency stationary RICE in emergency situations.</p> <p>(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).</p> <p>(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.</p> <p>(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.</p> <p>(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.</p> <p>(3) n/a</p> <p>(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.</p> <p>(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.</p> <p>(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:</p>

Company Name: Steel of West Virginia
 Facility Name: Huntington Facility
 Project Description: Title V Operating Permit Renewal Application

Attachment J: List of Applicable RICE MACT Provisions for Inclusion

Source ID(s)	Type of Condition	Proposed Language
Diesel-fired Internal Combustion Engine: Harper Detroit 97 hp Emergency Generator		<p>(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.</p> <p>(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.</p> <p>(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.</p> <p>(D) The power is provided only to the facility itself or to support the local transmission and distribution system.</p> <p>(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.</p>
	Reporting	<p>§63.6645 What notifications must I submit and when?</p> <p>(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;</p> <p>(1) - (4) n/a</p> <p>(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.</p> <p>(b) - (i) n/a</p> <p>§63.6650 What reports must I submit and when?</p> <p>(a) You must submit each report in Table 7 of this subpart that applies to you.</p> <p>(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.</p> <p>(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.</p> <p>(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.</p> <p>(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.</p> <p>(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.</p> <p>(5) n/a</p> <p>(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.</p> <p>(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.</p> <p>(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.</p> <p>(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.</p>
	Reporting	<p>(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.</p> <p>(1) Company name and address.</p> <p>(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.</p> <p>(3) Date of report and beginning and ending dates of the reporting period.</p> <p>(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.</p> <p>(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.</p> <p>(6) n/a</p> <p>(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.</p> <p>(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.</p> <p>(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.</p> <p>(e) n/a</p> <p>(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.</p> <p>(g) - (h) n/a</p>

Company Name: Steel of West Virginia
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Attachment J: List of Applicable RICE MACT Provisions for Inclusion

Source ID(s)	Type of Condition	Proposed Language
Diesel-fired Internal Combustion Engine: Harper Detroit 97 hp Emergency Generator	Recordkeeping	<p>§63.6655 What records must I keep? (a) – (d) n/a (e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE; (1) n/a (2) An existing stationary emergency RICE. (3) n/a (f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. (1) n/a (2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.</p> <p>§63.6660 In what form and how long must I keep my records? (a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1). (b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).</p>
	Work Practice Standard	<p>Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions: For each . . . 4. Emergency stationary CI RICE and black start stationary CI RICE.² You must meet the following requirement, except during periods of startup . . . a. Change oil and filter every 500 hours of operation or annually, whichever comes first;¹ b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ²If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the <u>management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.</u></p>
Diesel-fired Internal Combustion Engine: Harper Detroit 97 hp Emergency Generator	Work Practice Standard	<p>Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following: For each . . . 9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE Complying with the requirement to . . . a. Work or Management practices You must demonstrate continuous compliance by . . . i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.</p>

ATTACHMENT K: LIST OF APPLICABLE NSPS SUBPART JJJJ PROVISIONS FOR INCLUSION

Company Name: Steel of West Virginia
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 Project Description: Title V Operating Permit Renewal Application

Attachment K: List of Applicable NSPS Subpart JJJJ Provisions for Inclusion

Source ID(s)	Type of Condition	Proposed Language
	Emission Limit	<p>§60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine? (a) - (d) n/a (e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified. (f) – (h) n/a</p> <p>§60.4234 How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine? Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.</p>
<p>Natural Gas-Fired Internal Combustion Engines: Generac 255 hp Emergency Generator and PSI Industrial 268 hp Emergency Generator</p>	Work Practice Standard	<p>§60.4237 What are the monitoring requirements if I am an owner or operator of an emergency stationary SI internal combustion engine? (a) n/a (b) Starting on January 1, 2011, if the emergency stationary SI internal combustion engine that is greater than or equal to 130 HP and less than 500 HP that was built on or after January 1, 2011, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter. (c) n/a</p> <p>§60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine? (a) n/a (b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section. (1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section. (2) Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section. (i) If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and less than or equal to 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. (ii) n/a (c) n/a (d) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (d)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (d)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (d)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. (1) There is no time limit on the use of emergency stationary ICE in emergency situations. (2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (d)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (d)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (d)(2). (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (d)(2) of this section. Except as provided in paragraph (d)(3)(i) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. (D) The power is provided only to the facility itself or to support the local transmission and distribution system. (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator. (ii) [Reserved]</p> <p>(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233.</p> <p>(f) If you are an owner or operator of a stationary SI internal combustion engine that is less than or equal to 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a). (g) – (h) n/a</p>

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Attachment K: List of Applicable NSPS Subpart JJJJ Provisions for Inclusion

Source ID(s)	Type of Condition	Proposed Language
Natural Gas-Fired Internal Combustion Engines: Generac 255 hp Emergency Generator and PSI Industrial 268 hp Emergency Generator	Testing	<p>§60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine? Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.</p> <p>(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart.</p> <p>(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.</p> <p>(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.</p> <p>(d) To determine compliance with the NOX mass per unit output emission limitation, convert the concentration of NOX in the engine exhaust using Equation 1 of this section: (Refer to regulation)</p> <p>(f) For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section: (Refer to regulation)</p> <p>(g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section. (Refer to regulation)</p>
	Recordkeeping	<p>§60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine? Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.</p> <p>(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.</p> <p>(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.</p> <p>(2) Maintenance conducted on the engine.</p> <p>(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.</p> <p>(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.</p> <p>(b) - (c) n/a</p>
	Reporting	<p>(d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed.</p> <p>(e) If you own or operate an emergency stationary SI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §60.4243(d)(2)(ii) and (iii) or that operates for the purposes specified in §60.4243(d)(3)(i), you must submit an annual report according to the requirements in paragraphs (e)(1) through (3) of this section.</p> <p>(1) The report must contain the following information:</p> <p>(i) Company name and address where the engine is located.</p> <p>(ii) Date of the report and beginning and ending dates of the reporting period.</p> <p>(iii) Engine site rating and model year.</p> <p>(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.</p> <p>(v) Hours operated for the purposes specified in §60.4243(d)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §60.4243(d)(2)(ii) and (iii).</p> <p>(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §60.4243(d)(2)(ii) and (iii).</p> <p>(vii) Hours spent for operation for the purposes specified in §60.4243(d)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4243(d)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.</p> <p>(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.</p> <p>(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §60.4.</p>

ATTACHMENT L: REDLINE VERSION OF EXISTING TITLE V OPERATING PERMIT

*West Virginia Department of Environmental Protection
Division of Air Quality*

*Joe Manchin, III
Governor*

*Randy C. Huffman
Cabinet Secretary*

Permit to Operate



*Pursuant to
Title V
of the Clean Air Act*

Issued to:
SWVA, Inc.
R30-01100009-2010

*John A. Benedict
Director*

*Issued: August 17, 2010 • Effective: August 31, 2010
Expiration: August 17, 2015 • Renewal Application Due: February 17, 2015*

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
EU003	S008, F003	Lime Bin #1 Load-In; H.K. Porter	1970	0.83 tons/hr	Baghouse CE008
EU004	S007, F004	Lime Bin #2 Load-In; H.K. Porter	1970	0.83 tons/hr	Baghouse CE007
EU005	F005	Ladle Preheaters; SWVA, Inc. (4)	1983	4 MMBtu/hr each	Building CE005
EU006	S008, F005	Electric Arc Furnace #1; Lectramelt	1979	20 tons/hr	Baghouse CE008
EU007	S007, F005	Electric Arc Furnace #2; Lectramelt	1979	20 tons/hr	Baghouse CE007
EU008	S008, S006	Electric Arc Furnace Canopy Hood	1989	40 tons/hr	Baghouse CE008, CE006
EU011	F005	Slag Handling	1950	40 tons/hr	Building CE005
EU012	F005	Continuous Caster; Concast	1975	40 tons/hr	Building CE005
EU013	F005	Caster Cutoff Torches	1975	40 tons/hr	Building CE005
EU014	S014	Reheat Furnace #1; Brickmont	1984	96 mmBtu/hr	---
EU015	F015	Hot Rolling Mill #1	1985	40 tons/hr	Building CE015
EU016	S016	Reheat Furnace #2; Brickmont	1997	130 mmBtu/hr	---
EU017	F017	Hot Rolling Mill #2	1994	32 tons/hr	Building CE017
EU020	F020	Paint Application	1997	20 gal/hr	---
EU022	S022	Continuous Wax Line Heater	1997	4 mmBtu/hr	---
EU023	F023a,b	Wax Application	1997	33 gal/hr	---
EU024	S024	Shot Blaster	1986	2.4 tons/hr	Dust Collector CE024
EU025	F025	Welding	1986	10 tons/hr	---
EU026	F026	Cold Cleaner	1975	0.3 gal/hr	---
EU028	F028	Plant Roads	1952	3.2 miles	

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
R13-0834	April 4, 1986

- 3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]
- 3.1.9. 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.]
- 3.1.10. 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.]
- 3.1.11. On or before July 1 of each year, the owner or operator of a stationary source subject to the requirements of 45CSR29 shall submit an emission statement to the Director for the prior calendar year.
[45CSR§29-4.1.]
- ~~3.1.12. When emissions on an annual basis of one or more of the greenhouse gases listed below are greater than the *de minimis* amounts listed below, all greenhouse gases emitted above the *de minimis* amounts shall be reported to the Secretary under 45CSR§42-4. (see Section 3.5.11.):~~

Greenhouse Gas Compound	tons/year
Carbon Dioxide	10,000
Methane	476
Nitrous Oxide	32.6
Hydrofluorocarbons	0.855
Perfluorocarbons	1.09
Sulfur Hexafluoride	0.42

~~**[45CSR§42-3.1., State-Enforceable only.]**~~

3.2. Monitoring Requirements

- 3.2.1. Visual emission checks of each emission point subject to an opacity limit, with the exception of CE006, CE007, and CE008, shall be conducted once per week during periods of normal facility operation using 40 C.F.R. 60 Appendix A, Method 22. If during these checks, or at any other time, visible emissions are observed at any emission point, compliance shall be determined by conducting tests in accordance with the methodology set forth in 45CSR7A "Compliance Test Procedures for 7A." If no visible emissions are observed after one month, visible emission checks shall be conducted monthly. If any visible emissions are observed during the monthly

4. Calendar year for the emissions.
- e. Control equipment information:
 1. Current primary and secondary control equipment identification codes; and
 2. Current control equipment efficiencies (%).
- f. Process rate data:
 1. Annual fuel or process throughput rate; and
 2. Peak ozone season daily process rate.
2. The owner or operator submitting an emission statement pursuant to the provisions of this rule shall maintain records of test methods, procedures, calculations or other information used to determine emission estimates for a period of three (3) years following the date of submittal.
3. The Director may require the submittal of records, test methods, or other data upon which the information in Section 3.5.10.2. is based to verify emission estimates.
4. All non-confidential emission statement data will be submitted by the Director to U.S. EPA by updating AIRS/AFS on an annual basis. All confidential emission statement data will be submitted by the Director to U.S. EPA in accordance with the provisions of W. Va. Code §22-5-10 and rules promulgated thereunder.
[45CSR§29-5.]

~~3.5.11. **Greenhouse Gas Reporting Requirements.** When applicable, as determined in Section 3.1.12., greenhouse gas emissions shall be reported pursuant to 45CSR§42-4. as follows:~~

~~a. In accordance with a reporting cycle provided by the Secretary, affected sources shall report to the Secretary the quantity of all greenhouse gases emitted above *de minimis* amounts in the years specified by the Secretary.~~

~~**[45CSR§42-4.1., State-Enforceable only.]**~~

~~b. Affected sources shall only be required to report annual quantities of anthropogenic non-mobile source greenhouse gases emitted at the stationary source, and shall not be required to report biogenic emissions of greenhouse gases.~~

~~**[45CSR§42-4.2., State-Enforceable only.]**~~

~~e. Reports of greenhouse gas emissions submitted to the Secretary under 45CSR§42-4. shall be signed by a responsible official and shall include the following certification statement: "I, the undersigned, hereby certify that the data transmitted to the West Virginia Department of Environmental Protection is true, accurate, and complete, based upon information and belief formed after reasonable inquiry.~~

~~**[45CSR§42-4.5., State-Enforceable only.]**~~

3.6. Compliance Plan

3.6.1. None.

4.0. Source-Specific Requirements [Manufacturing Processes EU003, EU004, ~~EU005~~, EU006, EU007, EU011, EU0012, EU013, EU014, EU015, EU016, EU017, EU024, EU025]

4.1. Limitations and Standards

4.1.1. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7. of 45CSR7.

[45CSR§7-3.1. (except EU006 and EU007)]

4.1.1.a. The provisions of 4.1.1. above, shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.

[45CSR§7-3.2.]

4.1.2. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process that pursuant to 45CSR§7-5.1 is required to have a full enclosure and be equipped with a particulate matter control device.

[45CSR§7-3.7. (EU003 and EU004)]

4.1.3. No person shall cause, suffer, allow, or permit PM to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantities specified in this permit.

Emission Unit ID	Equipment Description	Max. Allowable PM Emission Limit (lb/hr)
EU005 EU005A	Ladle Preheaters	29.4
EU006	Electric Arc Furnace #1	28
EU007	Electric Arc Furnace #2	28
EU012	Continuous Caster	32.2
EU013	Caster Cutoff Torches	32.2
EU014	Reheat Furnace #1	33.4
EU016	Reheat Furnace #2	21.9
EU015	Hot Rolling Mill #1	32.2
EU017	Hot Rolling Mill #2	14.3
EU025	Welding	14.3

[45CSR§7-4.1.]

4.1.4. No person shall circumvent the provisions of 45CSR7 by adding additional gas to any exhaust or group of exhausts for the purpose of reducing the stack gas concentration.

[45CSR§7-4.3.]

ATTACHMENT M: SUPPORTING EMISSION CALCULATIONS

*Title V Operating Permit Renewal
Steel of West Virginia*

Year: PTE

Table 1. Annual Emissions Estimates - Criteria Pollutants

Emission Point ID	Emission Unit ID	Emission Unit Description	Potential Emissions (tpy)							
			PM-FIL	PM10-FIL	PM2.5-FIL	PM-CON	NO _x	VOC	SO ₂	CO
F001	EU001	Scrap Preparation Torches	0.62	0.62	0.62	0.01	0.21	0.01	0.001	0.18
S008/F003	EU003	Lime Bin #1 Load-In	0.09	0.05	0.03	NA	NA	NA	NA	NA
S007/F004	EU004	Lime Bin #2 Load-In	0.09	0.05	0.03	NA	NA	NA	NA	NA
F005A	EU005A	Ladle Preheaters (4)	0.18	0.18	0.18	0.54	9.45	0.52	0.06	7.94
S008/F005	EU006	West Baghouse (EAF #1 & Canopy)	7.67	5.83	5.67	3.42	19.27	2.01	17.52	157.68
S007/F005	EU007	Wheelabrator Baghouse (EAF #2)	4.56	3.46	3.37	3.42	19.27	2.01	17.52	157.68
S008/S006	EU008	East Baghouse (EAF Canopy)	7.58	5.76	5.61	6.83	NA	NA	NA	NA
F005		Melt Shop Fugitives	11.56	8.79	8.56	3.99	NA	NA	NA	NA
F005	EU009	Ladle Refurbishing	1.2E-03	5.8E-04	8.7E-05	NA	NA	NA	NA	NA
S007/F005	EU010	Tundish Cleaning/Refurbishing	0.04	0.03	0.03	0.07	1.29	0.07	0.01	1.08
F005	EU011	Slag Handling	4.56	2.28	0.81	NA	NA	NA	NA	NA
F005	EU012	Continuous Caster	6.31	4.79	4.67	0.65	NA	NA	NA	NA
F005	EU013	Caster Cutoff Torches	5.61	5.61	5.61	0.00	0.09	0.00	0.001	0.07
S014	EU014	#1 Reheat Furnace	0.61	0.61	0.61	1.63	79.89	0.13	0.25	0.55
F015	EU015	Hot Rolling Mill #1	3.36	3.36	3.36	NA	NA	NA	NA	NA
S016	EU016	#2 Reheat Furnace	1.99	1.99	1.99	5.30	108.19	0.17	0.33	0.74
F017	EU017	Hot Rolling Mill #2	2.69	2.69	2.69	NA	NA	NA	NA	NA
F020	EU020	Paint Application	NA	NA	NA	NA	NA	43.82	NA	NA
S021	EU021	Paint Drying Oven	0.03	0.03	0.03	0.10	1.72	0.09	0.010	1.44
S022	EU022	Continuous Wax Line Heater	0.03	0.03	0.03	0.10	1.72	0.09	0.01	1.44
F023a,b	EU023	Wax Application	NA	NA	NA	NA	NA	14.38	NA	NA
S024	EU024	Shot Blaster; Blast Cleaning Products	0.049	0.049	0.049	NA	NA	NA	NA	NA
F025	EU025	Welding	1.37	1.37	1.37	NA	NA	NA	NA	NA
F026	EU026	Cold Cleaner	NA	NA	NA	NA	NA	8.80	NA	NA
F027	EU027	Scrap Cutup Torches	0.62	0.62	0.62	0.06	1.12	0.06	0.01	0.94
---	EU028	Roadways	31.17	8.10	0.90	NA	NA	NA	NA	NA
---	---	Baghouse Dust Handling	0.67	0.32	0.05	NA	NA	NA	NA	NA
---	---	Alloy Handling	0.51	0.25	0.25	NA	NA	NA	NA	NA
---	---	East Cooling Towers	1.83	1.83	1.83	NA	NA	NA	NA	NA
---	---	Melt Shop Cooling Towers	5.36	5.36	5.36	NA	NA	NA	NA	NA
S029	EU029	Space Heaters	0.04	0.04	0.04	0.12	2.15	0.12	0.013	1.80
Total	PTE		99.18	64.12	54.37	26.25	244.36	72.30	35.73	331.54

Title V Operating Permit Renewal
Steel of West Virginia

Year: PTE
Table 2. Annual HAP Emissions Estimates (tpy)¹

Pollutant	CAS Number	EU001 Scrap Preparation Torches	EU003 Lime Bin #1 Load-In	EU004 Lime Bin #2 Load-In	EU005A Ladle Preheaters (4)	EU006 EAF #1	EU007 EAF #2	EU008 EAF Canopy Hood	Melt Shop Fugitives	EU009 Ladle Refurbishing	EU010 Tundish Cleaning/Refurbi shing	EU011 Slag Handling	EU012 Continuous Caster	EU013 Caster Cutoff Torches
Speciated Organics														
2-Methylnaphthalene ²	91-57-6	5.15E-08	NA	NA	2.27E-06	NA	NA	NA	NA	NA	3.09E-07	NA	NA	2.06E-08
3-Methylchloranthrene ²	56-49-5	3.86E-09	NA	NA	1.70E-07	NA	NA	NA	NA	NA	2.32E-08	NA	NA	1.55E-09
7,12-Dimethylbenz(a)anthracene ²	57-97-6	3.44E-08	NA	NA	1.51E-06	NA	NA	NA	NA	NA	2.06E-07	NA	NA	1.37E-08
Acenaphthene ²	83-32-9	3.86E-09	NA	NA	1.70E-07	NA	NA	NA	NA	NA	2.32E-08	NA	NA	1.55E-09
Acenaphthylene ²	208-96-8	3.86E-09	NA	NA	1.70E-07	NA	NA	NA	NA	NA	2.32E-08	NA	NA	1.55E-09
Anthracene ²	120-12-7	5.15E-09	NA	NA	2.27E-07	NA	NA	NA	NA	NA	3.09E-08	NA	NA	2.06E-09
Benzo(a)anthracene ²	56-55-3	3.86E-09	NA	NA	1.70E-07	NA	NA	NA	NA	NA	2.32E-08	NA	NA	1.55E-09
Benzone	71-43-2	4.51E-06	NA	NA	1.98E-04	NA	NA	NA	NA	NA	2.71E-05	NA	NA	1.80E-06
Benzo(a)pyrene ²	50-32-8	2.58E-09	NA	NA	1.13E-07	NA	NA	NA	NA	NA	1.55E-08	NA	NA	1.03E-09
Benzo(b)fluoranthene ²	205-99-2	3.86E-09	NA	NA	1.70E-07	NA	NA	NA	NA	NA	2.32E-08	NA	NA	1.55E-09
Benzo(g,h,i)perylene ²	191-24-2	2.58E-09	NA	NA	1.13E-07	NA	NA	NA	NA	NA	1.55E-08	NA	NA	1.03E-09
Benzo(j)fluoranthene ²	205-82-3	3.86E-09	NA	NA	1.70E-07	NA	NA	NA	NA	NA	2.32E-08	NA	NA	1.55E-09
Chrysene ²	218-01-9	3.86E-09	NA	NA	1.70E-07	NA	NA	NA	NA	NA	2.32E-08	NA	NA	1.55E-09
Dibenzo(a,h)anthracene ²	53-70-3	2.58E-09	NA	NA	1.13E-07	NA	NA	NA	NA	NA	1.55E-08	NA	NA	1.03E-09
Dichlorobenzene	25321-22-6	2.58E-06	NA	NA	1.13E-04	NA	NA	NA	NA	NA	1.55E-05	NA	NA	1.03E-06
Fluoranthene ²	206-44-0	6.44E-09	NA	NA	2.83E-07	NA	NA	NA	NA	NA	3.86E-08	NA	NA	2.58E-09
Fluorene ²	86-73-7	6.01E-09	NA	NA	2.65E-07	NA	NA	NA	NA	NA	3.61E-08	NA	NA	2.40E-09
Formaldehyde	50-00-0	1.61E-04	NA	NA	7.09E-03	NA	NA	NA	NA	NA	9.66E-04	NA	NA	6.44E-05
Hexane	110-54-3	3.86E-03	NA	NA	1.70E-01	NA	NA	NA	NA	NA	2.32E-02	NA	NA	1.55E-03
Indo(1,2,3-cd)pyrene ²	193-39-5	3.86E-09	NA	NA	1.70E-07	NA	NA	NA	NA	NA	2.32E-08	NA	NA	1.55E-09
Naphthalene	91-20-3	1.31E-06	NA	NA	5.76E-05	NA	NA	NA	NA	NA	7.86E-06	NA	NA	5.24E-07
Phenanthrene ²	85-01-8	3.65E-08	NA	NA	1.61E-06	NA	NA	NA	NA	NA	2.19E-07	NA	NA	1.46E-08
Pyrene ²	129-00-0	1.07E-08	NA	NA	4.72E-07	NA	NA	NA	NA	NA	6.44E-08	NA	NA	4.29E-09
Toluene	108-88-3	7.30E-06	NA	NA	3.21E-04	NA	NA	NA	NA	NA	4.38E-05	NA	NA	2.92E-06
Xylene	1130-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propylene	115-07-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Butadiene	106-99-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetaldehyde	75-07-0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrolein	107-02-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Propoxyethanol (Propyl Cellosolve)	2807-30-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	127-18-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HAP Metals														
Arsenic	7440-38-2	4.29E-07	NA	NA	1.89E-05	3.83E-05	2.28E-05	3.79E-05	5.78E-05	NA	2.58E-06	NA	NA	1.72E-07
Beryllium	7440-41-7	2.58E-08	NA	NA	1.13E-06	2.45E-05	2.45E-05	NA	NA	NA	1.55E-07	NA	NA	1.03E-08
Cadmium	7440-43-9	2.36E-06	NA	NA	1.04E-04	5.53E-03	3.28E-03	5.46E-03	8.34E-03	NA	1.42E-05	NA	NA	9.45E-07
Chromium	7440-47-3	3.01E-06	NA	NA	1.32E-04	1.16E-02	6.87E-03	1.14E-02	1.74E-02	NA	1.80E-05	NA	NA	1.20E-06
Cobalt	7440-48-4	1.80E-07	NA	NA	7.94E-06	NA	NA	NA	NA	NA	1.08E-06	NA	NA	7.21E-08
Lead	7439-92-1	1.07E-06	NA	NA	4.72E-05	1.66E-01	9.85E-02	1.64E-01	2.50E-01	NA	6.44E-06	NA	NA	4.29E-07
Manganese	7439-96-5	8.16E-07	NA	NA	3.59E-05	2.89E-01	1.72E-01	2.86E-01	4.37E-01	NA	4.90E-06	NA	NA	3.26E-07
Mercury	7439-97-6	5.58E-07	NA	NA	2.46E-05	3.99E-04	2.37E-04	3.94E-04	6.01E-04	NA	3.35E-06	NA	NA	2.23E-07
Nickel	7440-02-0	4.51E-06	NA	NA	1.98E-04	1.51E-03	8.97E-04	1.49E-03	2.28E-03	NA	2.71E-05	NA	NA	1.80E-06
Selenium	7782-49-2	5.15E-08	NA	NA	2.27E-06	NA	NA	NA	NA	NA	3.09E-07	NA	NA	2.06E-08
Total POM²		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Metal HAP		0.00	0.00	0.00	0.00	0.47	0.28	0.47	0.72	0.00	0.00	0.00	0.00	0.00
Total Reportable HAP¹		0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Total HAP		0.00	0.00	0.00	0.18	0.47	0.28	0.47	0.72	0.00	0.02	0.00	0.00	0.00

1. HAPs to be included in the Emissions Inventory as follows:

Metals and polycyclic organic matter (POM) report on a process unit basis regardless of emission rate.

All other HAPs - report emissions of that HAP for all emissions units if facility wide emissions are 0.1 tpy or greater

2. Compound is a POM as specified by footnote c on Table 1.4-3 AP-42 Section 1.4, dated 7/98.

Title V Operating Permit Renewal
Steel of West Virginia

Year:
Table 2. Annual HAP Emissions Estimate

Pollutant	EU014	EU015	EU016	EU017	EU020	EU021	EU022	EU023	EU024	EU025	EU026	EU027	EU028	Baghouse Dust Handling
	#1 Reheat Furnace	Hot Rolling Mill #1	#2 Reheat Furnace	Hot Rolling Mill #2	Paint Application	Paint Drying Oven	Continuous Wax Line Heater	Wax Application	Shot Blaster; Blast Cleaning Products	Welding	Cold Cleaner	Scrap Cutup Torches	Roadways	
Speciated Organics														
2-Methylnaphthalene ²	9.89E-06	NA	1.34E-05	NA	NA	4.12E-07	4.12E-07	NA	NA	NA	NA	2.68E-07	NA	NA
3-Methylchloranthrene ²	7.42E-07	NA	1.00E-06	NA	NA	3.09E-08	3.09E-08	NA	NA	NA	NA	2.01E-08	NA	NA
7,12-Dimethylbenz(a)anthracene ²	6.60E-06	NA	8.93E-06	NA	NA	2.75E-07	2.75E-07	NA	NA	NA	NA	1.79E-07	NA	NA
Acenaphthene ²	7.42E-07	NA	1.00E-06	NA	NA	3.09E-08	3.09E-08	NA	NA	NA	NA	2.01E-08	NA	NA
Acenaphthylene ²	7.42E-07	NA	1.00E-06	NA	NA	3.09E-08	3.09E-08	NA	NA	NA	NA	2.01E-08	NA	NA
Anthracene ²	9.89E-07	NA	1.34E-06	NA	NA	4.12E-08	4.12E-08	NA	NA	NA	NA	2.68E-08	NA	NA
Benz(a)anthracene ²	7.42E-07	NA	1.00E-06	NA	NA	3.09E-08	3.09E-08	NA	NA	NA	NA	2.01E-08	NA	NA
Benzene	8.66E-04	NA	1.17E-03	NA	NA	3.61E-05	3.61E-05	NA	NA	NA	NA	2.34E-05	NA	NA
Benzo(a)pyrene ²	4.95E-07	NA	6.70E-07	NA	NA	2.06E-08	2.06E-08	NA	NA	NA	NA	1.34E-08	NA	NA
Benzo(b)fluoranthene ²	7.42E-07	NA	1.00E-06	NA	NA	3.09E-08	3.09E-08	NA	NA	NA	NA	2.01E-08	NA	NA
Benzo(g,h,i)perylene ²	4.95E-07	NA	6.70E-07	NA	NA	2.06E-08	2.06E-08	NA	NA	NA	NA	1.34E-08	NA	NA
Benzo(j)fluoranthene ²	7.42E-07	NA	1.00E-06	NA	NA	3.09E-08	3.09E-08	NA	NA	NA	NA	2.01E-08	NA	NA
Chrysene ²	7.42E-07	NA	1.00E-06	NA	NA	3.09E-08	3.09E-08	NA	NA	NA	NA	2.01E-08	NA	NA
Dibenzo(a,h) anthracene ²	4.95E-07	NA	6.70E-07	NA	NA	2.06E-08	2.06E-08	NA	NA	NA	NA	1.34E-08	NA	NA
Dichlorobenzene	4.95E-04	NA	6.70E-04	NA	NA	2.06E-05	2.06E-05	NA	NA	NA	NA	1.34E-05	NA	NA
Fluoranthene ²	1.24E-06	NA	1.67E-06	NA	NA	5.15E-08	5.15E-08	NA	NA	NA	NA	3.35E-08	NA	NA
Fluorene ²	1.15E-06	NA	1.56E-06	NA	NA	4.81E-08	4.81E-08	NA	NA	NA	NA	3.13E-08	NA	NA
Formaldehyde	3.09E-02	NA	4.19E-02	NA	NA	1.29E-03	1.29E-03	NA	NA	NA	NA	8.37E-04	NA	NA
Hexane	7.42E-01	NA	1.00E+00	NA	NA	3.09E-02	3.09E-02	NA	NA	NA	NA	2.01E-02	NA	NA
Indo(1,2,3-cd)pyrene ²	7.42E-07	NA	1.00E-06	NA	NA	3.09E-08	3.09E-08	NA	NA	NA	NA	2.01E-08	NA	NA
Naphthalene	2.51E-04	NA	3.41E-04	NA	NA	1.05E-05	1.05E-05	NA	NA	NA	NA	6.81E-06	NA	NA
Phenanthrene ²	7.01E-06	NA	9.49E-06	NA	NA	2.92E-07	2.92E-07	NA	NA	NA	NA	1.90E-07	NA	NA
Pyrene ²	2.06E-06	NA	2.79E-06	NA	NA	8.59E-08	8.59E-08	NA	NA	NA	NA	5.58E-08	NA	NA
Toluene	1.40E-03	NA	1.90E-03	NA	NA	5.84E-05	5.84E-05	NA	NA	NA	NA	3.80E-05	NA	NA
Xylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Butadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrolein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Propoxyethanol (Propyl Cellosolve)	NA	NA	NA	NA	4.34E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.76E-02	NA	NA	NA
HAP Metals														
Arsenic	8.24E-05	NA	1.12E-04	NA	NA	3.44E-06	3.44E-06	NA	NA	NA	NA	2.23E-06	NA	3.34E-06
Beryllium	4.95E-06	NA	6.70E-06	NA	NA	2.06E-07	2.06E-07	NA	NA	NA	NA	1.34E-07	NA	NA
Cadmium	4.53E-04	NA	6.14E-04	NA	NA	1.89E-05	1.89E-05	NA	NA	NA	NA	1.23E-05	NA	4.82E-04
Chromium	5.77E-04	NA	7.82E-04	NA	NA	2.40E-05	2.40E-05	NA	NA	2.63E-03	NA	1.56E-05	NA	1.01E-03
Cobalt	3.46E-05	NA	4.69E-05	NA	NA	1.44E-06	1.44E-06	NA	NA	2.63E-03	NA	9.38E-07	NA	NA
Lead	2.06E-04	NA	2.79E-04	NA	NA	8.59E-06	8.59E-06	NA	NA	NA	NA	5.58E-06	NA	1.45E-02
Manganese	1.57E-04	NA	2.12E-04	NA	NA	6.53E-06	6.53E-06	NA	NA	8.36E-01	NA	4.24E-06	NA	2.52E-02
Mercury	1.07E-04	NA	1.45E-04	NA	NA	4.47E-06	4.47E-06	NA	NA	NA	NA	2.90E-06	NA	3.48E-05
Nickel	8.66E-04	NA	1.17E-03	NA	NA	3.61E-05	3.61E-05	NA	NA	2.63E-03	NA	2.34E-05	NA	1.32E-04
Selenium	9.89E-06	NA	1.34E-05	NA	NA	4.12E-07	4.12E-07	NA	NA	NA	NA	2.68E-07	NA	NA
Total POM²	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Metal HAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.00	0.04
Total Reportable HAP¹	0.74	0.00	1.00	0.00	4.34	0.03	0.03	0.00	0.00	0.00	0.02	0.02	0.00	0.00
Total HAP	0.78	0.00	1.05	0.00	4.34	0.03	0.03	0.00	0.00	0.84	0.02	0.02	0.00	0.04

1. HAPs to be included in the Emissions Inventory as Metals and polycyclic organic matter (POM) report
All other HAPs - report emissions of that HAP for
2. Compound is a POM as specified by footnote c on I

Title V Operating Permit Renewal
Steel of West Virginia

Year:
Table 2. Annual HAP Emissions Estimate

Pollutant	Alloy Handling	East Cooling Towers	Melt Shop Cooling Towers	Space Heaters	Tanks	Total Individual HAP
Speciated Organics						
2-Methylnaphthalene ²	NA	NA	NA	5.15E-07	NA	2.75E-05
3-Methylchloranthrene ²	NA	NA	NA	3.86E-08	NA	2.07E-06
7,12-Dimethylbenz(a)anthracene ²	NA	NA	NA	3.44E-07	NA	1.84E-05
Acenaphthene ²	NA	NA	NA	3.86E-08	NA	2.07E-06
Acenaphthylene ²	NA	NA	NA	3.86E-08	NA	2.07E-06
Anthracene ²	NA	NA	NA	5.15E-08	NA	2.75E-06
Benz(a)anthracene ²	NA	NA	NA	3.86E-08	NA	2.07E-06
Benzene	NA	NA	NA	4.51E-05	NA	2.41E-03
Benzo(a)pyrene ²	NA	NA	NA	2.58E-08	NA	1.38E-06
Benzo(b)fluoranthene ²	NA	NA	NA	3.86E-08	NA	2.07E-06
Benzo(g,h,i)perylene ²	NA	NA	NA	2.58E-08	NA	1.38E-06
Benzo(j)fluoranthene ²	NA	NA	NA	3.86E-08	NA	2.07E-06
Chrysene ²	NA	NA	NA	3.86E-08	NA	2.07E-06
Dibenzo(a,h) anthracene ²	NA	NA	NA	2.58E-08	NA	1.38E-06
Dichlorobenzene	NA	NA	NA	2.58E-05	NA	1.38E-03
Fluoranthene ²	NA	NA	NA	6.44E-08	NA	3.44E-06
Fluorene ²	NA	NA	NA	6.01E-08	NA	3.21E-06
Formaldehyde	NA	NA	NA	1.61E-03	NA	8.61E-02
Hexane	NA	NA	NA	3.86E-02	NA	2.07E+00
Indo(1,2,3-cd)pyrene ²	NA	NA	NA	3.86E-08	NA	2.07E-06
Naphthalene	NA	NA	NA	1.31E-05	NA	7.00E-04
Phenanthrene ²	NA	NA	NA	3.65E-07	NA	1.95E-05
Pyrene ²	NA	NA	NA	1.07E-07	NA	5.74E-06
Toluene	NA	NA	NA	7.30E-05	NA	3.90E-03
Xylene	NA	NA	NA	NA	NA	0.00E+00
Propylene	NA	NA	NA	NA	NA	0.00E+00
1,3-Butadiene	NA	NA	NA	NA	NA	0.00E+00
Acetaldehyde	NA	NA	NA	NA	NA	0.00E+00
Acrolein	NA	NA	NA	NA	NA	0.00E+00
2-Propoxyethanol (Propyl Cellosolve)	NA	NA	NA	NA	NA	4.34E+00
Tetrachloroethylene	NA	NA	NA	NA	NA	1.76E-02
HAP Metals						
Arsenic	NA	NA	NA	4.29E-06	NA	3.90E-04
Beryllium	NA	NA	NA	2.58E-07	NA	6.28E-05
Cadmium	NA	NA	NA	2.36E-05	NA	2.44E-02
Chromium	NA	NA	NA	3.01E-05	NA	5.25E-02
Cobalt	NA	NA	NA	1.80E-06	NA	2.73E-03
Lead	NA	NA	NA	1.07E-05	NA	6.93E-01
Manganese	NA	NA	NA	8.16E-06	NA	2.05E+00
Mercury	NA	NA	NA	5.58E-06	NA	1.96E-03
Nickel	NA	NA	NA	4.51E-05	NA	1.13E-02
Selenium	NA	NA	NA	5.15E-07	NA	2.75E-05
Total POM²	0.00	0.00	0.00	0.00	0.00	0.00
Total Metal HAP	0.00	0.00	0.00	0.00	0.00	2.83
Total Reportable HAP¹	0.00	0.00	0.00	0.04	0.00	6.43
Total HAP	0.00	0.00	0.00	0.04	0.00	9.35

1. HAPs to be included in the Emissions Inventory as Metals and polycyclic organic matter (POM) report
All other HAPs - report emissions of that HAP for
2. Compound is a POM as specified by footnote c on I

**Title V Operating Permit Renewal
Steel of West Virginia**

Emissions Inventory Calculation Methods

Emission Point ID	Emission Unit ID	Emission Unit Description		PM	PM ₁₀	PM _{2.5}	NO _x	VOC	SO ₂	CO	HAP
F001	EU001	Scrap Preparation Torches	Emission Factor Source:	AP-42 Table 12.5.1-1 (04/09)	Assume equivalent to PM	Assume equivalent to PM	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Tables 1.4-3 and 1.4-4 (07/98)
			Throughput:	tons scrap	tons scrap	tons scrap	MMscf of Natural Gas per year	MMscf of Natural Gas per year			
S008/F003	EU003	Lime Bin #1 Load-In	Emission Factor Source (Fabric Filter):	Engineering Estimate	Engineering Estimate	Engineering Estimate	---	---	---	---	---
			Throughput (Fabric Filter):	dscfm exhaust gas	dscfm exhaust gas	dscfm exhaust gas	---	---	---	---	---
			Emission Factor Source (fugitive):	AP-42, Section 13.2.4 (11/06)	AP-42, Section 13.2.4 (11/06)	AP-42, Section 13.2.4 (11/06)	---	---	---	---	---
			Throughput (fugitive):	tons lime received	tons lime received	tons lime received	---	---	---	---	---
S007/F004	EU004	Lime Bin #2 Load-In	Emission Factor Source (Fabric Filter):	Engineering Estimate	Engineering Estimate	Engineering Estimate	---	---	---	---	---
			Throughput (Fabric Filter):	tons lime received	tons lime received	tons lime received	---	---	---	---	---
			Emission Factor Source (fugitive):	AP-42, Section 13.2.4 (11/06)	AP-42, Section 13.2.4 (11/06)	AP-42, Section 13.2.4 (11/06)	---	---	---	---	---
			Throughput (fugitive):	tons lime received	tons lime received	tons lime received	---	---	---	---	---
F005A	EU005A	Ladle Preheaters (4)	Emission Factor Source:	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Tables 1.4-3 and 1.4-4 (07/98)
			Throughput:	MMscf of Natural Gas/year	MMscf of Natural Gas/year	MMscf of Natural Gas/year	MMscf of Natural Gas/year	MMscf of Natural Gas/year	MMscf of Natural Gas/year	MMscf of Natural Gas/year	MMscf of Natural Gas/year
S008/F005	EU006	West Baghouse - Electric Arc Furnace #1 & Canopy Hood	Emission Factor Source (baghouse):	Based on Stack Testing	76% of total PM is PM ₁₀ - AP-42 Table 12.5-2 (01/95)	74% of total PM is PM _{2.5} - AP-42 Table 12.5-2 (01/95)	AP-42 Section 12.5, Table 12.5.1-4 (04/09)	AP-42 Section 12.5, Table 12.5.1-8 (04/09)	AP-42 Section 12.5, Table 12.5.1-6 (04/09)	AP-42 Section 12.5, Table 12.5.1-5 (04/09)	Baghouse dust analysis or AP-42
			Throughput (baghouse):	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	tons of steel produced	Wt %			
			Throughput (fugitive):	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	---	---	---	---	---
S007/F005	EU007	Wheelabrator Baghouse - EAF #2	Emission Factor Source (baghouse):	#VALUE!	76% of total PM is PM ₁₀ - AP-42 Table 12.5-2 (01/95)	74% of total PM is PM _{2.5} - AP-42 Table 12.5-2 (01/95)	AP-42 Section 12.5, Table 12.5.1-4 (04/09)	AP-42 Section 12.5, Table 12.5.1-8 (04/09)	AP-42 Section 12.5, Table 12.5.1-6 (04/09)	AP-42 Section 12.5, Table 12.5.1-5 (04/09)	Baghouse dust analysis or AP-42

**Title V Operating Permit Renewal
Steel of West Virginia**

Emissions Inventory Calculation Methods

Emission Point ID	Emission Unit ID	Emission Unit Description		PM	PM ₁₀	PM _{2.5}	NO _x	VOC	SO ₂	CO	HAP
			Throughput (baghouse):	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	tons of steel produced	Wt %			
			Throughput (fugitive):	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	---	---	---	---	---
S008/S006	EU008	East Baghouse - EAF Canopy Hood	Emission Factor Source:	Based on Stack Testing	76% of total PM is PM10 - AP-42 Table 12.5-2 (01/95)	74% of total PM is PM2.5 - AP-42 Table 12.5-2 (01/95)	(Already accounted for in EAF #1 & EAF #2 calculations)	(Already accounted for in EAF #1 & EAF #2 calculations)	(Already accounted for in EAF #1 & EAF #2 calculations)	(Already accounted for in EAF #1 & EAF #2 calculations)	Baghouse dust analysis or AP-42
			Throughput (baghouse):	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	Wt %
			Throughput (fugitive):	hrs/yr of operation	hrs/yr of operation	hrs/yr of operation	---	---	---	---	---
F005	EU009	Ladle Refurbishing	Emission Factor Source:	AP-42- Section 13.2.4	AP-42- Section 13.2.4	AP-42- Section 13.2.4	---	---	---	---	---
			Throughput:	# bricks/yr	# bricks/yr	# bricks/yr	---	---	---	---	---
S007/F005	EU010	Tundish Cleaning/Refurbishing	Emission Factor Source:	AP-42- Section 13.2.4	AP-42- Section 13.2.4	AP-42- Section 13.2.4	---	---	---	---	---
			Throughput:	tons/hr	tons/hr	tons/hr	---	---	---	---	---
F005	EU011	Slag Handling	Emission Factor Source:	AP-42, Section 12.5-4 (01/95)	AP-42, Section 12.5-4 (01/95)	AP-42, Section 12.5-4 (01/95)	---	---	---	---	---
			Throughput:	tons of slag	tons of slag	tons of slag	---	---	---	---	---
F005	EU012	Continuous Caster	Emission Factor Source:	AP-42, Table 12.5.1-8 (04/09)	76% of total PM is PM10 - AP-42 Table 12.5-2 (01/95)	74% of total PM is PM2.5 - AP-42 Table 12.5-2 (01/95)	---	---	---	---	---
			Throughput:	tons poured	tons poured	tons poured	---	---	---	---	---
F005	EU013	Caster Cutoff Torches	Emission Factor Source:	AP-42 Table 12.5.1-1 (04/09)	AP-42 Table 12.5.1-1 (04/09)	AP-42 Table 12.5.1-1 (04/09)	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Tables 1.4-3 and 1.4-4 (07/98)
			Throughput:	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr
S014	EU014	#1 Reheat Furnace	Emission Factor Source:	AP-42 Table 12.5.1-1 (04/09)	AP-42 Table 12.5.1-1 (04/09)	AP-42 Table 12.5.1-1 (04/09)	AP-42 Table 12.5.1-4 (04/09)	AP-42 Table 12.5.1-8 (04/09)	AP-42 Table 1.4-2	AP-42 Table 12.5.1-5 (04/09)	AP-42 Tables 1.4-3 and 1.4-4 (07/98)

Title V Operating Permit Renewal
Steel of West Virginia

Emissions Inventory Calculation Methods

Emission Point ID	Emission Unit ID	Emission Unit Description		PM	PM ₁₀	PM _{2.5}	NO _x	VOC	SO ₂	CO	HAP
			Throughput:	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr
S016	EU016	#2 Reheat Furnace	Emission Factor Source:	AP-42 Table 12.5.1-1 (04/09)	AP-42 Table 12.5.1-1 (04/09)	AP-42 Table 12.5.1-1 (04/09)	AP-42 Table 12.5.1-4 (04/09)	AP-42 Table 12.5.1-8 (04/09)	AP-42 Table 1.4-2	AP-42 Table 12.5.1-5 (04/09)	AP-42 Tables 1.4-3 and 1.4-4 (07/98)
			Throughput:	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr
F015	EU015	Hot Rolling Mill #1	Emission Factor Source:	Site-specific emission factor from Title V Application	Site-specific emission factor from Title V Application	Site-specific emission factor from Title V Application	---	---	---	---	---
F017	EU017	Hot Rolling Mill #2	Emission Factor Source:	Site-specific emission factor from Title V Application	Site-specific emission factor from Title V Application	Site-specific emission factor from Title V Application	---	---	---	---	---
F020	EU020	Paint Application	Emission Factor Source:	---	---	---	---	MSDS 17413A W/R Black LF Columbia Paint Composition	---	---	1.52% from MSDS
			Throughput:	---	---	---	---	gallons/yr	---	---	gallons/yr
S021	EU021	Paint Drying Oven	Emission Factor Source:	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Tables 1.4-3 and 1.4-4 (07/98)
			Throughput:	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr
S022	EU022	Continuous Wax Line Heater	Emission Factor Source:	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-1 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Table 1.4-2 (07/98)	AP-42 Tables 1.4-3 and 1.4-4 (07/98)
			Throughput:	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr	MMscf/yr
F023a,b	EU023	Wax Application	Emission Factor Source:	---	---	---	---	MSDS Non-Rust 1210; Daughbert Chemical Composition dated	---	---	---
			Throughput:	---	---	---	---	gallons	---	---	---
S024	EU024	Shot Blaster; Blast Cleaning Products	Emission Factor Source:	Site-specific emission factor from Title V Permit Application	assume equivalent to PM	assume equivalent to PM	---	---	---	---	---
			Throughput:	hours per year	hours per year	hours per year	---	---	---	---	---
F025	EU025	Welding	Emission Factor Source:	Assumed 100% of PM10	AP-42, Table 12.19-1 GMAW (01/95)	Assumed 100% of PM10	---	---	---	---	AP-42, Table 12.19-2 GMAW (01/95)

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:

Scrap Preparation Torches

Emission Point ID:

F001

Annual Processing Rate:

38,752 tons scrap

Emission Unit ID:

EU001

Annual Operating Rate:

8760 hrs per year

SCC:

30390003

Design Rating:

0.5 MMBtu/hr

Fuel Usage:

4.3 MMscf of Natural Gas per year

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
Criteria:						
Particulate Matter, Filterable (PM _{FIL})	0.14	0.62	0.032	lb/ton	AP-42 Table 12.5.1-1 (04/09)	Factor for NG fired billet cutting torches
Particulate Matter <10 microns (PM _{10FIL})	0.14	0.62	0.032	lb/ton	AP-42 Table 12.5.1-1 (04/09)	assume equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.14	0.62	0.032	lb/ton	AP-42 Table 12.5.1-1 (04/09)	assume equivalent to PM
Particulate Matter, Condensable (PM _{CON})	0.00	0.01	5.7	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Nitrogen Oxides (NO _x)	0.05	0.21	100	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Volatile Organic Compounds (VOC)	0.00	0.01	5.5	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Sulfur Dioxide (SO ₂)	0.00	0.00	0.6	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
Carbon Monoxide (CO)	0.04	0.18	84	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
HAP:	9.26E-04	4.05E-03	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Potential Emissions (lb/hr)	Potential Emissions (tpy)
Speciated Organics				
2-Methylnaphthalene	91-57-6	2.4E-05	1.2E-08	5.2E-08
3-Methylchloranthrene	56-49-5	1.8E-06	8.8E-10	3.9E-09
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	7.8E-09	3.4E-08
Acenaphthene	83-32-9	1.8E-06	8.8E-10	3.9E-09
Acenaphthylene	203-96-8	1.8E-06	8.8E-10	3.9E-09
Anthracene	120-12-7	2.4E-06	1.2E-09	5.2E-09
Benz(a)anthracene	56-55-3	1.8E-06	8.8E-10	3.9E-09
Benzene	71-43-2	2.1E-03	1.0E-06	4.5E-06
Benzo(a)pyrene	50-32-8	1.2E-06	5.9E-10	2.6E-09
Benzo(b)fluoranthene	205-99-2	1.8E-06	8.8E-10	3.9E-09
Benzo(g,h,i)perylene	191-24-2	1.2E-06	5.9E-10	2.6E-09
Benzo(k)fluoranthene	205-82-3	1.8E-06	8.8E-10	3.9E-09
Chrysene	218-01-9	1.8E-06	8.8E-10	3.9E-09
Dibenzo(a,h) anthracene	53-70-3	1.2E-06	5.9E-10	2.6E-09
Dichlorobenzene	25321-22-6	1.2E-03	5.9E-07	2.6E-06
Fluoranthene	206-44-0	3.0E-06	1.5E-09	6.4E-09
Fluorene	86-73-7	2.8E-06	1.4E-09	6.0E-09
Formaldehyde	50-00-0	7.5E-02	3.7E-05	1.6E-04
Hexane	110-54-3	1.8E+00	8.8E-04	3.9E-03
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	8.8E-10	3.9E-09

*Title V Operating Permit Renewal
Steel of West Virginia*

Process:

Scrap Preparation Torches

Emission Point ID:

F001

Emission Unit ID:

EU001

SCC:

30390003

Annual Processing Rate:

38,752 tons scrap

Annual Operating Rate:

8760 hrs per year

Design Rating:

0.5 MMBtu/hr

Fuel Usage:

4.3 MMscf of Natural Gas per year

Napthalene	91-20-3	6.1E-04	3.0E-07	1.3E-06
Phenanthrene	85-01-8	1.7E-05	8.3E-09	3.7E-08
Pyrene	129-00-0	5.0E-06	2.5E-09	1.1E-08
Toluene	108-88-3	3.4E-03	1.7E-06	7.3E-06
Metals				
Arsenic	7440-38-2	2.0E-04	9.8E-08	4.3E-07
Beryllium	7440-41-7	1.2E-05	5.9E-09	2.6E-08
Cadmium	7440-43-9	1.1E-03	5.4E-07	2.4E-06
Chromium	7440-47-3	1.4E-03	6.9E-07	3.0E-06
Cobalt	7440-48-4	8.4E-05	4.1E-08	1.8E-07
Lead	7439-92-1	5.0E-04	2.5E-07	1.1E-06
Manganese	7439-96-5	3.8E-04	1.9E-07	8.2E-07
Mercury	7439-97-6	2.6E-04	1.3E-07	5.6E-07
Nickel	7440-02-0	2.1E-03	1.0E-06	4.5E-06
Selenium	7782-49-2	2.4E-05	1.2E-08	5.2E-08
Total HAP		9.3E-04		4.1E-03
Non-HAP Metals				
Barium	7440-39-3	4.4E-03	2.2E-06	9.4E-06
Copper	7440-50-8	8.50E-04	4.17E-07	1.83E-06
Molybdenum	7439-98-7	1.10E-03	5.39E-07	2.36E-06
Vanadium	7440-62-2	2.30E-03	1.13E-06	4.94E-06
Zinc	7440-66-6	2.90E-02	1.42E-05	6.23E-05

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Lime Bin #1		Emission Point ID:	S008 / F003
Annual Processing Rate:	7292	tons lime received	Emission Unit ID:	EU003
Lime Bin Filter Exhaust:	1000	dscfm exhaust gas	SCC:	30300998
Operating Hours:	292	hours per year	Year Installed:	1970
Control Device:	CE008		Design Capacity:	0.83 tons/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source
Criteria:					
Particulate Matter, Filterable (PM _{FIL}) ¹	0.01	0.03	0.02	gr/dscf	Engineering Estimate
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.01	0.03	0.02	gr/dscf	Engineering Estimate
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.01	0.03	0.02	gr/dscf	Engineering Estimate
Fugitive PM ^{1,2}	0.01	0.06	0.084	lb/ton	AP-42, Section 13.2.4 (11/06)
Fugitive PM ₁₀ ^{1,2}	0.01	0.03	0.040	lb/ton	AP-42, Section 13.2.4 (11/06)
Fugitive PM _{2.5} ^{1,2}	0.00	0.00	0.006	lb/ton	AP-42, Section 13.2.4 (11/06)
Nitrogen Oxides (NO _x)	NA	NA			
Volatile Organic Compounds (VOC)	NA	NA			
Sulfur Dioxide (SO ₂)	NA	NA			
Carbon Monoxide (CO)	NA	NA			
HAP:	NA	NA			

- All PM is filterable only (this is a non-combustion process).
- Fugitive emission factors are calculated using AP-42 Section 13.2.4 assuming one transfer from the bin to conveyor.

$$E = k(0.0032) \left(\frac{U}{5} \right)^{1.3} \left(\frac{M}{2} \right)^{1.4} \text{ (lb / ton)}$$

k = 0.74 PM - (AP-42, Section 13.2.4 (11/06), for Particle Size < 30 mm)
 0.35 PM₁₀ - (AP-42, Section 13.2.4 (11/06), for Particle Size < 10 mm)
 0.053 PM_{2.5} - (AP-42, Section 13.2.4 (11/06), for Particle Size < 2.5 mm)

Mean Wind Speed (mph): U = 6.52 40-yr average for Huntington, WV (from <http://www.ncdc.noaa.gov/oa/climate/online/ccd/avgwind.htm>)
 Lime Moisture Content (%) = 0.2 per AP-42, Section 13.2.4, Table 13.2.4-1 (11/06)

Type of Material	PM Emission Factor (lb/ton)	PM ₁₀ Emission Factor (lb/ton)	PM _{2.5} Emission Factor (lb/ton)
Lime	0.08404	0.03975	0.00602

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Lime Bin #2		Emission Point ID:	S007 / F004
Annual Processing Rate:	7292	tons lime received	Emission Unit ID:	EU004
Lime Bin Filter Exhaust:	1000	dscfm	SCC:	30300998
Operating Hours:	292	hours per year	Year Installed:	1970
Control Device:	CE007		Design Capacity:	0.83 tons/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source
Criteria:					
Particulate Matter, Filterable (PM _{FIL}) ¹	0.01	0.03	0.02	gr/dscf	Engineering Estimate
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.01	0.03	0.02	gr/dscf	Engineering Estimate
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.01	0.03	0.02	gr/dscf	Engineering Estimate
Fugitive PM ^{1,2}	0.01	0.06	0.084	lb/ton	AP-42, Section 13.2.4 (11/06)
Fugitive PM ₁₀ ^{1,2}	0.01	0.03	0.040	lb/ton	AP-42, Section 13.2.4 (11/06)
Fugitive PM _{2.5} ^{1,2}	0.00	0.00	0.006	lb/ton	AP-42, Section 13.2.4 (11/06)
Nitrogen Oxides (NO _x)	NA	NA			
Volatile Organic Compounds (VOC)	NA	NA			
Sulfur Dioxide (SO ₂)	NA	NA			
Carbon Monoxide (CO)	NA	NA			
HAP:	NA	NA			

- All PM is filterable only (this is a non-combustion process).
- Fugitive emission factors are calculated using AP-42 Section 13.2.4 assuming one transfer from the bin to conveyor.

$$E = k(0.0032) \left(\frac{U}{5} \right)^{1.3} \left(\frac{M}{2} \right)^{1.4} \text{ (lb / ton)}$$

k =	0.74	PM - (AP-42, Section 13.2.4 (11/06), for Particle Size < 30 mm)
	0.35	PM ₁₀ - (AP-42, Section 13.2.4 (11/06), for Particle Size < 10 mm)
	0.053	PM _{2.5} - (AP-42, Section 13.2.4 (11/06), for Particle Size < 2.5 mm)
Mean Wind Speed (mph): U =	6.52	40-yr average for Huntington, WV (from http://www.ncdc.noaa.gov/oa/climate/online/ccd/avgwind.htm)
Lime Moisture Content (%) =	0.2	per AP-42, Section 13.2.4, Table 13.2.4-1 (11/06)

Type of Material	PM Emission Factor (lb/ton)	PM ₁₀ Emission Factor (lb/ton)	PM _{2.5} Emission Factor (lb/ton)
Lime	0.08404	0.03975	0.00602

*Title V Operating Permit Renewal
Steel of West Virginia*

Process:	Ladle Preheaters (4)			Emission Point ID:	F005A
Rated Capacity:	22	MMBtu/hr	(total)	Emission Unit ID:	EU005A
Hours of Operation:	8760	hrs/yr		SCC Code:	30390003
Fuel Usage:	188.94	MMscf of Natural Gas/year		Year Installed:	2013
Control Device:	CE005			Design Capacity:	5.5 MMBtu/hr (each)

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	0.04	0.18	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Particulate Matter <10 microns (PM _{10FIL})	0.04	0.18	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.04	0.18	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Particulate Matter, Condensable (PM _{CON})	0.12	0.54	5.7	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Nitrogen Oxides (NO _x)	2.16	9.45	100	lb/MMscf	AP-42 Table 1.4-1 (07/98)	
Volatile Organic Compounds (VOC)	0.12	0.52	5.5	lb/MMscf	AP-42 Table 1.4-1 (07/98)	
Sulfur Dioxide (SO ₂)	0.01	0.06	0.6	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Carbon Monoxide (CO)	1.81	7.94	84	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
<u>HAP:</u>	4.07E-02	1.78E-01	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Ladle Preheaters (4)			Emission Point ID:	F005A
Rated Capacity:	22	MMBtu/hr	(total)	Emission Unit ID:	EU005A
Hours of Operation:	8760	hrs/yr		SCC Code:	30390003
Fuel Usage:	188.94	MMscf of Natural Gas/year		Year Installed:	2013

Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Potential Emissions (lb/hr)	Potential Emissions (tpy)
<u>Speciated Organics</u>				
2-Methylnaphthalene	91-57-6	2.4E-05	5.2E-07	2.27E-06
3-Methylchloranthrene	56-49-5	1.8E-06	3.9E-08	1.70E-07
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	3.5E-07	1.51E-06
Acenaphthene	83-32-9	1.8E-06	3.9E-08	1.70E-07
Acenaphthylene	203-96-8	1.8E-06	3.9E-08	1.70E-07
Anthracene	120-12-7	2.4E-06	5.2E-08	2.27E-07
Benz(a)anthracene	56-55-3	1.8E-06	3.9E-08	1.70E-07
Benzene	71-43-2	2.1E-03	4.5E-05	1.98E-04
Benzo(a)pyrene	50-32-8	1.2E-06	2.6E-08	1.13E-07
Benzo(b)fluoranthene	205-99-2	1.8E-06	3.9E-08	1.70E-07
Benzo(g,h,i)perylene	191-24-2	1.2E-06	2.6E-08	1.13E-07
Benzo(k)fluoranthene	205-82-3	1.8E-06	3.9E-08	1.70E-07
Chrysene	218-01-9	1.8E-06	3.9E-08	1.70E-07
Dibenzo(a,h) anthracene	53-70-3	1.2E-06	2.6E-08	1.13E-07
Dichlorobenzene	25321-22-6	1.2E-03	2.6E-05	1.13E-04
Fluoranthene	206-44-0	3.0E-06	6.5E-08	2.83E-07
Fluorene	86-73-7	2.8E-06	6.0E-08	2.65E-07
Formaldehyde	50-00-0	7.5E-02	1.6E-03	7.09E-03
Hexane	110-54-3	1.8E+00	3.9E-02	1.70E-01
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	3.9E-08	1.70E-07
Naphthalene	91-20-3	6.1E-04	1.3E-05	5.76E-05
Phenanthrene	85-01-8	1.7E-05	3.7E-07	1.61E-06
Pyrene	129-00-0	5.0E-06	1.1E-07	4.72E-07
Toluene	108-88-3	3.4E-03	7.3E-05	3.21E-04
<u>Metals</u>				
Arsenic	7440-38-2	2.0E-04	4.3E-06	1.89E-05
Beryllium	7440-41-7	1.2E-05	2.6E-07	1.13E-06
Cadmium	7440-43-9	1.1E-03	2.4E-05	1.04E-04
Chromium	7440-47-3	1.4E-03	3.0E-05	1.32E-04
Cobalt	7440-48-4	8.4E-05	1.8E-06	7.94E-06
Lead	7439-92-1	5.0E-04	1.1E-05	4.72E-05
Manganese	7439-96-5	3.8E-04	8.2E-06	3.59E-05
Mercury	7439-97-6	2.6E-04	5.6E-06	2.46E-05
Nickel	7440-02-0	2.1E-03	4.5E-05	1.98E-04
Selenium	7782-49-2	2.4E-05	5.2E-07	2.27E-06
Total HAP			4.1E-02	1.78E-01
<u>Non-HAP Metals</u>				
Barium	7440-39-3	4.4E-03	9.5E-05	4.16E-04
Copper	7440-50-8	8.50E-04	1.83E-05	8.03E-05
Molybdenum	7439-98-7	1.10E-03	2.37E-05	1.04E-04
Vanadium	7440-62-2	2.30E-03	4.96E-05	2.17E-04
Zinc	7440-66-6	2.90E-02	6.25E-04	2.74E-03

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	West Baghouse CE008 (Electric Arc Furnace #1 & Canopy Hood)	Emission Point ID: S008 / F005	EAF #1
Annual Processing Rate:	175,200 tons of steel produced	Emission Unit ID: EU006	Year Installed: 1979
Hours of Operation:	8,760 hrs/yr of operation	SCC Code: 30300908	Design Capacity: 20 tons/hr
			Control Device: CE008

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	1.75	7.67	1.75	lb/hr	Based on Stack Testing	Melt Shop Canopy Upgrades occurred from 6/20 - 7/6/2010. The "new" system operated all of 2011.
Particulate Matter <10 microns (PM _{10FIL})	1.33	5.83	1.33	lb/hr	76% of total PM is PM ₁₀ - AP-42 Table 12.5-2 (01/95)	58% in TV Application (AP-42 uncontrolled factor?)
Particulate Matter < 2.5 microns (PM _{2.5FIL})	1.30	5.67	1.30	lb/hr	74% of total PM is PM _{2.5} - AP-42 Table 12.5-2 (01/95)	
Particulate Matter, Condensable (PM _{CON})	0.78	3.42	0.04	lb/ton	AP-42 Section 12.5, Table 12.5.1-2 (04/09)	Aqueous + Organic Condensable PM
Nitrogen Oxides (NO _x)	4.40	19.27	0.22	lb/ton	AP-42 Section 12.5, Table 12.5.1-4 (04/09)	0.54 lb/ton in TV Application 0.000115 lb/ton FIRE Version 6.25
Volatile Organic Compounds (VOC)	0.46	2.01	0.023	lb/ton	AP-42 Section 12.5, Table 12.5.1-8 (04/09)	0.35 lb/ton in TV Application 0.35 lb/ton FIRE Version 6.25
Sulfur Dioxide (SO ₂)	4.00	17.52	0.2	lb/ton	AP-42 Section 12.5, Table 12.5.1-6 (04/09)	0.7 lb/ton in TV Application 0.7 lb/ton FIRE Version 6.25
Carbon Monoxide (CO)	36.00	157.68	1.8	lb/ton	AP-42 Section 12.5, Table 12.5.1-5 (04/09)	18 lb/ton in TV Application
<u>HAP:</u>						
Arsenic (As)	8.75E-06	3.83E-05	5.00E-04	wt. %	2011 Dust Analysis (3 samples)	6.2E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Beryllium (Be)	5.60E-06	2.45E-05	2.80E-07	lb/ton	AP-42 Table 12.5.1-9 (04/09)	
Cadmium (Ca)	1.26E-03	5.53E-03	7.21E-02	wt. %	Monthly Average Dust Analysis	5.0E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Chromium (Cr)	2.64E-03	1.16E-02	1.51E-01	wt. %	Monthly Average Dust Analysis	3.5E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Fluoride (F)	1.18E+00	5.17E+00	5.90E-02	lb/ton	AP-42 Table 12.5.1-9 (04/09)	Not a listed HAP
Lead (Pb)	3.78E-02	1.66E-01	2.16E+00	wt. %	Monthly Average Dust Analysis	0.00056 lb/ton AP-42 Table 12.5.1-7 (04/09)
Mercury (Hg)	9.10E-05	3.99E-04	5.20E-03	wt. %	2010 Dust Analysis (1 sample)	1.1E-04 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Manganese (Mn)	6.61E-02	2.89E-01	3.78E+00	wt. %	Monthly Average Dust Analysis	3.0E-04 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Nickel (Ni)	3.44E-04	1.51E-03	1.97E-02	wt. %	Monthly Average Dust Analysis	5.5E-05 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Zinc (Zn)	4.97E-01	2.18E+00	2.84E+01	wt. %	Monthly Average Dust Analysis	Not a listed HAP

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: West Baghouse CE008 (Electric Arc Furnace #1 & Canopy Hood) **EAF #1**

Annual Processing Rate: 175,200 tons of steel produced **Emission Point ID:** S008 / F005 **Year Installed:** 1979

Hours of Operation: 8,760 hrs/yr of operation **Emission Unit ID:** EU006 **Design Capacity:** 20 tons/hr

SCC Code: 30300908 **Control Device:** CE008

Baghouse Dust Analysis Data

Month	% Zinc (Zn)	% Lead (Pb)	% Cadmium (Cd)	% Manganese (Mn)	% Chromium (Cr)	% Nickel (Ni)	% Arsenic (As)	% Mercury (Hg)
January	27.5	2.1	0.0645	3.5	0.147	0.0193	0.0005	0.0052
February	27.1	2.3	0.0545	3.7	0.145	0.0176	-	-
March	29.4	2.3	0.0600	3.5	0.140	0.0193	-	-
April	26.0	2.8	0.0753	3.7	0.145	0.0189	-	-
May	29.5	2.4	0.0792	3.5	0.150	0.0218	-	-
June	24.1	2.3	0.0620	3.4	0.141	0.0218	-	-
July	32.9	2.1	0.0722	3.5	0.134	0.0200	-	-
August	31.5	1.8	0.0822	4.0	0.148	0.0173	-	-
September	30.1	1.8	0.0670	4.0	0.154	0.0183	-	-
October	29.2	1.8	0.0749	4.2	0.165	0.0221	-	-
November	26.5	2.2	0.1050	4.2	0.175	0.0214	-	-
December	27.3	2.1	0.0685	4.1	0.165	0.0184	-	-
Average	28.43	2.16	0.07	3.78	0.15	0.02	0.0005	0.0052

1. Zn, Pb, Cd, Mn, Cr, Ni - Dust analysis performed on a monthly composite sample and results are presented in percent on a dry weight basis.
2. As - This is not analyzed monthly - all available 2010 data used to calculate annual average.
3. Hg - This is only analyzed once per year for TRI reporting purposes.

Particulate Emission Factor (Post-Melt Shop Canopy Upgrades - Completed in July 2010)

Source	Stack Test Data (gr/dscf) ¹			Baghouse Exhaust Rate (dscfm) ²			Mass Emissions (lb/hr)			Average Test Result (lb/hr)	
	Test Run #	1	2	3	1	2	3	1	2		3
West Baghouse CE008		0.00062	0.00063	0.00064	333,029	318,169	326,375	1.76	1.71	1.79	1.75

1. EPA Method 5 stack test performed on October 27 and 28, 2010 (filterable PM only).
2. Actual stack flow rate as measured during the stack test.

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: Wheelabrator Baghouse CE007 (Electric Arc Furnace #2) **EAF #2**

Annual Processing Rate: 175,200 tons of steel produced **Emission Point ID:** S007 / F005 **Year Installed:** 1979

Hours of Operation: 8,760 hrs/yr of operation **Emission Unit ID:** EU007 **Design Capacity:** 20 tons/hr

SCC Code: 30300908 **Control Device:** CE007

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	1.04	4.56	1.04	lb/hr	Based on Stack Testing	Melt Shop Canopy Upgrades occurred from 6/20 - 7/6/2010. The "new" system operated all of 2011.
Particulate Matter <10 microns (PM _{10FIL})	0.79	3.46	0.79	lb/hr	76% of total PM is PM ₁₀ - AP-42 Table 12.5-2 (01/95)	58% in TV Application (AP-42 uncontrolled factor?)
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.77	3.37	0.77	lb/hr	74% of total PM is PM _{2.5} - AP-42 Table 12.5-2 (01/95)	
Particulate Matter, Condensable (PM _{CON})	0.78	3.42	0.04	lb/ton	AP-42 Section 12.5, Table 12.5.1-2 (04/09)	Aqueous + Organic Condensable PM
Nitrogen Oxides (NO _x)	4.40	19.27	0.22	lb/ton	AP-42 Section 12.5, Table 12.5.1-4 (04/09)	0.54 lb/ton in TV Application 0.000115 lb/ton FIRE Version 6.25
Volatile Organic Compounds (VOC)	0.46	2.01	0.023	lb/ton	AP-42 Section 12.5, Table 12.5.1-8 (04/09)	0.35 lb/ton in TV Application 0.35 lb/ton FIRE Version 6.25
Sulfur Dioxide (SO ₂)	4.00	17.52	0.2	lb/ton	AP-42 Section 12.5, Table 12.5.1-6 (04/09)	0.7 lb/ton in TV Application 0.7 lb/ton FIRE Version 6.25
Carbon Monoxide (CO)	36.00	157.68	1.8	lb/ton	AP-42 Section 12.5, Table 12.5.1-5 (04/09)	18 lb/ton in TV Application
<u>HAP:</u>						
Arsenic (As)	5.20E-06	2.28E-05	5.00E-04	wt. %	2011 Dust Analysis (3 samples)	6.2E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Beryllium (Be)	5.60E-06	2.45E-05	2.80E-07	lb/ton	AP-42 Table 12.5.1-9 (04/09)	
Cadmium (Ca)	7.50E-04	3.28E-03	7.21E-02	wt. %	Monthly Average Dust Analysis	5.0E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Chromium (Cr)	1.57E-03	6.87E-03	1.51E-01	wt. %	Monthly Average Dust Analysis	3.5E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Fluoride (F)	1.18E+00	5.17E+00	5.90E-02	lb/ton	AP-42 Table 12.5.1-9 (04/09)	Not a listed HAP
Lead (Pb)	2.25E-02	9.85E-02	2.16E+00	wt. %	Monthly Average Dust Analysis	0.00056 lb/ton AP-42 Table 12.5.1-7 (04/09)
Mercury (Hg)	5.41E-05	2.37E-04	5.20E-03	wt. %	2010 Dust Analysis (1 sample)	1.1E-04 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Manganese (Mn)	3.93E-02	1.72E-01	3.78E+00	wt. %	Monthly Average Dust Analysis	3.0E-04 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Nickel (Ni)	2.05E-04	8.97E-04	1.97E-02	wt. %	Monthly Average Dust Analysis	5.5E-05 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Zinc (Zn)	2.96E-01	1.29E+00	2.84E+01	wt. %	Monthly Average Dust Analysis	Not a listed HAP

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: Wheelabrator Baghouse CE007 (Electric Arc Furnace #2) **EAF #2**

Annual Processing Rate: 175,200 tons of steel produced **Emission Point ID:** S007 / F005 **Year Installed:** 1979

Hours of Operation: 8,760 hrs/yr of operation **Emission Unit ID:** EU007 **Design Capacity:** 20 tons/hr

SCC Code: 30300908 **Control Device:** CE007

Month	% Zinc (Zn)	% Lead (Pb)	% Cadmium (Cd)	% Manganese (Mn)	% Chromium (Cr)	% Nickel (Ni)	% Arsenic (As)	% Mercury (Hg)
January	27.5	2.1	0.0645	3.5	0.147	0.0193	0.0005	0.0052
February	27.1	2.3	0.0545	3.7	0.145	0.0176	-	-
March	29.4	2.3	0.0600	3.5	0.140	0.0193	-	-
April	26.0	2.8	0.0753	3.7	0.145	0.0189	-	-
May	29.5	2.4	0.0792	3.5	0.150	0.0218	-	-
June	24.1	2.3	0.0620	3.4	0.141	0.0218	-	-
July	32.9	2.1	0.0722	3.5	0.134	0.0200	-	-
August	31.5	1.8	0.0822	4.0	0.148	0.0173	-	-
September	30.1	1.8	0.0670	4.0	0.154	0.0183	-	-
October	29.2	1.8	0.0749	4.2	0.165	0.0221	-	-
November	26.5	2.2	0.1050	4.2	0.175	0.0214	-	-
December	27.3	2.1	0.0685	4.1	0.165	0.0184	-	-
Average	28.43	2.16	0.07	3.78	0.15	0.02	0.0005	0.0052

1. Zn, Pb, Cd, Mn, Cr, Ni - Dust analysis performed on a monthly composite sample and results are presented in percent on a dry weight basis.
2. As - This is not analyzed monthly - all available 2010 data used to calculate annual average.
3. Hg - This is only analyzed once per year for TRI reporting purposes.

Particulate Emission Factor (Post-Melt Shop Canopy Upgrades - July 2010)

Source	Stack Test Data (gr/dscf) ¹			Baghouse Exhaust Rate (dscfm) ²			Mass Emissions (lb/hr)			Average Test Result (lb/hr)	
	Test Run #	1	2	3	1	2	3	1	2		3
Wheelabrator Baghouse CE007		0.00073	0.00071	0.00096	150,848	155,287	150,382	0.94	0.94	1.24	1.04

1. EPA Method 5 stack test performed on October 27 and 28, 2010 (filterable PM only).
2. Actual stack flow rate as measured during the stack test.

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	East Baghouse CE006 (EAF Canopy Hood)	Emission Point ID:	S008 / S006	EAF Canopy Hood
Annual Processing Rate:	350,400 tons of steel produced	Emission Unit ID:	EU008	Year Installed: 1989
Hours of Operation:	8,760 hrs/yr of operation	SCC Code:	30300908	Design Capacity: 40 tons/hr
				Control Device: CE008, CE006

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
Criteria:						
Particulate Matter, Filterable (PM _{FIL})	1.73	7.58	1.73	lb/hr	Based on Stack Testing	Melt Shop Canopy Upgrades occurred from 6/20 - 7/6/2010. The "new" system operated all of 2011.
Particulate Matter <10 microns (PM _{10FIL})	1.31	5.76	1.31	lb/hr	76% of total PM is PM ₁₀ - AP-42 Table 12.5-2 (01/95)	58% in TV Application (AP-42 uncontrolled factor?)
Particulate Matter < 2.5 microns (PM _{2.5FIL})	1.28	5.61	1.28	lb/hr	74% of total PM is PM _{2.5} - AP-42 Table 12.5-2 (01/95)	
Particulate Matter, Condensable (PM _{CON})	1.56	6.83	0.04	lb/ton	AP-42 Section 12.5, Table 12.5.1-2 (04/09)	Aqueous + Organic Condensable PM
Nitrogen Oxides (NO _x)	NA	NA	(Already accounted for in EAF #1 & EAF #2 calculations)			
Volatile Organic Compounds (VOC)	NA	NA	(Already accounted for in EAF #1 & EAF #2 calculations)			
Sulfur Dioxide (SO ₂)	NA	NA	(Already accounted for in EAF #1 & EAF #2 calculations)			
Carbon Monoxide (CO)	NA	NA	(Already accounted for in EAF #1 & EAF #2 calculations)			
HAP:						
Arsenic (As)	8.65E-06	3.79E-05	5.00E-04	wt. %	2011 Dust Analysis (3 samples)	6.2E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Beryllium (Be)	NA	NA	(Already accounted for in EAF #1 & EAF #2 calculations)			
Cadmium (Ca)	1.25E-03	5.46E-03	7.21E-02	wt. %	Monthly Average Dust Analysis	5.0E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Chromium (Cr)	2.61E-03	1.14E-02	1.51E-01	wt. %	Monthly Average Dust Analysis	3.5E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Fluoride (F)	NA	NA	(Already accounted for in EAF #1 & EAF #2 calculations)			
Lead (Pb)	3.74E-02	1.64E-01	2.16E+00	wt. %	Monthly Average Dust Analysis	0.00056 lb/ton AP-42 Table 12.5.1-7 (04/09)
Mercury (Hg)	9.00E-05	3.94E-04	5.20E-03	wt. %	2010 Dust Analysis (1 sample)	1.1E-04 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Manganese (Mn)	6.53E-02	2.86E-01	3.78E+00	wt. %	Monthly Average Dust Analysis	3.0E-04 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Nickel (Ni)	3.41E-04	1.49E-03	1.97E-02	wt. %	Monthly Average Dust Analysis	5.5E-05 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Zinc (Zn)	4.92E-01	2.15E+00	2.84E+01	wt. %	Monthly Average Dust Analysis	Not a listed HAP

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: East Baghouse CE006 (EAF Canopy Hood) **Emission Point ID:** S008 / S006 **EAF Canopy Hood Year Installed:** 1989
Annual Processing Rate: 350,400 tons of steel produced **Emission Unit ID:** EU008 **Design Capacity:** 40 tons/hr
Hours of Operation: 8,760 hrs/yr of operation **SCC Code:** 30300908 **Control Device:** CE008, CE006

Month	% Zinc (Zn)	% Lead (Pb)	% Cadmium (Cd)	% Manganese (Mn)	% Chromium (Cr)	% Nickel (Ni)	% Arsenic (As)	% Mercury (Hg)
January	27.5	2.1	0.0645	3.5	0.147	0.0193	0.0005	0.0052
February	27.1	2.3	0.0545	3.7	0.145	0.0176	-	-
March	29.4	2.3	0.0600	3.5	0.140	0.0193	-	-
April	26.0	2.8	0.0753	3.7	0.145	0.0189	-	-
May	29.5	2.4	0.0792	3.5	0.150	0.0218	-	-
June	24.1	2.3	0.0620	3.4	0.141	0.0218	-	-
July	32.9	2.1	0.0722	3.5	0.134	0.0200	-	-
August	31.5	1.8	0.0822	4.0	0.148	0.0173	-	-
September	30.1	1.8	0.0670	4.0	0.154	0.0183	-	-
October	29.2	1.8	0.0749	4.2	0.165	0.0221	-	-
November	26.5	2.2	0.1050	4.2	0.175	0.0214	-	-
December	27.3	2.1	0.0685	4.1	0.165	0.0184	-	-
Average	28.43	2.16	0.07	3.78	0.15	0.02	0.0005	0.0052

1. Zn, Pb, Cd, Mn, Cr, Ni - Dust analysis performed on a monthly composite sample and results are presented in percent on a dry weight basis.

2. As - This is not analyzed monthly - all available 2010 data used to calculate annual average.

3. Hg - This is only analyzed once per year for TRI reporting purposes.

Particulate Emission Factor (Post-Melt Shop Canopy Upgrades - July 2010)

Source	Stack Test Data (gr/dscf) ¹			Baghouse Exhaust Rate (dscfm) ²			Mass Emissions (lb/hr)			Average Test Result (lb/hr)	
	Test Run #	1	2	3	1	2	3	1	2		3
East Baghouse CE006		0.00058	0.00069	0.00065	334,896	322,312	294,344	1.66	1.90	1.64	1.73

1. EPA Method 5 stack test performed on December 20 and 21, 2008 (filterable PM only).

2. Actual stack flow rate as measured during the stack test.

317,184

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: Ladle Refurbishing
Processing Rate: 183,960 # bricks/yr
Brick Weight: 10 lbs/brick
Emission Point ID: F005
Emission Unit ID: EU009
SCC Code: 30300998

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
Criteria:						
Particulate Matter, Filterable (PM _{FIL}) ¹	2.78E-04	1.22E-03	8.83E-03	lb/ton	AP-42- Section 13.2.4	Assumes 70% building capture/control. This methodology was used in the Title V application (March 2004).
Particulate Matter <10 microns (PM _{10FIL}) ¹	1.32E-04	5.76E-04	4.18E-03	lb/ton	AP-42- Section 13.2.4	
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	1.99E-05	8.73E-05	6.32E-04	lb/ton	AP-42- Section 13.2.4	
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
HAP:						
	NA	NA				

- All PM is filterable only (this is a non-combustion process).
- Fugitive emission factors are calculated using AP-42 Section 13.2.4 assuming one transfer.

$$E = k(0.0032) \left(\frac{U}{5} \right)^{1.3} \left(\frac{M}{2} \right)^{1.4} \text{ (lb / ton)}$$

k = 0.74 PM - (AP-42, Section 13.2.4 (11/06), for Particle Size < 30 mm)
 0.35 PM₁₀ - (AP-42, Section 13.2.4 (11/06), for Particle Size < 10 mm)
 0.053 PM_{2.5} - (AP-42, Section 13.2.4 (11/06), for Particle Size < 2.5 mm)

Mean Wind Speed (mph): U = 6.52 40-yr average for Huntington, WV (from <http://www.ncdc.noaa.gov/oa/climate/online/ccd/avgwind.htm>)
 Refractory Moisture Content (%) = 1 per AP-42, Section 13.2.4, Table 13.2.4-1 (11/06)

Type of Material	PM Emission Factor (lb/ton)	PM ₁₀ Emission Factor (lb/ton)	PM _{2.5} Emission Factor (lb/ton)
Refractory	0.00883	0.00418	0.00063

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: Tundish Cleaning/Refurbishing
Emission Point ID: F005
Refractory Processing Rate: 0.02 tons/hr
Emission Unit ID: EU010
Hours of Operation: 8,760 hrs
SCC Code: 30300998
Fuel Usage: 26 MMscf/yr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Refurbishing:</u>						
Particulate Matter, Filterable (PM _{FIL}) ¹	0.00	0.01	0.53947	lb/ton	AP-42- Section 13.2.4	Assumes 70% building capture/control. This methodology was used in the Title V application (March 2004).
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.00	0.01	0.25515	lb/ton	AP-42- Section 13.2.4	
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.00	0.00	0.03864	lb/ton	AP-42- Section 13.2.4	
<u>Criteria from Gas Combustion:</u>						
Particulate Matter, Filterable (PM _{FIL})	0.01	0.02	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Particulate Matter <10 microns (PM _{10FIL})	0.01	0.02	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.01	0.02	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Particulate Matter, Condensable (PM _{CON})	0.02	0.07	5.7	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Nitrogen Oxides (NO _x)	0.29	1.29	100	lb/MMscf	AP-42 Table 1.4-1 (07/98)	
Volatile Organic Compounds (VOC)	0.02	0.07	5.5	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Sulfur Dioxide (SO ₂)	0.00	0.01	0.6	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Carbon Monoxide (CO)	0.25	1.08	84	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
<u>HAP:</u>	5.55E-03	2.43E-02	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:

Tundish Cleaning/Refurbishing

Refractory Processing Rate:

0.02 tons/hr

Emission Point ID:

F005

Hours of Operation:

8,760 hrs

170.4 **Emission Unit ID:**

EU010

Fuel Usage:

26 MMscf/yr

SCC Code:

30300998

1. All PM is filterable only (this is a non-combustion process).
2. Fugitive emission factors are calculated using AP-42 Section 13.2.4 assuming one transfer.

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} (\text{lb / ton})$$

k = 0.74 PM - (AP-42, Section 13.2.4 (11/06), for Particle Size < 30 mm)
 0.35 PM₁₀ - (AP-42, Section 13.2.4 (11/06), for Particle Size < 10 mm)
 0.053 PM_{2.5} - (AP-42, Section 13.2.4 (11/06), for Particle Size < 2.5 mm)

Mean Wind Speed (mph): U = 6.52 40-yr average for Huntington, WV (from <http://www.ncdc.noaa.gov/oa/climate/online/ccd/avgwind.html>)
 Refractory Moisture Content (%) = 1 per AP-42, Section 13.2.4, Table 13.2.4-1 (11/06)

Type of Material	PM Emission Factor (lb/ton)	PM ₁₀ Emission Factor (lb/ton)	PM _{2.5} Emission Factor (lb/ton)
Refractory	0.53947	0.25515	0.03864

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: Tundish Cleaning/Refurbishing
Emission Point ID: F005
Refractory Processing Rate: 0.02 tons/hr
Emission Unit ID: EU010
Hours of Operation: 8,760 hrs
SCC Code: 30300998
Fuel Usage: 26 MMscf/yr
Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Potential Emissions (lb/hr)	Potential Emissions (tpy)
Speciated Organics				
2-Methylnaphthalene	91-57-6	2.4E-05	7.1E-08	3.09E-07
3-Methylchloranthrene	56-49-5	1.8E-06	5.3E-09	2.32E-08
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	4.7E-08	2.06E-07
Acenaphthene	83-32-9	1.8E-06	5.3E-09	2.32E-08
Acenaphthylene	203-96-8	1.8E-06	5.3E-09	2.32E-08
Anthracene	120-12-7	2.4E-06	7.1E-09	3.09E-08
Benz(a)anthracene	56-55-3	1.8E-06	5.3E-09	2.32E-08
Benzene	71-43-2	2.1E-03	6.2E-06	2.71E-05
Benzo(a)pyrene	50-32-8	1.2E-06	3.5E-09	1.55E-08
Benzo(b)fluoranthene	205-99-2	1.8E-06	5.3E-09	2.32E-08
Benzo(g,h,i)perylene	191-24-2	1.2E-06	3.5E-09	1.55E-08
Benzo(k)fluoranthene	205-82-3	1.8E-06	5.3E-09	2.32E-08
Chrysene	218-01-9	1.8E-06	5.3E-09	2.32E-08
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	3.5E-09	1.55E-08
Dichlorobenzene	25321-22-6	1.2E-03	3.5E-06	1.55E-05
Fluoranthene	206-44-0	3.0E-06	8.8E-09	3.86E-08
Fluorene	86-73-7	2.8E-06	8.2E-09	3.61E-08
Formaldehyde	50-00-0	7.5E-02	2.2E-04	9.66E-04
Hexane	110-54-3	1.8E+00	5.3E-03	2.32E-02
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	5.3E-09	2.32E-08
Naphthalene	91-20-3	6.1E-04	1.8E-06	7.86E-06
Phenanthrene	85-01-8	1.7E-05	5.0E-08	2.19E-07
Pyrene	129-00-0	5.0E-06	1.5E-08	6.44E-08
Toluene	108-88-3	3.4E-03	1.0E-05	4.38E-05
Metals				
Arsenic	7440-38-2	2.0E-04	5.9E-07	2.58E-06
Beryllium	7440-41-7	1.2E-05	3.5E-08	1.55E-07
Cadmium	7440-43-9	1.1E-03	3.2E-06	1.42E-05
Chromium	7440-47-3	1.4E-03	4.1E-06	1.80E-05
Cobalt	7440-48-4	8.4E-05	2.5E-07	1.08E-06
Lead	7439-92-1	5.0E-04	1.5E-06	6.44E-06
Manganese	7439-96-5	3.8E-04	1.1E-06	4.90E-06
Mercury	7439-97-6	2.6E-04	7.6E-07	3.35E-06
Nickel	7440-02-0	2.1E-03	6.2E-06	2.71E-05
Selenium	7782-49-2	2.4E-05	7.1E-08	3.09E-07
Total HAP			5.6E-03	2.43E-02
Non-HAP Metals				
Barium	7440-39-3	4.4E-03	1.3E-05	5.67E-05
Copper	7440-50-8	8.50E-04	2.5E-06	1.10E-05
Molybdenum	7439-98-7	1.10E-03	3.2E-06	1.42E-05
Vanadium	7440-62-2	2.30E-03	6.8E-06	2.96E-05
Zinc	7440-66-6	2.90E-02	8.5E-05	3.74E-04

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

*Title V Operating Permit Renewal
Steel of West Virginia*

Process:	Slag Handling	Emission Point ID:	F005
Annual Processing Rate:	350,400 tons of slag	Emission Unit ID:	EU011
Control Device:	CE005	SCC Code:	30300998
		Year Installed:	1950
		Design Capacity:	40 tons/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL}) ¹	1.04	4.56	0.026	lb/ton	AP-42, Section 12.5-4 (01/95)	assumes one transfer, fugitive emissions
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.52	2.28	0.013	lb/ton	AP-42, Section 12.5-4 (01/95)	assumes one transfer, fugitive emissions
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.18	0.81	0.0046	lb/ton	AP-42, Section 12.5-4 (01/95)	assumes one transfer, fugitive emissions
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>	NA	NA				

1. All PM is filterable only (this is a non-combustion process).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:

Continuous Caster

Hours of Operation:

8760 hrs/yr

Processing Rate:

350,400 tons poured

Control Device:

CE005

Emission Point ID: F005

Emission Unit ID: EU012

SCC Code: 30300922

Year Installed: 1975

Design Capacity: 40 tons/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	1.44	6.31	1.20E-01	lb/ton	AP-42, Table 12.5.1-8 (04/09)	Assumes 70% building capture and control (consistent with T-V Application March 2004).
Particulate Matter <10 microns (PM _{10FIL})	1.09	4.79	9.12E-02	lb/ton	76% of total PM is PM ₁₀ - AP-42 Table 12.5-2 (01/95)	Assumes 70% building capture and control (consistent with T-V Application March 2004).
Particulate Matter < 2.5 microns (PM _{2.5FIL})	1.07	4.67	8.88E-02	lb/ton	74% of total PM is PM _{2.5} - AP-42 Table 12.5-2 (01/95)	Assumes 70% building capture and control (consistent with T-V Application March 2004).
Particulate Matter, Condensable (PM _{CON})	0.15	0.65	0.01	lb/ton	Ratio of baghouse PMCON to PMFIL	
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>	N/A	N/A				

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Caster Cutoff Torches			Emission Point ID:	F005
Hours of Operation:	8760	hrs/yr		Emission Unit ID:	EU013
Processing Rate:	350,400	tons		SCC Code:	30390003
Fuel Usage:	1.72	MMscf/yr	0.72	Year Installed:	1975
Control Device:	CE005			Design Capacity:	40 tons/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	1.28	5.61	0.032	lb/ton	AP-42 Table 12.5.1-1 (04/09)	Factor for NG fired billet cutting torches
Particulate Matter <10 microns (PM _{10FIL})	1.28	5.61	0.032	lb/ton	AP-42 Table 12.5.1-1 (04/09)	Factor for NG fired billet cutting torches
Particulate Matter < 2.5 microns (PM _{2.5FIL})	1.28	5.61	0.032	lb/ton	AP-42 Table 12.5.1-1 (04/09)	Factor for NG fired billet cutting torches
Particulate Matter, Condensable (PM _{CON})	0.001	0.005	5.7	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Nitrogen Oxides (NO _x)	0.02	0.09	100	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Volatile Organic Compounds (VOC)	1.1E-03	4.7E-03	5.5	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Sulfur Dioxide (SO ₂)	1.2E-04	5.2E-04	0.6	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
Carbon Monoxide (CO)	0.016	0.072	84	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
<u>HAP:</u>	3.70E-04	1.62E-03	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: Caster Cutoff Torches

Hours of Operation: 8760 hrs/yr **Emission Point ID:** F005
Processing Rate: 350,400 tons **Emission Unit ID:** EU013
Fuel Usage: 1.72 MMscf/yr 0.72 **SCC Code:** 30390003

Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Potential Emissions (lb/hr)	Potential Emissions (tpy)
<u>Speciated Organics</u>				
2-Methylnaphthalene	91-57-6	2.4E-05	4.7E-09	2.06E-08
3-Methylchloranthrene	56-49-5	1.8E-06	3.5E-10	1.55E-09
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	3.1E-09	1.37E-08
Acenaphthene	83-32-9	1.8E-06	3.5E-10	1.55E-09
Acenaphthylene	203-96-8	1.8E-06	3.5E-10	1.55E-09
Anthracene	120-12-7	2.4E-06	4.7E-10	2.06E-09
Benzo(a)anthracene	56-55-3	1.8E-06	3.5E-10	1.55E-09
Benzene	71-43-2	2.1E-03	4.1E-07	1.80E-06
Benzo(a)pyrene	50-32-8	1.2E-06	2.4E-10	1.03E-09
Benzo(b)fluoranthene	205-99-2	1.8E-06	3.5E-10	1.55E-09
Benzo(g,h,i)perylene	191-24-2	1.2E-06	2.4E-10	1.03E-09
Benzo(k)fluoranthene	205-82-3	1.8E-06	3.5E-10	1.55E-09
Chrysene	218-01-9	1.8E-06	3.5E-10	1.55E-09
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	2.4E-10	1.03E-09
Dichlorobenzene	25321-22-6	1.2E-03	2.4E-07	1.03E-06
Fluoranthene	206-44-0	3.0E-06	5.9E-10	2.58E-09
Fluorene	86-73-7	2.8E-06	5.5E-10	2.40E-09
Formaldehyde	50-00-0	7.5E-02	1.5E-05	6.44E-05
Hexane	110-54-3	1.8E+00	3.5E-04	1.55E-03
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	3.5E-10	1.55E-09
Naphthalene	91-20-3	6.1E-04	1.2E-07	5.24E-07
Phenanthrene	85-01-8	1.7E-05	3.3E-09	1.46E-08
Pyrene	129-00-0	5.0E-06	9.8E-10	4.29E-09
Toluene	108-88-3	3.4E-03	6.7E-07	2.92E-06
<u>Metals</u>				
Arsenic	7440-38-2	2.0E-04	3.9E-08	1.72E-07
Beryllium	7440-41-7	1.2E-05	2.4E-09	1.03E-08
Cadmium	7440-43-9	1.1E-03	2.2E-07	9.45E-07
Chromium	7440-47-3	1.4E-03	2.7E-07	1.20E-06
Cobalt	7440-48-4	8.4E-05	1.6E-08	7.21E-08
Lead	7439-92-1	5.0E-04	9.8E-08	4.29E-07
Manganese	7439-96-5	3.8E-04	7.5E-08	3.26E-07
Mercury	7439-97-6	2.6E-04	5.1E-08	2.23E-07
Nickel	7440-02-0	2.1E-03	4.1E-07	1.80E-06
Selenium	7782-49-2	2.4E-05	4.7E-09	2.06E-08
Total HAP			3.7E-04	1.62E-03
<u>Non-HAP Metals</u>				
Barium	7440-39-3	4.4E-03	8.6E-07	3.78E-06
Copper	7440-50-8	8.50E-04	1.7E-07	7.30E-07
Molybdenum	7439-98-7	1.10E-03	2.2E-07	9.45E-07
Vanadium	7440-62-2	2.30E-03	4.5E-07	1.98E-06
Zinc	7440-66-6	2.90E-02	5.7E-06	2.49E-05

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

*Title V Operating Permit Renewal
Steel of West Virginia*

Process: #1 Reheat Furnace

Hours of Operation:	8760	hrs/yr	Emission Point ID:	S014
Processing Rate:	350,400	tons	Emission Unit ID:	EU014
Fuel Usage:	824	MMscf/yr	SCC Code:	30300933
Control Device:	None		Year Installed:	1975
			Design Capacity:	96 MMBtu/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	0.14	0.61	0.0035	lb/MMBtu	AP-42 Table 12.5.1-1 (04/09)	
Particulate Matter <10 microns (PM _{10FIL})	0.14	0.61	0.0035	lb/MMBtu	AP-42 Table 12.5.1-1 (04/09)	Assumes equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.14	0.61	0.0035	lb/MMBtu	AP-42 Table 12.5.1-1 (04/09)	Assumes equivalent to PM
Particulate Matter, Condensable (PM _{CON})	0.37	1.63	0.0093	lb/MMBtu	AP-42 Table 12.5.1-2 (04/09)	
Nitrogen Oxides (NO _x)	18.24	79.89	0.19	lb/MMBtu	AP-42 Table 12.5.1-4 (04/09)	
Volatile Organic Compounds (VOC)	0.03	0.13	0.0003	lb/MMBtu	AP-42 Table 12.5.1-8 (04/09)	
Sulfur Dioxide (SO ₂)	0.06	0.25	0.6	lb/MMscf	AP-42 Table 1.4-2	No factors in AP-42 Ch. 12.5.1
Carbon Monoxide (CO)	0.12	0.55	0.0013	lb/MMBtu	AP-42 Table 12.5.1-5 (04/09)	
<u>HAP:</u>	1.78E-01	7.78E-01	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: #1 Reheat Furnace

Hours of Operation: 8760 hrs/yr **Emission Point ID:** S014

Processing Rate: 350,400 tons **Emission Unit ID:** EU014

Fuel Usage: 824 MMscf/yr **SCC Code:** 30300933

Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Potential Emissions (lb/hr)	Potential Emissions (tpy)
Speciated Organics				
2-Methylnaphthalene	91-57-6	2.4E-05	2.3E-06	9.89E-06
3-Methylchloranthrene	56-49-5	1.8E-06	1.7E-07	7.42E-07
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	1.5E-06	6.60E-06
Acenaphthene	83-32-9	1.8E-06	1.7E-07	7.42E-07
Acenaphthylene	203-96-8	1.8E-06	1.7E-07	7.42E-07
Anthracene	120-12-7	2.4E-06	2.3E-07	9.89E-07
Benz(a)anthracene	56-55-3	1.8E-06	1.7E-07	7.42E-07
Benzenz	71-43-2	2.1E-03	2.0E-04	8.66E-04
Benzo(a)pyrene	50-32-8	1.2E-06	1.1E-07	4.95E-07
Benzo(b)fluoranthene	205-99-2	1.8E-06	1.7E-07	7.42E-07
Benzo(g,h,i)perylene	191-24-2	1.2E-06	1.1E-07	4.95E-07
Benzo(k)fluoranthene	205-82-3	1.8E-06	1.7E-07	7.42E-07
Chrysene	218-01-9	1.8E-06	1.7E-07	7.42E-07
Dibenz(a,h) anthracene	53-70-3	1.2E-06	1.1E-07	4.95E-07
Dichlorobenzene	25321-22-6	1.2E-03	1.1E-04	4.95E-04
Fluoranthene	206-44-0	3.0E-06	2.8E-07	1.24E-06
Fluorene	86-73-7	2.8E-06	2.6E-07	1.15E-06
Formaldehyde	50-00-0	7.5E-02	7.1E-03	3.09E-02
Hexane	110-54-3	1.8E+00	1.7E-01	7.42E-01
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	1.7E-07	7.42E-07
Napthalene	91-20-3	6.1E-04	5.7E-05	2.51E-04
Phenanthrene	85-01-8	1.7E-05	1.6E-06	7.01E-06
Pyrene	129-00-0	5.0E-06	4.7E-07	2.06E-06
Toluene	108-88-3	3.4E-03	3.2E-04	1.40E-03
Metals				
Arsenic	7440-38-2	2.0E-04	1.9E-05	8.24E-05
Beryllium	7440-41-7	1.2E-05	1.1E-06	4.95E-06
Cadmium	7440-43-9	1.1E-03	1.0E-04	4.53E-04
Chromium	7440-47-3	1.4E-03	1.3E-04	5.77E-04
Cobalt	7440-48-4	8.4E-05	7.9E-06	3.46E-05
Lead	7439-92-1	5.0E-04	4.7E-05	2.06E-04
Manganese	7439-96-5	3.8E-04	3.6E-05	1.57E-04
Mercury	7439-97-6	2.6E-04	2.4E-05	1.07E-04
Nickel	7440-02-0	2.1E-03	2.0E-04	8.66E-04
Selenium	7782-49-2	2.4E-05	2.3E-06	9.89E-06
Total HAP			1.8E-01	7.78E-01
Non-HAP Metals				
Barium	7440-39-3	4.4E-03	4.1E-04	1.81E-03
Copper	7440-50-8	8.50E-04	8.00E-05	3.50E-04
Molybdenum	7439-98-7	1.10E-03	1.04E-04	4.53E-04
Vanadium	7440-62-2	2.30E-03	2.16E-04	9.48E-04
Zinc	7440-66-6	2.90E-02	2.73E-03	1.20E-02

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

*Title V Operating Permit Renewal
Steel of West Virginia*

Process:	Hot Rolling Mill #1		Emission Point ID:	F015
Hours of Operation:	8760	hrs/yr	Emission Unit ID:	EU015
Processing Rate:	350,400	tons	SCC Code:	30300933
Control Device:	CE015		Year Installed:	1985
			Design Capacity:	40 tons/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL}) ¹	0.77	3.36	0.064	lb/ton	Site-specific emission factor from Title V Application (3/1/2004)	Assumes 20% of mill scale generated becomes airborne; assumes 70% building capture/control
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.77	3.36	0.064	lb/ton	Site-specific emission factor from Title V Application	Assumes equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.77	3.36	0.064	lb/ton	Site-specific emission factor from Title V Application	Assumes equivalent to PM
Nitrogen Oxides (NO _X)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>						
	NA	NA				

1. All PM is filterable only (this is a non-combustion process).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: #2 Reheat Furnace

Hours of Operation: 8760 hrs/yr
Processing Rate: 280,320 tons
Fuel Usage: 1,116 MMscf/yr
Control Device: None

Emission Point ID: S016
Emission Unit ID: EU016
SCC Code: 30300933
Year Installed: 1997
Design Capacity: 130 MMBtu/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
Criteria:						
Particulate Matter, Filterable (PM _{FIL})	0.46	1.99	0.0035	lb/MMBtu	AP-42 Table 12.5.1-1 (04/09)	
Particulate Matter <10 microns (PM _{10FIL})	0.46	1.99	0.0035	lb/MMBtu	AP-42 Table 12.5.1-1 (04/09)	Assumes equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.46	1.99	0.0035	lb/MMBtu	AP-42 Table 12.5.1-1 (04/09)	Assumes equivalent to PM
Particulate Matter, Condensable (PM _{CON})	1.21	5.30	0.0093	lb/MMBtu	AP-42 Table 12.5.1-2 (04/09)	
Nitrogen Oxides (NO _x)	24.70	108.19	0.19	lb/MMBtu	AP-42 Table 12.5.1-4 (04/09)	
Volatile Organic Compounds (VOC)	0.04	0.17	0.0003	lb/MMBtu	AP-42 Table 12.5.1-8 (04/09)	
Sulfur Dioxide (SO ₂)	0.08	0.33	0.6	lb/MMscf	AP-42 Table 1.4-2	No factors in AP-42 Ch. 12.5.1
Carbon Monoxide (CO)	0.17	0.74	0.0013	lb/MMBtu	AP-42 Table 12.5.1-5 (04/09)	
HAP:	2.41E-01	1.05E+00	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

1. PM primary is total particulate matter (filterable + condensable). Both PM primary and PM filterable should be reported for each fraction (PM, PM10, and PM2.5).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: #2 Reheat Furnace

Hours of Operation: 8760 hrs/yr **Emission Point ID:** S016
Processing Rate: 280,320 tons **Emission Unit ID:** EU016
Fuel Usage: 1,116 MMscf/yr **SCC Code:** 30300933

Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Potential Emissions (lb/hr)	Potential Emissions (tpy)
Speciated Organics				
2-Methylnaphthalene	91-57-6	2.4E-05	3.1E-06	1.34E-05
3-Methylchloranthrene	56-49-5	1.8E-06	2.3E-07	1.00E-06
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	2.0E-06	8.93E-06
Acenaphthene	83-32-9	1.8E-06	2.3E-07	1.00E-06
Acenaphthylene	203-96-8	1.8E-06	2.3E-07	1.00E-06
Anthracene	120-12-7	2.4E-06	3.1E-07	1.34E-06
Benz(a)anthracene	56-55-3	1.8E-06	2.3E-07	1.00E-06
Benzenes	71-43-2	2.1E-03	2.7E-04	1.17E-03
Benzo(a)pyrene	50-32-8	1.2E-06	1.5E-07	6.70E-07
Benzo(b)fluoranthene	205-99-2	1.8E-06	2.3E-07	1.00E-06
Benzo(g,h,i)perylene	191-24-2	1.2E-06	1.5E-07	6.70E-07
Benzo(k)fluoranthene	205-82-3	1.8E-06	2.3E-07	1.00E-06
Chrysene	218-01-9	1.8E-06	2.3E-07	1.00E-06
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	1.5E-07	6.70E-07
Dichlorobenzene	25321-22-6	1.2E-03	1.5E-04	6.70E-04
Fluoranthene	206-44-0	3.0E-06	3.8E-07	1.67E-06
Fluorene	86-73-7	2.8E-06	3.6E-07	1.56E-06
Formaldehyde	50-00-0	7.5E-02	9.6E-03	4.19E-02
Hexane	110-54-3	1.8E+00	2.3E-01	1.00E+00
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	2.3E-07	1.00E-06
Napthalene	91-20-3	6.1E-04	7.8E-05	3.41E-04
Phenanthrene	85-01-8	1.7E-05	2.2E-06	9.49E-06
Pyrene	129-00-0	5.0E-06	6.4E-07	2.79E-06
Toluene	108-88-3	3.4E-03	4.3E-04	1.90E-03
Metals				
Arsenic	7440-38-2	2.0E-04	2.5E-05	1.12E-04
Beryllium	7440-41-7	1.2E-05	1.5E-06	6.70E-06
Cadmium	7440-43-9	1.1E-03	1.4E-04	6.14E-04
Chromium	7440-47-3	1.4E-03	1.8E-04	7.82E-04
Cobalt	7440-48-4	8.4E-05	1.1E-05	4.69E-05
Lead	7439-92-1	5.0E-04	6.4E-05	2.79E-04
Manganese	7439-96-5	3.8E-04	4.8E-05	2.12E-04
Mercury	7439-97-6	2.6E-04	3.3E-05	1.45E-04
Nickel	7440-02-0	2.1E-03	2.7E-04	1.17E-03
Selenium	7782-49-2	2.4E-05	3.1E-06	1.34E-05
Total HAP			2.4E-01	1.05E+00
Non-HAP Metals				
Barium	7440-39-3	4.4E-03	5.6E-04	2.46E-03
Copper	7440-50-8	8.50E-04	1.1E-04	4.75E-04
Molybdenum	7439-98-7	1.10E-03	1.4E-04	6.14E-04
Vanadium	7440-62-2	2.30E-03	2.9E-04	1.28E-03
Zinc	7440-66-6	2.90E-02	3.7E-03	1.62E-02

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Hot Rolling Mill #2	Emission Point ID:	F017
Hours of Operation:	8760 hrs/yr	Emission Unit ID:	EU017
Processing Rate:	280,320 tons	SCC Code:	30300933
Control Device:	CE017	Year Installed:	1994
		Design Capacity:	32 tons/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL}) ¹	0.61	2.69	0.064	lb/ton	Site-specific emission factor from Title V Application (3/1/2004)	Assumes 20% of mill scale generated becomes airborne; assumes 70% building capture/control
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.61	2.69	0.064	lb/ton	Site-specific emission factor from Title V Application (3/1/2004)	Assumes equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.61	2.69	0.064	lb/ton	Site-specific emission factor from Title V Application (3/1/2004)	Assumes equivalent to PM
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>	NA	NA				

1. All PM is filterable only (this is a non-combustion process).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Paint Application	SSC:	40202599
Paint Usage:	62,500 gallons/yr	Emission Point ID:	F020
Control Device:	None	Emission Unit ID:	EU020
		Year Installed:	1997
		Design Capacity:	20 gal/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source
<u>Criteria:</u>					
Particulate Matter, Filterable (PM _{FIL})	NA	NA			
Particulate Matter <10 microns (PM _{10FIL})	NA	NA			
Particulate Matter < 2.5 microns (PM _{2.5FIL})	NA	NA			
Nitrogen Oxides (NO _x)	NA	NA			
Volatile Organic Compounds (VOC)	10.00	43.82	1.4023	lb/gal	MSDS 17415A W/R Black LF Columbia Paint Corporation dated 6/9/08
Sulfur Dioxide (SO ₂)	NA	NA			
Carbon Monoxide (CO)	NA	NA			
Lead (Pb)	NA	NA			
<u>HAP:</u>					
			9.14	lb/gal	density of paint
2-Propoxyethanol	0.991	4.342	0.0152	decimal fraction	1.52% from MSDS

*Title V Operating Permit Renewal
Steel of West Virginia*

Process:

Paint Drying Oven

Hours of Operation:

8760 hrs/yr

Emission Point ID:

S021

Rated Capacity:

4 MMBtu/hr

Emission Unit ID:

EU021

Fuel Usage:

34 MMscf/yr

SCC Code:

30300933

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	0.01	0.03	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Particulate Matter <10 microns (PM _{10FIL})	0.01	0.03	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Assumes equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.01	0.03	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Assumes equivalent to PM
Particulate Matter, Condensable (PM _{COND})	0.02	0.10	5.7	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Nitrogen Oxides (NO _x)	0.39	1.72	100	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Volatile Organic Compounds (VOC)	0.02	0.09	5.5	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Sulfur Dioxide (SO ₂)	0.00	0.01	0.6	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
Carbon Monoxide (CO)	0.33	1.44	84	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
<u>HAP:</u>	7.41E-03	3.24E-02	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: Paint Drying Oven

Hours of Operation:	8760	hrs/yr	Emission Point ID:	S021
Rated Capacity:	4	MMBtu/hr	Emission Unit ID:	EU021
Fuel Usage:	34	MMscf/yr	SCC Code:	30300933

Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Potential Emissions (lb/hr)	Potential Emissions (tpy)
Speciated Organic:				
2-Methylnaphthalene	91-57-6	2.4E-05	9.4E-08	4.12E-07
3-Methylchloranthrene	56-49-5	1.8E-06	7.1E-09	3.09E-08
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	6.3E-08	2.75E-07
Acenaphthene	83-32-9	1.8E-06	7.1E-09	3.09E-08
Acenaphthylene	203-96-8	1.8E-06	7.1E-09	3.09E-08
Anthracene	120-12-7	2.4E-06	9.4E-09	4.12E-08
Benzo(a)anthracene	56-55-3	1.8E-06	7.1E-09	3.09E-08
Benzene	71-43-2	2.1E-03	8.2E-06	3.61E-05
Benzo(a)pyrene	50-32-8	1.2E-06	4.7E-09	2.06E-08
Benzo(b)fluoranthene	205-99-2	1.8E-06	7.1E-09	3.09E-08
Benzo(g,h,i)perylene	191-24-2	1.2E-06	4.7E-09	2.06E-08
Benzo(k)fluoranthene	205-82-3	1.8E-06	7.1E-09	3.09E-08
Chrysene	218-01-9	1.8E-06	7.1E-09	3.09E-08
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	4.7E-09	2.06E-08
Dichlorobenzene	25321-22-6	1.2E-03	4.7E-06	2.06E-05
Fluoranthene	206-44-0	3.0E-06	1.2E-08	5.15E-08
Fluorene	86-73-7	2.8E-06	1.1E-08	4.81E-08
Formaldehyde	50-00-0	7.5E-02	2.9E-04	1.29E-03
Hexane	110-54-3	1.8E+00	7.1E-03	3.09E-02
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	7.1E-09	3.09E-08
Naphthalene	91-20-3	6.1E-04	2.4E-06	1.05E-05
Phenanthrene	85-01-8	1.7E-05	6.7E-08	2.92E-07
Pyrene	129-00-0	5.0E-06	2.0E-08	8.59E-08
Toluene	108-88-3	3.4E-03	1.3E-05	5.84E-05
Metals				
Arsenic	7440-38-2	2.0E-04	7.8E-07	3.44E-06
Beryllium	7440-41-7	1.2E-05	4.7E-08	2.06E-07
Cadmium	7440-43-5	1.1E-03	4.3E-06	1.89E-05
Chromium	7440-47-3	1.4E-03	5.5E-06	2.40E-05
Cobalt	7440-48-4	8.4E-05	3.3E-07	1.44E-06
Lead	7439-92-1	5.0E-04	2.0E-06	8.59E-06
Manganese	7439-96-5	3.8E-04	1.5E-06	6.53E-06
Mercury	7439-97-6	2.6E-04	1.0E-06	4.47E-06
Nickel	7440-02-0	2.1E-03	8.2E-06	3.61E-05
Selenium	7782-49-2	2.4E-05	9.4E-08	4.12E-07
Total HAP			7.4E-03	3.24E-02
Non-HAP Metals				
Barium	7440-39-3	4.4E-03	1.7E-05	7.56E-05
Copper	7440-50-8	8.50E-04	3.3E-06	1.46E-05
Molybdenum	7439-98-7	1.10E-03	4.3E-06	1.89E-05
Vanadium	7440-62-2	2.30E-03	9.0E-06	3.95E-05
Zinc	7440-66-6	2.90E-02	1.1E-04	4.98E-04

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:

Continuous Wax Line Heater

Hours of Operation:

8760 hrs/yr

Emission Point ID:

S022

Rated Capacity:

4.0 MMBtu/hr

Emission Unit ID:

EU022

Fuel Usage:

34.4 MMscf/yr

SCC Code:

30300998

Control Device:

None

Year Installed:

1997

Design Capacity:

4 MMBtu/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	0.01	0.03	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Particulate Matter <10 microns (PM _{10FIL})	0.01	0.03	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	assumes equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.01	0.03	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	assumes equivalent to PM
Particulate Matter, Condensable (PM _{COND})	0.02	0.10	5.7	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Nitrogen Oxides (NO _x)	0.39	1.72	100	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Volatile Organic Compounds (VOC)	0.02	0.09	5.5	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Sulfur Dioxide (SO ₂)	0.00	0.01	0.6	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
Carbon Monoxide (CO)	0.33	1.44	84	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
<u>HAP:</u>	7.41E-03	3.24E-02	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: Continuous Wax Line Heater

Hours of Operation:	8760	hrs/yr	Emission Point ID:	S022
Rated Capacity:	4.0	MMBtu/hr	Emission Unit ID:	EU022
Fuel Usage:	34.4	MMscf/yr	SCC Code:	30300998

Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Potential Emissions (lb/hr)	Potential Emissions (tpy)
Speciated Organic:				
2-Methylnaphthalene	91-57-6	2.4E-05	9.4E-08	4.12E-07
3-Methylchloranthrene	56-49-5	1.8E-06	7.1E-09	3.09E-08
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	6.3E-08	2.75E-07
Acenaphthene	83-32-9	1.8E-06	7.1E-09	3.09E-08
Acenaphthylene	203-96-8	1.8E-06	7.1E-09	3.09E-08
Anthracene	120-12-7	2.4E-06	9.4E-09	4.12E-08
Benzo(a)anthracene	56-55-3	1.8E-06	7.1E-09	3.09E-08
Benzene	71-43-2	2.1E-03	8.2E-06	3.61E-05
Benzo(a)pyrene	50-32-8	1.2E-06	4.7E-09	2.06E-08
Benzo(b)fluoranthene	205-99-2	1.8E-06	7.1E-09	3.09E-08
Benzo(g,h,i)perylene	191-24-2	1.2E-06	4.7E-09	2.06E-08
Benzo(k)fluoranthene	205-82-3	1.8E-06	7.1E-09	3.09E-08
Chrysene	218-01-9	1.8E-06	7.1E-09	3.09E-08
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	4.7E-09	2.06E-08
Dichlorobenzene	25321-22-6	1.2E-03	4.7E-06	2.06E-05
Fluoranthene	206-44-0	3.0E-06	1.2E-08	5.15E-08
Fluorene	86-73-7	2.8E-06	1.1E-08	4.81E-08
Formaldehyde	50-00-0	7.5E-02	2.9E-04	1.29E-03
Hexane	110-54-3	1.8E+00	7.1E-03	3.09E-02
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	7.1E-09	3.09E-08
Naphthalene	91-20-3	6.1E-04	2.4E-06	1.05E-05
Phenanthrene	85-01-8	1.7E-05	6.7E-08	2.92E-07
Pyrene	129-00-0	5.0E-06	2.0E-08	8.59E-08
Toluene	108-88-3	3.4E-03	1.3E-05	5.84E-05
Metals				
Arsenic	7440-38-2	2.0E-04	7.8E-07	3.44E-06
Beryllium	7440-41-7	1.2E-05	4.7E-08	2.06E-07
Cadmium	7440-43-5	1.1E-03	4.3E-06	1.89E-05
Chromium	7440-47-3	1.4E-03	5.5E-06	2.40E-05
Cobalt	7440-48-4	8.4E-05	3.3E-07	1.44E-06
Lead	7439-92-1	5.0E-04	2.0E-06	8.59E-06
Manganese	7439-96-5	3.8E-04	1.5E-06	6.53E-06
Mercury	7439-97-6	2.6E-04	1.0E-06	4.47E-06
Nickel	7440-02-0	2.1E-03	8.2E-06	3.61E-05
Selenium	7782-49-2	2.4E-05	9.4E-08	4.12E-07
Total HAP			7.4E-03	3.24E-02
Non-HAP Metals				
Barium	7440-39-3	4.4E-03	1.7E-05	7.56E-05
Copper	7440-50-8	8.50E-04	3.3E-06	1.46E-05
Molybdenum	7439-98-7	1.10E-03	4.3E-06	1.89E-05
Vanadium	7440-62-2	2.30E-03	9.0E-06	3.95E-05
Zinc	7440-66-6	2.90E-02	1.1E-04	4.98E-04

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Wax Application - Dip Tanks & Torrid Line	SCC:	30300998
Wax Usage:	287,500 gallons	Emission Point ID:	F023a,b
Control Device:	None	Emission Unit ID:	EU023
		Year Installed:	1997
		Design Capacity:	33 gal/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	NA	NA				
Particulate Matter <10 microns (PM _{10FIL})	NA	NA				
Particulate Matter < 2.5 microns (PM _{2.5FIL})	NA	NA				
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	3.28	14.38	0.1	lb/gal	MSDS Non-Rust 1210; Daughbert Chemical Company; dated 2/19/03	Assumes all VOC is lost thru evaporation. Actual VOC content < 0.1 lb/gal - used 0.1 as a conservative estimate.
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>	NA	NA				No HAPs in Wax

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Shot Blaster	Emission Point ID:	S024
Processing Rate:	2.43 tons/hr	Emission Unit ID:	EU024
Operating Hours:	201 hours per year	SCC:	30900208
Control Device:	CE024	Year Installed:	1986
		Design Capacity:	2.4 tons/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL}) ¹	0.01	0.05	0.202	lb/ton	Site-specific emission factor from Title V Permit Application (3/1/2004)	Assumes 99% capture/control efficiency of baghouse (accounted for in the factor).
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.01	0.05	0.202	lb/ton		assume equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.01	0.05	0.202	lb/ton		assume equivalent to PM
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>	NA	NA				

1. All PM is filterable only (this is a non-combustion process).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Welding (Robot & Manual)	Emission Point ID:	F025
Welding Wire Usage:	526,000 lbs of wire per year	Emission Unit ID:	EU025
Control Device:	None	SCC Code:	30900500
		Year Installed:	1986
		Design Capacity:	10 tons/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	0.312	1.368	5.2	lb/1000 lb	Assumed 100% of PM10	
Particulate Matter <10 microns (PM _{10FIL})	0.312	1.368	5.2	lb/1000 lb	AP-42, Table 12.19-1 GMAW (01/95)	Used E70S based on data from MSDS
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.312	1.368	5.2	lb/1000 lb	Assumed 100% of PM10	
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>						
Chromium (Cr)	6.0E-04	2.6E-03	0.01	lb/1000 lb	AP-42, Table 12.19-2 GMAW (01/95)	
Chromium (Cr-VI)						No AP-42 for Cr-VI
Cobalt (Co)	6.0E-04	2.6E-03	0.01	lb/1000 lb	AP-42, Table 12.19-2 GMAW (01/95)	
Lead (Pb)						No AP-42 for Pb
Manganese (Mn)	1.9E-01	8.4E-01	3.18	lb/1000 lb	AP-42, Table 12.19-2 GMAW (01/95)	
Nickel (Ni)	6.0E-04	2.6E-03	0.01	lb/1000 lb	AP-42, Table 12.19-2 GMAW (01/95)	

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:

Cold Cleaners

Hours of Operation:

8760 hrs/yr

Processing Rate:

0.30 gal/hr

Density

6.4 - 6.7 lb/gal

VOC Content:

100.0 %

Control Device:

None

Emission Point ID: F026

Emission Unit ID: EU026

SCC Code: 40100203

Year Installed: 1975

Design Capacity: 0.3 gal/hr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM ₁₀)	NA	NA				
Particulate Matter <10 microns (PM ₁₀ FIL)	NA	NA				
Particulate Matter < 2.5 microns (PM _{2.5} FIL)	NA	NA				
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	2.01	8.80	6.7	lb/gal	SK105 MSDS	Assume 100% of solvent used evaporates
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>						
Tetrachloroethylene (Perchloroethylene)	4.0E-03	1.8E-02	0.2	wt. %		From MSDS for SafetyKleen 105

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:

Scrap Cutup Torches

Emission Point ID:

F027

Annual Processing Rate:

38,752 tons scrap

Emission Unit ID:

EU027

Annual Operating Rate:

8760 hrs per year

SCC:

30390003

Design Rating:

2.6 MMBtu/hr

Fuel Usage:

22 MMscf/yr

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	0.14	0.62	0.032	lb/ton	AP-42 Table 12.5.1-1 (04/09)	Factor for NG fired billet cutting torches
Particulate Matter <10 microns (PM _{10FIL})	0.14	0.62	0.032	lb/ton	AP-42 Table 12.5.1-1 (04/09)	assume equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.14	0.62	0.032	lb/ton	AP-42 Table 12.5.1-1 (04/09)	assume equivalent to PM
Particulate Matter, Condensable (PM _{CON})	0.01	0.06	5.7	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Nitrogen Oxides (NO _x)	0.25	1.12	100	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Volatile Organic Compounds (VOC)	0.01	0.06	5.5	lb/MMscf	AP-42 Table 1.4-1 (07/98)	Factor for NG combustion (small boilers)
Sulfur Dioxide (SO ₂)	0.002	0.007	0.6	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
Carbon Monoxide (CO)	0.21	0.94	84	lb/MMscf	AP-42 Table 1.4-2 (07/98)	Factor for NG combustion (small boilers)
<u>HAP:</u>	4.81E-03	2.11E-02	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Scrap Cutup Torches	Emission Point ID:	F027
Annual Processing Rate:	38,752 tons scrap	Emission Unit ID:	EU027
Annual Operating Rate:	8760 hrs per year	SCC:	30390003
Design Rating:	2.6 MMBtu/hr		
Fuel Usage:	22 MMsfc/yr		

Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Actual Emissions (lb/hr)	Actual Emissions (tpy)
<u>Speciated Organics</u>				
2-Methylnaphthalene	91-57-6	2.4E-05	6.1E-08	2.68E-07
3-Methylchloranthrene	56-49-5	1.8E-06	4.6E-09	2.01E-08
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	4.1E-08	1.79E-07
Acenaphthene	83-32-9	1.8E-06	4.6E-09	2.01E-08
Acenaphthylene	203-96-8	1.8E-06	4.6E-09	2.01E-08
Anthracene	120-12-7	2.4E-06	6.1E-09	2.68E-08
Benz(a)anthracene	56-55-3	1.8E-06	4.6E-09	2.01E-08
Benzene	71-43-2	2.1E-03	5.4E-06	2.34E-05
Benzo(a)pyrene	50-32-8	1.2E-06	3.1E-09	1.34E-08
Benzo(b)fluoranthene	205-99-2	1.8E-06	4.6E-09	2.01E-08
Benzo(g,h,i)perylene	191-24-2	1.2E-06	3.1E-09	1.34E-08
Benzo(k)fluoranthene	205-82-3	1.8E-06	4.6E-09	2.01E-08
Chrysene	218-01-9	1.8E-06	4.6E-09	2.01E-08
Dibenzo(a,h) anthracene	53-70-3	1.2E-06	3.1E-09	1.34E-08
Dichlorobenzene	25321-22-6	1.2E-03	3.1E-06	1.34E-05
Fluoranthene	206-44-0	3.0E-06	7.6E-09	3.35E-08
Fluorene	86-73-7	2.8E-06	7.1E-09	3.13E-08
Formaldehyde	50-00-0	7.5E-02	1.9E-04	8.37E-04
Hexane	110-54-3	1.8E+00	4.6E-03	2.01E-02
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	4.6E-09	2.01E-08
Napthalene	91-20-3	6.1E-04	1.6E-06	6.81E-06
Phenanthrene	85-01-8	1.7E-05	4.3E-08	1.90E-07
Pyrene	129-00-0	5.0E-06	1.3E-08	5.58E-08
Toluene	108-88-3	3.4E-03	8.7E-06	3.80E-05
<u>Metals</u>				
Arsenic	7440-38-2	2.0E-04	5.1E-07	2.23E-06
Beryllium	7440-41-7	1.2E-05	3.1E-08	1.34E-07
Cadmium	7440-43-9	1.1E-03	2.8E-06	1.23E-05
Chromium	7440-47-3	1.4E-03	3.6E-06	1.56E-05
Cobalt	7440-48-4	8.4E-05	2.1E-07	9.38E-07
Lead	7439-92-1	5.0E-04	1.3E-06	5.58E-06
Manganese	7439-96-5	3.8E-04	9.7E-07	4.24E-06
Mercury	7439-97-6	2.6E-04	6.6E-07	2.90E-06
Nickel	7440-02-0	2.1E-03	5.4E-06	2.34E-05
Selenium	7782-49-2	2.4E-05	6.1E-08	2.68E-07
Total HAP			4.8E-03	2.11E-02
<u>Non-HAP Metals</u>				
Barium	7440-39-3	4.4E-03	1.1E-05	4.91E-05
Copper	7440-50-8	8.50E-04	2.2E-06	9.49E-06
Molybdenum	7439-98-7	1.10E-03	2.8E-06	1.23E-05
Vanadium	7440-62-2	2.30E-03	5.9E-06	2.57E-05
Zinc	7440-66-6	2.90E-02	7.4E-05	3.24E-04

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

*Title V Operating Permit Renewal
Steel of West Virginia*

Process:

Space Heaters

Hours of Operation:

8760 hrs/yr

Emission Point ID:

S033

Rated Capacity:

5.0 MMBtu/hr

Emission Unit ID:

EU033

Fuel Usage:

42.9 MMscf/yr

SCC Code:

10200603

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<i>Criteria:</i>						
Particulate Matter, Filterable (PM _{FIL})	0.01	0.04	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Particulate Matter <10 microns (PM _{10FIL})	0.01	0.04	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	assumes equivalent to PM
Particulate Matter < 2.5 microns (PM _{2.5FIL})	0.01	0.04	1.9	lb/MMscf	AP-42 Table 1.4-2 (07/98)	assumes equivalent to PM
Particulate Matter, Condensable (PM _{COND})	0.03	0.12	5.7	lb/MMscf	AP-42 Table 1.4-1 (07/98)	
Nitrogen Oxides (NO _x)	0.49	2.15	100	lb/MMscf	AP-42 Table 1.4-1 (07/98)	
Volatile Organic Compounds (VOC)	0.03	0.12	5.5	lb/MMscf	AP-42 Table 1.4-1 (07/98)	
Sulfur Dioxide (SO ₂)	0.00	0.01	0.6	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
Carbon Monoxide (CO)	0.41	1.80	84	lb/MMscf	AP-42 Table 1.4-2 (07/98)	
<i>HAP:</i>	9.26E-03	4.05E-02	(See Table Below)		AP-42 Tables 1.4-3 and 1.4-4 (07/98)	

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:

Space Heaters

Hours of Operation:

8760 hrs/yr

Emission Point ID:

S033

Rated Capacity:

5.0 MMBtu/hr

Emission Unit ID:

EU033

Fuel Usage:

42.9 MMscf/yr

SCC Code:

10200603

Natural Gas Combustion HAP Emissions¹

Pollutant	CAS Number	(lb/MMscf)	Potential Emissions	Potential Emissions (tpy)
Speciated Organic:				
2-Methylnaphthalene	91-57-6	2.4E-05	1.2E-07	5.15E-07
3-Methylchloranthrene	56-49-5	1.8E-06	8.8E-09	3.86E-08
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	7.8E-08	3.44E-07
Acenaphthene	83-32-9	1.8E-06	8.8E-09	3.86E-08
Acenaphthylene	203-96-8	1.8E-06	8.8E-09	3.86E-08
Anthracene	120-12-7	2.4E-06	1.2E-08	5.15E-08
Benz(a)anthracene	56-55-3	1.8E-06	8.8E-09	3.86E-08
Benzenz	71-43-2	2.1E-03	1.0E-05	4.51E-05
Benzo(a)pyrene	50-32-8	1.2E-06	5.9E-09	2.58E-08
Benzo(b)fluoranthene	205-99-2	1.8E-06	8.8E-09	3.86E-08
Benzo(g,h,i)perylene	191-24-2	1.2E-06	5.9E-09	2.58E-08
Benzo(k)fluoranthene	205-82-3	1.8E-06	8.8E-09	3.86E-08
Chrysene	218-01-9	1.8E-06	8.8E-09	3.86E-08
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	5.9E-09	2.58E-08
Dichlorobenzene	25321-22-6	1.2E-03	5.9E-06	2.58E-05
Fluoranthene	206-44-0	3.0E-06	1.5E-08	6.44E-08
Fluorene	86-73-7	2.8E-06	1.4E-08	6.01E-08
Formaldehyde	50-00-0	7.5E-02	3.7E-04	1.61E-03
Hexane	110-54-3	1.8E+00	8.8E-03	3.86E-02
Indo(1,2,3-cd)pyrene	193-39-5	1.8E-06	8.8E-09	3.86E-08
Naphthalene	91-20-3	6.1E-04	3.0E-06	1.31E-05
Phenanthrene	85-01-8	1.7E-05	8.3E-08	3.65E-07
Pyrene	129-00-0	5.0E-06	2.5E-08	1.07E-07
Toluene	108-88-3	3.4E-03	1.7E-05	7.30E-05
Metals				
Arsenic	7440-38-2	2.0E-04	9.8E-07	4.29E-06
Beryllium	7440-41-7	1.2E-05	5.9E-08	2.58E-07
Cadmium	7440-43-9	1.1E-03	5.4E-06	2.36E-05
Chromium	7440-47-3	1.4E-03	6.9E-06	3.01E-05
Cobalt	7440-48-4	8.4E-05	4.1E-07	1.80E-06
Lead	7439-92-1	5.0E-04	2.5E-06	1.07E-05
Manganese	7439-96-5	3.8E-04	1.9E-06	8.16E-06
Mercury	7439-97-6	2.6E-04	1.3E-06	5.58E-06
Nickel	7440-02-0	2.1E-03	1.0E-05	4.51E-05
Selenium	7782-49-2	2.4E-05	1.2E-07	5.15E-07
Total HAP			9.3E-03	4.05E-02
Non-HAP Metals				
Barium	7440-39-3	4.4E-03	2.2E-05	9.45E-05
Copper	7440-50-8	8.50E-04	4.2E-06	1.83E-05
Molybdenum	7439-98-7	1.10E-03	5.4E-06	2.36E-05
Vanadium	7440-62-2	2.30E-03	1.1E-05	4.94E-05
Zinc	7440-66-6	2.90E-02	1.4E-04	6.23E-04

1. Emission factors obtained from AP-42 Section 1.4 Natural Gas Fired External Combustion Sources (07/98).

**Title V Operating Permit Renewal
Steel of West Virginia**

Process:	Roadways	Emission Point ID:	F028
Paved Roads:	1.25 miles	Emission Unit ID:	EU028
Unpaved Roads:	1.9 miles	SCC Code:	30300831
Vehicle Miles Traveled:	65,462 VMT/yr	Year Installed:	1952
Control Device:	None	Design Capacity:	3.2 miles

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
Criteria:						
Particulate Matter, Filterable (PM _{FIL}) ¹	7.12	31.17		lb/VMT	See calculations below	VMT are estimated based on production rate
Particulate Matter <10 microns (PM _{10FIL}) ¹	1.85	8.10		lb/VMT	See calculations below	VMT are estimated based on production rate
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.21	0.90		lb/VMT	See calculations below	VMT are estimated based on production rate
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
HAP:						
	NA	NA				

1. All PM is filterable only (this is a non-combustion source).

Paved Roadways											
Pollutant	k	sL	W	C	P	E	Road Length (miles)	(VMT) Vehicle Miles Traveled/yr	Applied Control Efficiency (%)	PM Emissions (lbs/yr)	PM Emissions (tpy)
	Particle Size Multiplier ¹ (lbs/VMT)	Silt Loading ² (gm/m ²)	Average Vehicle Weight ³ (tons)	Vehicle Fleet Emission Factor ⁴ (lb/VMT)	Precipitation Correction (# wet days/yr)	PM Annual Emission Factor ⁵ (lb/VMT)					
PM (filterable)	0.011	9.7	3.00	1.75	150	0.239	1.25	25,977	0	6,216	3.11
PM ₁₀ (filterable)	0.0022	9.7	3.00	1.75	150	0.048	1.25	25,977	0	1,243	0.62
PM _{2.5} (filterable)	0.00054	9.7	3.00	1.75	150	0.012	1.25	25,977	0	305	0.15

Notes:

- 1 Particle Size Multiplier for Paved Road Equation from AP-42 Chapter 13.2.1, Table 13.2.1-1 (1/11).
- 2 Typical Silt Loading Value for Iron and Steel Production Facilities from AP-42 Chapter 13.2.1, Table 13.2.1-3 (1/11).
- 3 Average Vehicle Weight represents the "fleet" average weight of all vehicles traveling the specified road segment, in accordance with calculation methodology specified for Equations 1 and 2 from AP-42, Chapter 13.2.1, Section 13.2.1.3 (1/11).
- 4 Total Loading Factor for Iron & Steel Production from AP-42 Chapter 13.2.1, Table 13.2.1-3 (1/11).
- 5 Annual Emission Factor calculated in accordance with Equation 2 of AP-42 Chapter 13.2.1 (1/11). $E = [k (sL)^{0.91} * (W)^{1.02} * (1-P/4N)]$, where N is the number of days in the period (per year in this case).

Unpaved Roadways											
Pollutant	k	s	W	P	E	Road Length (miles)	(VMT) Vehicle Miles Traveled/yr	Applied Control Efficiency (%)	PM Emissions (lbs/yr)	PM Emissions (tpy)	
	Particle Size Multiplier ¹ (lbs/VMT)	Surface Material Silt Content ² (%)	Average Vehicle Weight ³ (tons)	Precipitation Correction ⁴ (# wet days/yr)	PM Annual Emission Factor ⁵ (lb/VMT)						
PM (filterable)	4.9	6.0	3.0	150	1.777	1.9	39,485	20	56,123	28.06	
PM ₁₀ (filterable)	1.5	6.0	3.0	150	0.473	1.9	39,485	20	14,957	7.48	
PM _{2.5} (filterable)	0.15	6.0	3.0	150	0.047	1.9	39,485	20	1,496	0.75	

Notes:

- 1 Particle Size Multiplier for Industrial Roads Equation 1a from AP-42 Chapter 13.2.2, Table 13.2.2-2 (11/06).
- 2 Mean Silt Content for Iron & Steel Production Plant Roads from AP-42 Chapter 13.2.2, Table 13.2.2-1 (11/06).
- 3 Average Vehicle Weight represents the "fleet" average weight of all vehicles traveling the specified road segment, in accordance with calculation methodology specified for Equation 1a from AP-42, Chapter 13.2.2, Section 13.2.2.2 (11/06).
- 4 Mean number of days with 0.01 inch or more of precipitation for Huntington, WV from AP-42 Chapter 13.2.2, Figure 13.2.2-1 (11/06).
- 5 Annual Emission Factor calculated in accordance with Equations 1a and 2 of AP-42 Chapter 13.2.2 (11/06). $E = [k (s/12)^a * (W/3)^b] * [(365-P/365)]$, where a = 0.9 and b = 0.45 from

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: East Cooling Towers (2)

Recirculation Rate: 1800 gpm
Operating Hours: 8760 hrs/yr
Emission Point ID: S031
Emission Unit ID: EU031
SCC Code: 30600702

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
Criteria:						
Particulate Matter, Filterable (PM _{FIL}) ¹	0.42	1.83	0.003447	lb/10 ³ gal	Assume Equivalent to PM10	Assumes equivalent to PM10
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.42	1.83	0.003447	lb/10 ³ gal	AP-42 Table 13.4-1 (09/95)	Uses site-specific conductivity data
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.42	1.83	0.003447	lb/10 ³ gal	Assume Equivalent to PM10	Assumes equivalent to PM10
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
HAP:	NA	NA				

1. All PM is filterable only (this is a non-combustion source).

COOLING TOWER	WATER SOURCE	HOURS OF OPERATION	RECIRCULATION RATE [gpm]	TOTAL DISSOLVED SOLIDS		DRIFT LOSS		PM10 EMISSION FACTOR		AP-42		SWVA	
				AP-42 ¹ [PPM]	SWVA ² [PPM]	AP-42 ³ [lb/10 ³ gal]	[gpm]	AP-42 [lb/10 ³ gal]	SWVA [lb/10 ³ gal]	PM10 [lb/hr]	PM10 [TPY]	PM10 [lb/hr]	PM10 [TPY]
East Cooling Towers	City Water	8760	1,800	12,000	413	1.7	0.4	0.019	0.003447	0.42	1.83	0.08	0.33

- From Table 13.4-1 *Particulate Emissions Factors for Wet Cooling Towers* for Induced Draft Cooling Towers of AP-42 (September 1995).
- Total dissolved solids (TDS) converted from site specific conductivity measurements (TDS (ppm) = 0.67 * conductivity (mmho)) as provided by GE Water and Process Technologies.
- Density of water is approximately 8.345 lbs/gal.

*Title V Operating Permit Renewal
Steel of West Virginia*

Process: **Melt Shop Cooling Towers (3)**

Recirculation Rate: 5,273 gpm
 Operating Hours: 8760 hrs/yr
 Emission Point ID: **S032**
 Emission Unit ID: **EU032**
 SCC Code: 30600702

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
Criteria:						
Particulate Matter, Filterable (PM _{FDL}) ¹	1.22	5.36	0.003447	lb/10 ³ gal	PM = PM10	Assumes equivalent to PM10
Particulate Matter <10 microns (PM _{10FDL}) ¹	1.22	5.36	0.003447	lb/10 ³ gal	AP-42 Table 13.4-1 (09/95)	Uses site-specific conductivity data
Particulate Matter < 2.5 microns (PM _{2.5FDL}) ¹	1.22	5.36	0.003447	lb/10 ³ gal	PM2.5 = PM10	Assumes equivalent to PM10
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
HAP:						
	NA	NA				

1. All PM is filterable only (this is a non-combustion source).

COOLING TOWER	WATER SOURCE	HOURS OF OPERATION	RECIRCULATION RATE [gpm]	TOTAL DISSOLVED SOLIDS		DRIFT LOSS AP-42 ³		PM10 EMISSION FACTOR		AP-42		SWVA	
				AP-42 ¹ [PPM]	SWVA ² [PPM]	AP-42 ³ [lb/10 ³ gal]	[gpm]	AP-42 [lb/10 ³ gal]	SWVA [lb/10 ³ gal]	PM10 [lb/hr]	PM10 [TPY]	PM10 [lb/hr]	PM10 [TPY]
Melt Shop Cooling Towers	City Water	8760	5,273	12,000	413	1.7	1.1	0.019	0.003447	1.22	5.36	0.22	0.97

- From Table 13.4-1 *Particulate Emissions Factors for Wet Cooling Towers* for Induced Draft Cooling Towers of AP-42 (September 1995).
- Total dissolved solids (TDS) converted from site specific conductivity measurements (TDS (ppm) = 0.67 * conductivity (mmho)) as provided by GE Water and Process Technologies.
- Density of water is approximately 8.345 lbs/gal.

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: **Baghouse Dust Handling** Emission Point ID: **F029**
 Annual Processing Rate: 15910 tons dust Emission Unit ID: **EU029**
 SCC:

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
Criteria:						
Particulate Matter, Filterable (PM _{FIL}) ¹	0.15	0.67	0.084	lb/ton	AP-42, Section 13.2.4 (11/06)	assumes one transfer point from baghouse to truck
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.07	0.32	0.040	lb/ton	AP-42, Section 13.2.4 (11/06)	assumes one transfer point from baghouse to truck
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.01	0.05	0.006	lb/ton	AP-42, Section 13.2.4 (11/06)	assumes one transfer point from baghouse to truck
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
HAP:						
Arsenic (As)	7.63E-07	3.34E-06	5.00E-04	wt. %	1996 Dust Analysis	
Beryllium (Be)	NA	NA				
Cadmium (Ca)	1.10E-04	4.82E-04	7.21E-02	wt. %	Monthly Average Dust Analysis	
Chromium (Cr)	2.30E-04	1.01E-03	1.51E-01	wt. %	Monthly Average Dust Analysis	
Fluoride (F)	NA	NA				
Lead (Pb)	3.30E-03	1.45E-02	2.16E+00	wt. %	Monthly Average Dust Analysis	
Mercury (Hg)	7.94E-06	3.48E-05	5.20E-03	wt. %	1992 Dust Analysis	
Manganese (Mn)	5.76E-03	2.52E-02	3.78E+00	wt. %	Monthly Average Dust Analysis	
Nickel (Ni)	3.00E-05	1.32E-04	1.97E-02	wt. %	Monthly Average Dust Analysis	
Zinc (Zn)	4.34E-02	1.90E-01	2.84E+01	wt. %	Monthly Average Dust Analysis	

- All PM is filterable only (this is a non-combustion source).
- Fugitive emission factors are calculated using AP-42 Section 13.2.4 assuming one transfer from the baghouse collection hoppers to the truck.

$$E = k(0.0032) \left(\frac{U}{5} \right)^{1.3} \left(\frac{M}{2} \right)^{1.4} \text{ (lb / ton)}$$

k = 0.74 PM - (AP-42, Section 13.2.4 (11/06), for Particle Size < 30 mm)
 0.35 PM₁₀ - (AP-42, Section 13.2.4 (11/06), for Particle Size < 10 mm)
 0.053 PM_{2.5} - (AP-42, Section 13.2.4 (11/06), for Particle Size < 2.5 mm)

average wind speed (mph): U = 6.52 40-yr average for Huntington, WV (from <http://www.ncdc.noaa.gov/oa/climate/online/ccd/avgwind.html>)
 Baghouse Dust Moisture Content (%) = 0.2 per AP-42, Section 13.2.4, Table 13.2.4-1 (11/06)

Type of Material	PM Emission Factor (lb/ton)	PM ₁₀ Emission Factor (lb/ton)	PM _{2.5} Emission Factor (lb/ton)
Baghouse Dust	0.08404	0.03975	0.00602

*Title V Operating Permit Renewal
Steel of West Virginia*

Process: **Baghouse Dust Handling** Emission Point ID: **F029**
 Annual Processing Rate: 15910 tons dust Emission Unit ID: **EU029**
 SCC:

Month	% Zinc (Zn)	% Lead (Pb)	% Cadmium (Cd)	% Manganese (Mn)	% Chromium (Cr)	% Nickel (Ni)	% Arsenic (As)	% Mercury (Hg)
January	27.50	2.14	0.06	3.51	0.15	0.02		
February	27.10	2.25	0.05	3.69	0.15	0.02		
March	29.40	2.32	0.06	3.52	0.14	0.02		
April	26.00	2.84	0.08	3.74	0.15	0.02		
May	29.50	2.38	0.08	3.54	0.15	0.02	0.000	
June	24.10	2.28	0.06	3.41	0.14	0.02		
July	32.90	2.11	0.07	3.53	0.13	0.02		
August	31.50	1.83	0.08	3.95	0.15	0.02		
September	30.10	1.79	0.07	3.95	0.15	0.02	0.000	
October	29.20	1.78	0.07	4.18	0.17	0.02	0.000	
November	26.50	2.17	0.11	4.18	0.18	0.02		
December	27.30	2.06	0.07	4.11	0.17	0.02		
Average	28.43	2.16	0.07	3.78	0.15	0.02	0.0005	0.0052

1. Zn, Pb, Cd, Mn, Cr, Ni - Dust analysis performed on a monthly composite sample and results are presented in percent on a dry weight basis.
2. As - Three samples collected in 2011 were all below detection. The detection limit was used in these calculations.
3. Hg - Monthly analysis not available for calendar year 2011, therefore emissions factor based on a single analysis performed in 2010.

*Title V Operating Permit Renewal
Steel of West Virginia*

Process: Melt Shop Fugitives
Annual Processing Rate: 350,400 tons of steel produced
Emission Point ID: F005
Emission Unit ID: Various

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL})	2.64	11.56	(see calculation table below)		Capture/control efficiencies applied to AP-42 Table 12.5-1 (01Fugitives from entire Melt Shop	
Particulate Matter <10 microns (PM _{10FIL})	2.01	8.79	(see calculation table below)		76% of total PM is PM ₁₀ - AP-42 Table 12.5-2 (01/95)	58% in TV Application (AP-42 uncontrolled factor?)
Particulate Matter < 2.5 microns (PM _{2.5FIL})	1.95	8.56	(see calculation table below)		74% of total PM is PM _{2.5} - AP-42 Table 12.5-2 (01/95)	
Particulate Matter, Condensable (PM _{CON})	0.91	3.99	0.02	lb/ton	Ratio of baghouse PMCON to PMFIL	
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>						
Arsenic (As)	1.32E-05	5.78E-05	5.00E-04	wt. %	2011 Dust Analysis (3 samples)	6.2E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Beryllium (Be)					(Already accounted for in EAF #1 & EAF #2 calculations)	
Cadmium (Ca)	1.90E-03	8.34E-03	7.21E-02	wt. %	Monthly Average Dust Analysis	5.0E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Chromium (Cr)	3.98E-03	1.74E-02	1.51E-01	wt. %	Monthly Average Dust Analysis	3.5E-06 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Fluoride (F)					(Already accounted for in EAF #1 & EAF #2 calculations)	Not a listed HAP
Lead (Pb)	5.71E-02	2.50E-01	2.16E+00	wt. %	Monthly Average Dust Analysis	0.00056 lb/ton AP-42 Table 12.5.1-7 (04/09)
Mercury (Hg)	1.37E-04	6.01E-04	5.20E-03	wt. %	2010 Dust Analysis (1 sample)	1.1E-04 lb/ton in AP-42 Table 12.5.1-9 (04/09) - Uncontrolled (particulate & vapor?)
Manganese (Mn)	9.97E-02	4.37E-01	3.78E+00	wt. %	Monthly Average Dust Analysis	3.0E-04 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Nickel (Ni)	5.20E-04	2.28E-03	1.97E-02	wt. %	Monthly Average Dust Analysis	5.5E-05 lb/ton in AP-42 Table 12.5.1-9 (04/09)
Zinc (Zn)	7.50E-01	3.29E+00	2.84E+01	wt. %	Monthly Average Dust Analysis	Not a listed HAP

**Title V Operating Permit Renewal
Steel of West Virginia**

Process: Melt Shop Fugitives
Emission Point ID: F005
Annual Processing Rate: 350,400 tons of steel produced
Emission Unit ID: Various

Month	% Zinc (Zn)	% Lead (Pb)	% Cadmium (Cd)	% Manganese (Mn)	% Chromium (Cr)	% Nickel (Ni)	% Arsenic (As)	% Mercury (Hg)
January	27.5	2.1	0.0645	3.5	0.147	0.0193	0.0005	0.0052
February	27.1	2.3	0.0545	3.7	0.145	0.0176	-	-
March	29.4	2.3	0.0600	3.5	0.140	0.0193	-	-
April	26.0	2.8	0.0753	3.7	0.145	0.0189	-	-
May	29.5	2.4	0.0792	3.5	0.150	0.0218	-	-
June	24.1	2.3	0.0620	3.4	0.141	0.0218	-	-
July	32.9	2.1	0.0722	3.5	0.134	0.0200	-	-
August	31.5	1.8	0.0822	4.0	0.148	0.0173	-	-
September	30.1	1.8	0.0670	4.0	0.154	0.0183	-	-
October	29.2	1.8	0.0749	4.2	0.165	0.0221	-	-
November	26.5	2.2	0.1050	4.2	0.175	0.0214	-	-
December	27.3	2.1	0.0685	4.1	0.165	0.0184	-	-
Average	28.43	2.16	0.07	3.78	0.15	0.02	0.0005	0.0052

1. Zn, Pb, Cd, Mn, Cr, Ni - Dust analysis performed on a monthly composite sample and results are presented in percent on a dry weight basis.
2. As - This is not analyzed monthly - all available 2010 data used to calculate annual average.
3. Hg - This is only analyzed once per year for TRI reporting purposes.

Fugitive PM Emission Factor (Post-Melt Shop Canopy Upgrades in July 2010)

Furnace	Operating Phase	Average Liquid Steel Produced [tpy]	Uncontrolled PM Emissions ¹ [lb/ton]	Uncontrolled PM Emissions [lb/yr]	EAF Hood Capture Efficiency [%]	PM Emissions to EAF Hood [lb/yr]	PM Emissions to Canopy Hood [lb/yr]	Canopy Hood Capture Efficiency [%]	PM Emissions to Building [lb/yr]	Building Capture Efficiency [%]	PM Emissions to Roof Monitor [lb/yr]
EAFs #1 & 2	Melting & Refining, Charging & Tapping <i>Total</i>	350,400	38	13,315,200	95	12,649,440	665,760	90	66,576	80	13,315
			1.4	490,560	0	-	90	49,056	80	9,811	
			39.4	13,805,760	---	12,649,440	---	1,156,320	---	115,632	---

TSP **11.56**

¹Emission factors are uncontrolled total particulate from AP-42 Table 12.5-1 (01/95).

²Canopy hood and building capture efficiencies are from EPA's U.S. EPA's background development documents for the New Source Performance Standards (NSPS) for Electric Arc Furnaces under 40 CFR 60 Subparts AA/Aaa (EPA-450/3-82-020a, July 1983). SWVA upgraded their single canopy hood configuration (average capture efficiency of 80%) to a larger segmented canopy hood in summer 2010 (average capture efficiency of 90%). They also completed building improvements during that project, including new steel sheeting of the entire melt shop building, resulting in an estimate 10% improvement in overall building capture efficiency.

*Title V Operating Permit Renewal
Steel of West Virginia*

Process:

Alloy Handling

Emission Point ID:

F030

Emission Unit ID:

EU030

Annual Processing Rate:

8,429 tons of alloy

Pollutant	Potential Emissions (tpy)	Potential Emissions (tpy)	Emission Factor	Emission Factor Units	Emission Factor Source	Notes
<u>Criteria:</u>						
Particulate Matter, Filterable (PM _{FIL}) ¹	0.12	0.51	0.120	lb/ton	AP-42, Section 11.24-2 (01/95)	assumes one transfer, fugitive emissions
Particulate Matter <10 microns (PM _{10FIL}) ¹	0.06	0.25	0.060	lb/ton	AP-42, Section 11.24-2 (01/95)	assumes one transfer, fugitive emissions
Particulate Matter < 2.5 microns (PM _{2.5FIL}) ¹	0.06	0.25	0.060	lb/ton	AP-42, Section 11.24-2 (01/95)	assumes one transfer, fugitive emissions
Nitrogen Oxides (NO _x)	NA	NA				
Volatile Organic Compounds (VOC)	NA	NA				
Sulfur Dioxide (SO ₂)	NA	NA				
Carbon Monoxide (CO)	NA	NA				
<u>HAP:</u>						
	NA	NA				

1. All PM is filterable only (this is a non-combustion source).

2. Emissions of HAPs from this source have been determined to be negligible and are therefore not included in this inventory.

Annual GHG Emissions Calculations

Steel of West Virginia
 Calendar Year: PTE

Table 1. GHG Emissions Calculations from Subpart C - General Stationary Fuel Combustion Sources

Process	Methodology	Fuel Use (therms)	CO ₂ (tons)	CH ₄ (tons)	N ₂ O (tons)	CO ₂ e (tons)
GP-NG-1 Aggregation of Natural Gas Sources	Tier 1 C-1a, C-8a	22,956,353	121,806	2.30E+00	2.30E-01	121,932
		Totals	121,806	2.30E+00	2.30E-01	121,932

Natural Gas Default Emissions Factors:

CO ₂	53.06	kg/mmBtu
CH ₄	1.0E-03	kg/mmBtu
N ₂ O	1.0E-04	kg/mmBtu

Natural Gas CO₂ Calculation

$$CO_2 = 1 \times 10^{-3} * (0.1 * Gas * EF) \quad (\text{Eq. C-1a})$$

Gas = Annual Natural gas consumption, from billing records (therms)
 EF = Fuel-specific default CO₂ emission factor, from Table C-1 (kg CO₂/MMBtu).
 0.1 = Conversion factor from therms to MMBtu

Tier 1 Natural Gas CH₄ and N₂O Calculation

$$CH_4 \text{ or } N_2O = 1 \times 10^{-3} * Fuel * 0.1 * EF \quad (\text{Eq. C-8a})$$

Fuel = Annual natural gas consumption, from billing records (therms).
 EF = Fuel-specific default emission factor for CH₄ or N₂O, from Table C-2 (kg CH₄ or N₂O per MMBtu).
 0.1 = Conversion factor from therms to MMBtu

GHG Global Warming Potential

Name	GWP	Source
CO		1 Table A-1 of Subpart A of Part 98
CH ₄		25 Table A-1 of Subpart A of Part 98
N ₂ O		298 Table A-1 of Subpart A of Part 98

Annual GHG Emissions Calculations

Steel of West Virginia

Calendar Year: PTE

Table 2. GHG Emissions Calculations from Subpart Q - Iron and Steel Production

Source	Annual Mass of Carbon Input	Annual Mass of Carbon Output	Units	CO ₂ (metric tons)	CH ₄ (metric tons)	N ₂ O (metric tons)	CO ₂ e (metric tons)
Melt Shop: EAF #1 & EAF #2	4,225	1,704	Metric Tons Carbon	13,788	NA	NA	13,788
			Totals	13,788	NA	NA	13,788

Mass Balance

$$CO_2 = \frac{44}{12} * \left[(Iron) * (C_{Iron}) + (Scrap) * (C_{Scrap}) + (Flux) * (C_{Flux}) + (Electrode) * (C_{Electrode}) + (Carbon) * (C_{Carbon}) - (Steel) * (C_{Steel}) + (F_g) * (C_{gf}) - \frac{MW}{MVC} * 0.001 - (Slag) * (C_{Slag}) - (R) * (CR) \right]$$

(Eq. Q-5)

Annual GHG Emissions Calculations

Steel of West Virginia

Calendar Year: PTE

Table 3. Annual Emissions - GHG Pollutants

Emission Point ID	GHG Pollutants (Metric Tons per Year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Melt Shop	13,788	NA	NA	13,788
Plantwide Combustion	121,806	2	0.23	121,932
Total	135,594	2.30	0.23	135,720