**AIR QUALITY PROGRAM**
**301 39th Street, Bldg. #7**
**Pittsburgh, PA 15201-1811**

# *Title V Operating Permit*
# *& Federally Enforceable State Operating Permit*

**Issued To:** U.S. Steel Edgar Thomson Plan.

**Facility:** U.S. Steel Edgar Thomson Plant
13th Street and Braddock Avenue
Braddock, PA 15104

**ACHD Permit #:** 0051-OP22

**Date of Issuance:** Month 00, 20XX

**Expiration Date:** Month 00, 20XX

**Renewal Date:** expiration date – 6mo.

**Issued By:** _____
JoAnn Truchan, P.E.
Section Chief, Engineering

**Prepared By:** _____
Hafeez Ajenifuja
Air Quality Engineer

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# TABLE OF CONTENTS

I. CONTACT INFORMATION ..... 5
II. FACILITY DESCRIPTION ..... 6
III. GENERAL CONDITIONS – MAJOR SOURCE ..... 21
IV. SITE LEVEL TERMS AND CONDITIONS ..... 32
V. EMISSION UNIT LEVEL TERMS AND CONDITIONS ..... 43
A. PROCESS P001A AND P002A: BLAST FURNACE NO. 1 AND BLAST FURNACE NO. 3 ..... 43
B. PROCESS P001B AND P002B: BLAST FURNACE NO. 1 STOVES AND BLAST FURNACE NO. 3 STOVES ..... 60
C. PROCESS P001C: BLAST FURNACE GAS (BFG) FLARE ..... 65
D. PROCESS P003: BASIC OXYGEN PROCESS (BOP) SHOP ..... 68
E. PROCESS P004: LADLE METALLURGICAL FACILITY ..... 87
F. PROCESS P005: DUAL STRAND CONTINUOUS CASTER ..... 97
G. PROCESS P006: VACUUM DEGASSER ..... 101
H. RILEY BOILER NOS. 1, 2 & 3 ..... 103
I. BLAST FURNACE SLAG PITS ..... 109
J. DIESEL EMERGENCY GENERATORS: GEN-1 AND GEN-2 ..... 111
K. CIRCULATING WATER COOLING TOWERS ..... 114
L. PLANT ROADS ..... 116
M. STORAGE PILES: SLAG STORAGE PILES ..... 118
N. PAINTS/THINNERS & SOLVENTS DEGREASER: ..... 119
O. POT COAT WINTER GRADE ..... 120
VI. MISCELLANEOUS ..... 121
VII. ALTERNATIVE OPERATING SCENARIOS ..... 122
A. BOP SLAG HANDLING ..... 122
B. WASTE PRODUCT RECYCLING AND BRIQUETTING PROCESS ..... 123
VIII. EMISSIONS LIMITATIONS SUMMARY ..... 124

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***AMENDMENTS:***

***DATE SECTION(S)***

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# I. CONTACT INFORMATION

| | |
|---|---|
| **Facility Location:** | **U.S. Steel Edgar Thomson Plant**<br>13th Street and Braddock Avenue<br>Braddock, PA 15104 |
| **Permittee/Owner:** | **United States Steel Corporation**<br>13th Street and Braddock Avenue<br>Braddock, PA 15104 |
| **Permittee/Operator:**<br>**(if not Owner)** | **same as owner** |
| **Responsible Official:** | **Kurt Barshick** |
| **Title:** | General Manager, Mon Valley Works |
| **Company:** | United States Steel Corporation<br>Mon Valley Works |
| **Address:** | P.O. Box 878<br>Dravosburg, PA 15122 |
| **Telephone Number:** | 412-675-2600 |
| **Fax Number:** | 412-675-5407 |
| **Facility Contact:** | **Coleen M. Davis** |
| **Title:** | Sr. Environmental Control Engineer |
| **Telephone Number:** | 412-273-4730 |
| **Fax Number:** | 412-273-7099 |
| **E-mail Address:** | cdavis@uss.com |

**AGENCY ADDRESSES:**

| | |
|---|---|
| **ACHD Engineer:** | **Hafeez Ajenifuja** |
| **Title:** | Air Quality Engineer |
| **Telephone Number:** | 412-578-8366 |
| **Fax Number:** | 412-578-8144 |
| **E-mail Address:** | hafeez.ajenifuja@alleghenycounty.us |
| **ACHD Contact:** | **Chief Engineer**<br>**Allegheny County Health Department**<br>Air Quality Program<br>301 39th Street, Building #7<br>Pittsburgh, PA 15201-1811<br>aqpermits@alleghenycounty.us |
| **EPA Contact:** | **Enforcement Programs Section (3AP12)**<br>**USEPA Region III**<br>1650 Arch Street<br>Philadelphia, PA 19103-2029 |

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# II. FACILITY DESCRIPTION

The U.S. Steel Edgar Thomson Plant (ET) is an iron and steel making facility that produces mainly steel slabs. Raw materials such as coke, iron-bearing materials, and fluxes are charged to blast furnaces in the iron making process. Molten metal (iron) is tapped from the blast furnace at the casthouse into transfer ladles. The hot metal is then transferred to a hot metal mixer or direct pour station in preparation for desulfurization. For desulfurization, a reagent is added to the hot metal, causing sulfur and other impurities to form and rise to the surface. Desulfurized hot metal is then introduced into the basic oxygen process (BOP), where the hot metal is transformed into molten steel. Scrap, alloys, fluxes, and oxygen are also introduced at the BOP. The liquid steel is tapped from the BOP vessels and transferred to the ladle metallurgy facility (LMF) or Vacuum Degasser, where the properties of the steel can be more precisely refined according to customer specifications. To achieve this additional refining at the LMF or Vacuum Degasser, specific alloying materials are added to the process. The refined liquid steel is then charged to the dual strand continuous caster mold. The steel slabs are formed in the continuous caster and are cut to length, ground, slit as necessary, and shipped offsite. There are three Riley Boilers at ET, which are used to generate steam, heat, and electricity for the plant. The three primary fuels for the boilers are Blast Furnace Gas (BFG), Coke Oven Gas, (COG), and Natural Gas (NG).

The facility has two (2) processes that are operated by an outside contractor:

1. BOP Slag Processing; and
2. Waste Product Recycling and Briquetting.

The BOP slag handling system is being operated by TMS International, LLC, while the Waste Product Recycling and Briquette is operated by Magnus Products, LLC.

Both TMS (#0225) and Magnus Products (#0265) are located on U.S. Steel-Edgar Thomson property and are considered Title V facilities by ACHD. These facilities are part of the same major source, act as support facilities to U.S. Steel-Edgar Thomson Plant and have their own Title V operating permits.

In addition, Messer LLC is another support facility that is located outside U.S. Steel-Edgar Thomson compound, but supplies oxygen to U.S. Steel-Edgar Thomson Plant. Messer is also supplying gases to other companies and is therefore not considered a co-located Title V facility at this time.

The facility, which is located in Braddock, Pennsylvania, is a major source of particulate matter (PM), particulate matter less than 10 microns in diameter ($PM_{10}$), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), sulfur dioxide ($SO_2$), carbon monoxide (CO), nitrogen oxides ($NO_X$), volatile organic compounds (VOC), and Hazardous Air Pollutants (HAPs), as defined in Section 2101.20 of Article XXI.

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The emission units regulated by this permit are summarized in Table II-1:

**TABLE II-1 - Emission Unit Identification**

| I.D. | SOURCE DESCRIPTION | CONTROL DEVICE(S) | MAXIMUM CAPACITY | FUEL/RAW MATERIAL | STACK I.D. |
|---|---|---|---|---|---|
| P001a | Blast Furnace No. 1 Casthouse | Casthouse Baghouse | 1,752,000 TPY (Production) | Coke, Iron-Bearing Materials, Fluxes | S002 |
| P001b | Blast Furnace No. 1 Stoves | None | 495 MMBtu/hour (total) | BFG, COG & Natural Gas | S001 |
| P001c | BFG Flare | N/A | 3 MMcfh | BFG | S003 |
| P002a | Blast Furnace No. 3 Casthouse | Casthouse Baghouse | 1,752,000 TPY (Production) | Coke, Iron-Bearing Materials, Fluxes | S002 |
| P002b | Blast Furnace No. 3 Stoves | None | 495 MMBtu/hour (total) | BFG, COG & Natural Gas | S004 |
| P003 | Basic Oxygen Process (BOP) Shop | Mixer Baghouse, Primary Scrubber, Secondary Baghouse | 3, 467,500 TPY (Production) | Hot Metal (Iron), Fluxes, Scrap, Alloy Additives | S005-S008 |
| P004 | Ladle Metallurgy Facility (LMF) | LMF Baghouse | 3, 467,500 TPY (Production) | Steel (Liquid), Fluxes, Scrap, Alloy Additives | S009 |
| P005 | Dual Strand Caster | Dust Collectors | 3, 467,500 TPY (Production) | Steel (Liquid), Fluxes | N/A |
| P006 | Vacuum Degasser | CO Flare | 1,200,000 TPY (Production) | Steel (Liquid), Alloying Materials, Fluxes | S011 |
| B001 | Riley Boiler No. 1 | None | 525 MMBtu/hr | Blast Furnace Gas, Coke Oven Gas & Natural Gas | S012 |
| B002 | Riley Boiler No. 2 | None | 525 MMBtu/hr | Blast Furnace Gas, Coke Oven Gas & Natural Gas | S013 |
| B003 | Riley Boiler No. 3 | None | 525 MMBtu/hr | Blast Furnace Gas, Coke Oven Gas & Natural Gas | S014 |
| F001 | Blast Furnace Slag Pits | N/A | 581,565 TPY | Blast Furnace Slag | N/A |
| F002 | Plant Roads | Wet Suppression; Chemical Treatment; Paved Road Sweeping | N/A | N/A | N/A |

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| I.D. | SOURCE DESCRIPTION | CONTROL DEVICE(S) | MAXIMUM CAPACITY | FUEL/RAW MATERIAL | STACK I.D. |
|---|---|---|---|---|---|
| F003 | Storage Piles | Dust Control (moisture content >1.5%) | 2 acres | Steel Slag | NA |
| F004 | Paint/Thinners & Solvent Degreaser | None | 795 gal /yr & 2,949 gal/yr | NA | NA |
| F005 | Pot Coat- Antifreeze | None | 911,138 pound/yr | Antifreeze | NA |
| GEN-1 | Emergency Generator 1 | None | 2,922 HP | Diesel Fuel | S001 |
| GEN-1 | Emergency Generator 2 | None | 2,922 HP | Diesel Fuel | S002 |
| | | | | | |
| N/A | WSAC (Mold Water) Cooling Tower | N/A | 4,100 gpm | NA | NA |
| NA | WSAC (Blast Furnace Closed Loop) Cooling Tower | NA | 2,145 | N/A | N/A |
| N/A | Blast Furnace Recycling Cooling Tower | Drift Eliminator | 15,000 gpm | NA | NA |
| N/A | Caster Internal Machine Cooling Tower | Drift Eliminator | 14,316 gpm | NA | NA |
| N/A | Degasser Cooling Tower | Drift Eliminator | 5,250 gpm | NA | NA |
| N/A | BOP Hood Cooling Tower | Drift Eliminator | 12,000 gpm | NA | NA |
| N/A | BOP Gas Cleaning Cooling Tower | Drift Eliminator | 12,000 gpm | NA | NA |
| N/A | Caster Spray Water Cooling Tower | Drift Eliminator | 7,000 gpm | NA | NA |

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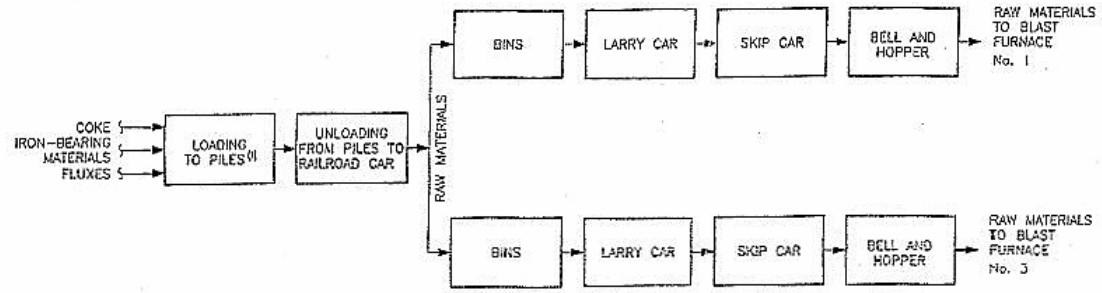
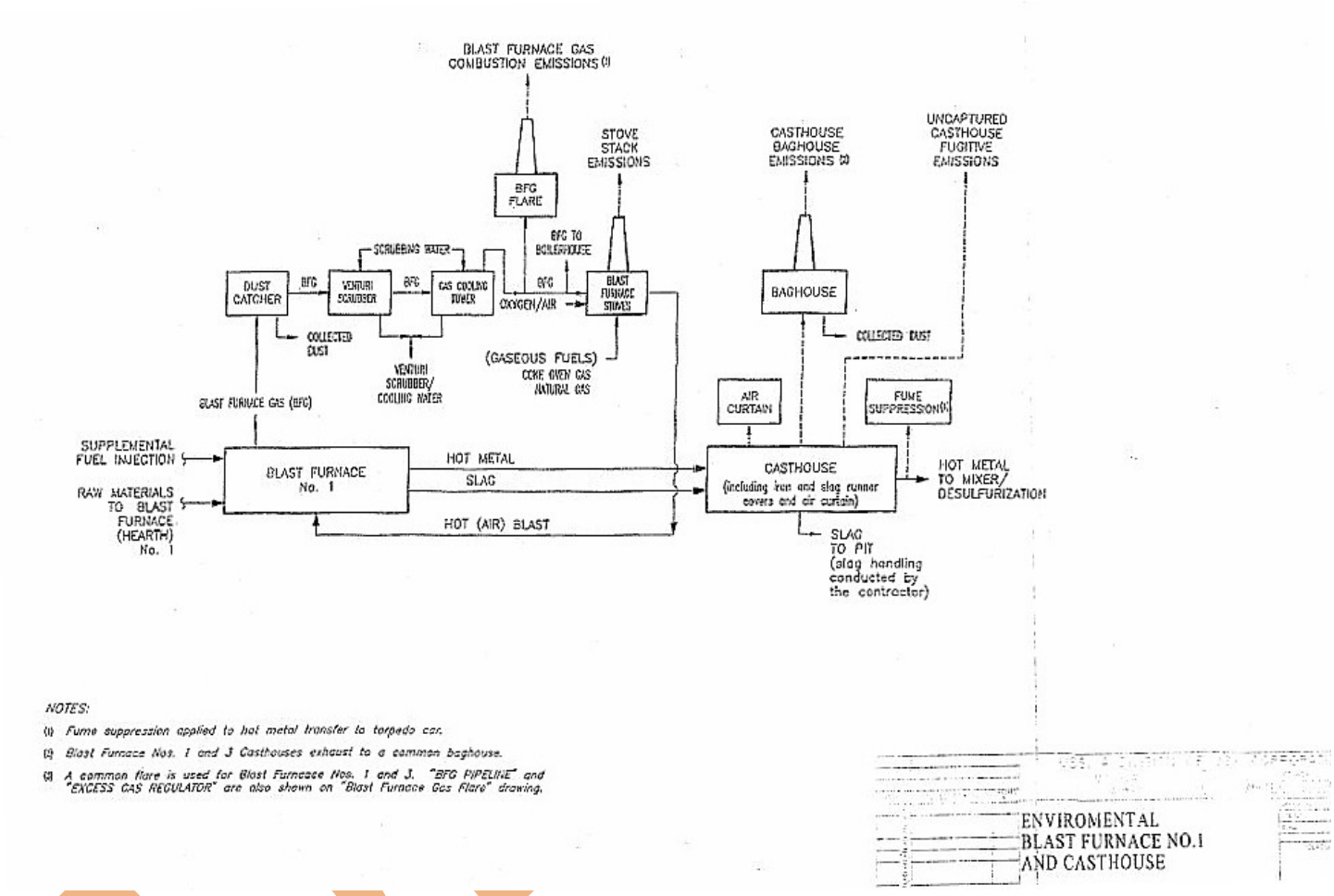
**Blast Furnaces 1 & 3 Raw Material Handling**




NOTE:
(1) Truck unloading also conducted at storage piles.

ENVIROMENTAL
BLAST FURNACES
Nos. 1 AND 3
RAW MATERIAL HANDLING

**Blast Furnace No. 1 And Casthouse**



**Blast Furnace No. 1 Miscellaneous Operations**

NOTES:

(1) Fuel combustion sources at the blast furnace include BFG stoves, natural gas fume suppression, space heating, COG rail car thaw lines, torpedo car cleaning and ladle drying and firing.

ENVIROMENTAL
BLAST FURNACE NO. 1
MISCELLANEOUS
OPERATIONS

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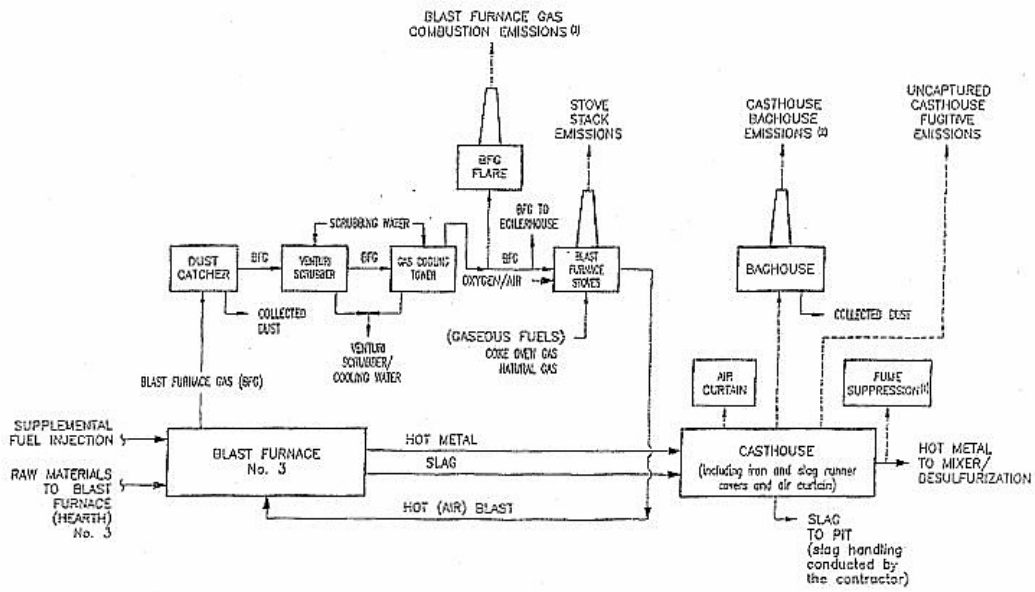
**Blast Furnace No. 3 And Casthouse**




NOTES:

(1) Fume suppression applied to hot metal transfer to torpedo car.

(2) Blast Furnace Nos. 1 and 3 Casthouses exhaust to a common baghouse.

(3) A common flare is used for Blast Furnaces Nos. 1 and 3. "BFG PIPELINE" and "EXCESS GAS REGULATOR" are shown on "BFG Flare Drawing."

ENVIROMENTAL
BLAST FURNACE NO. 3
AND CASTHOUSE

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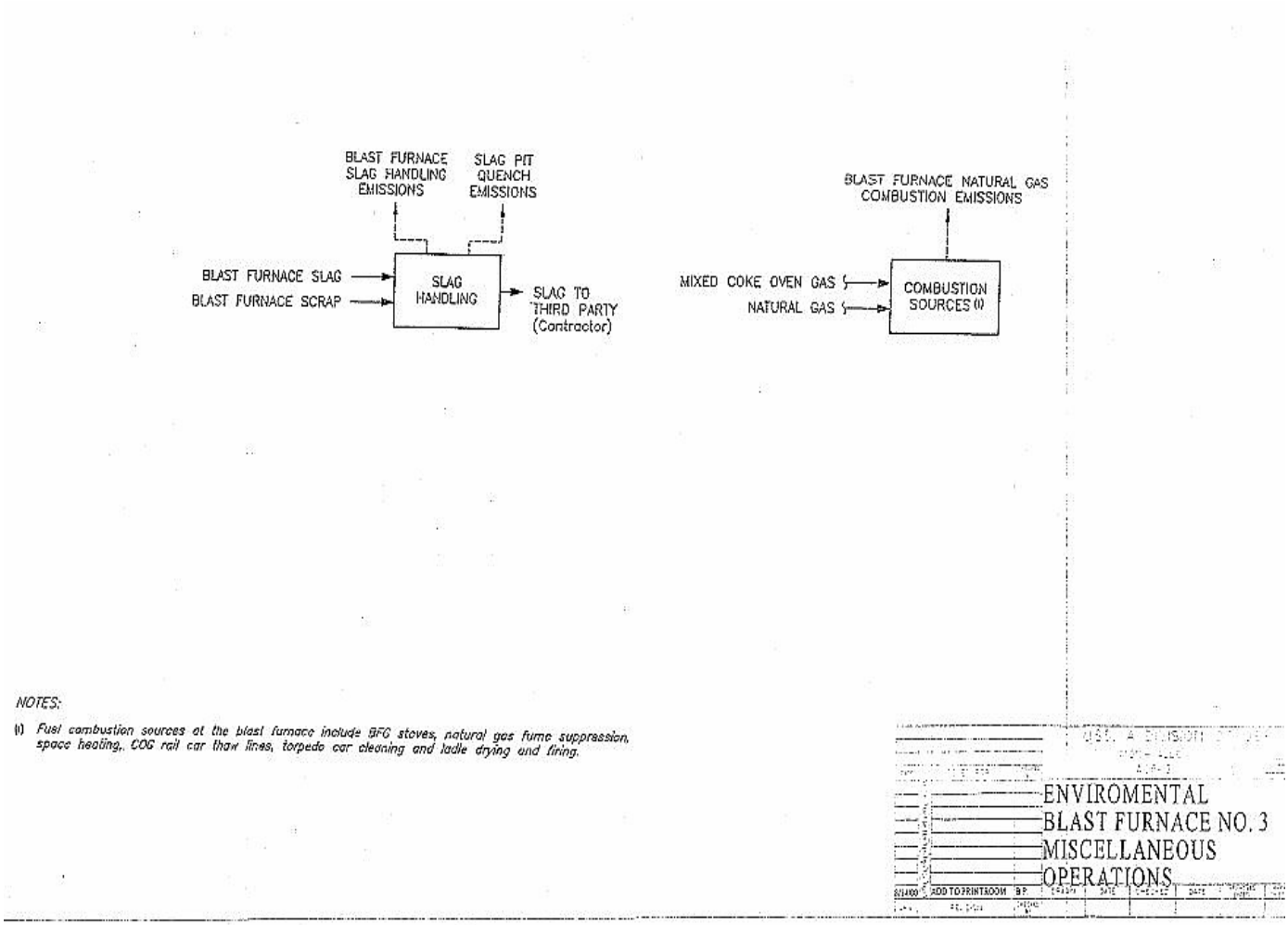
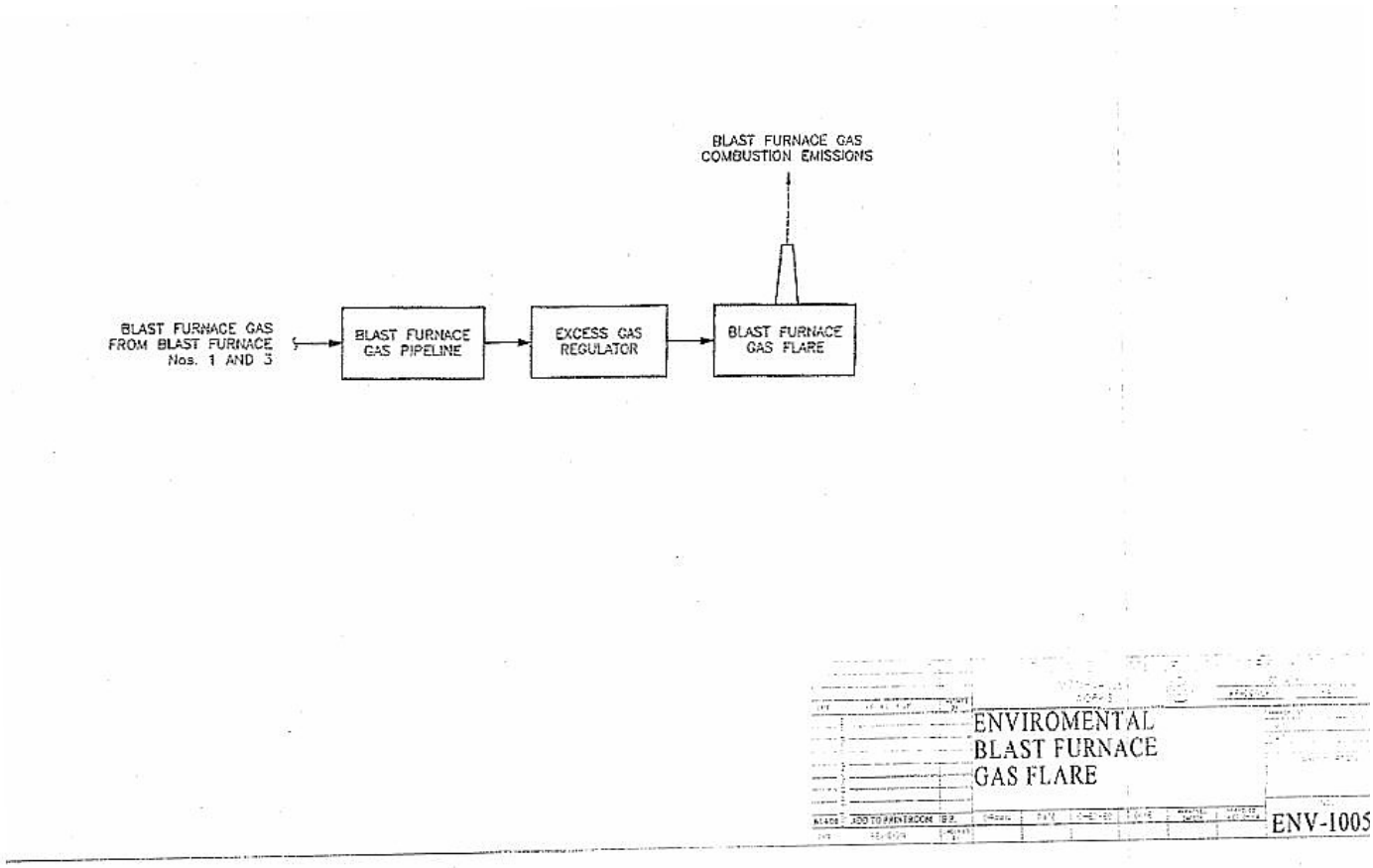
**Blast Furnace No. 3 Miscellaneous Operations**



**Blast Furnace Gas Flare**

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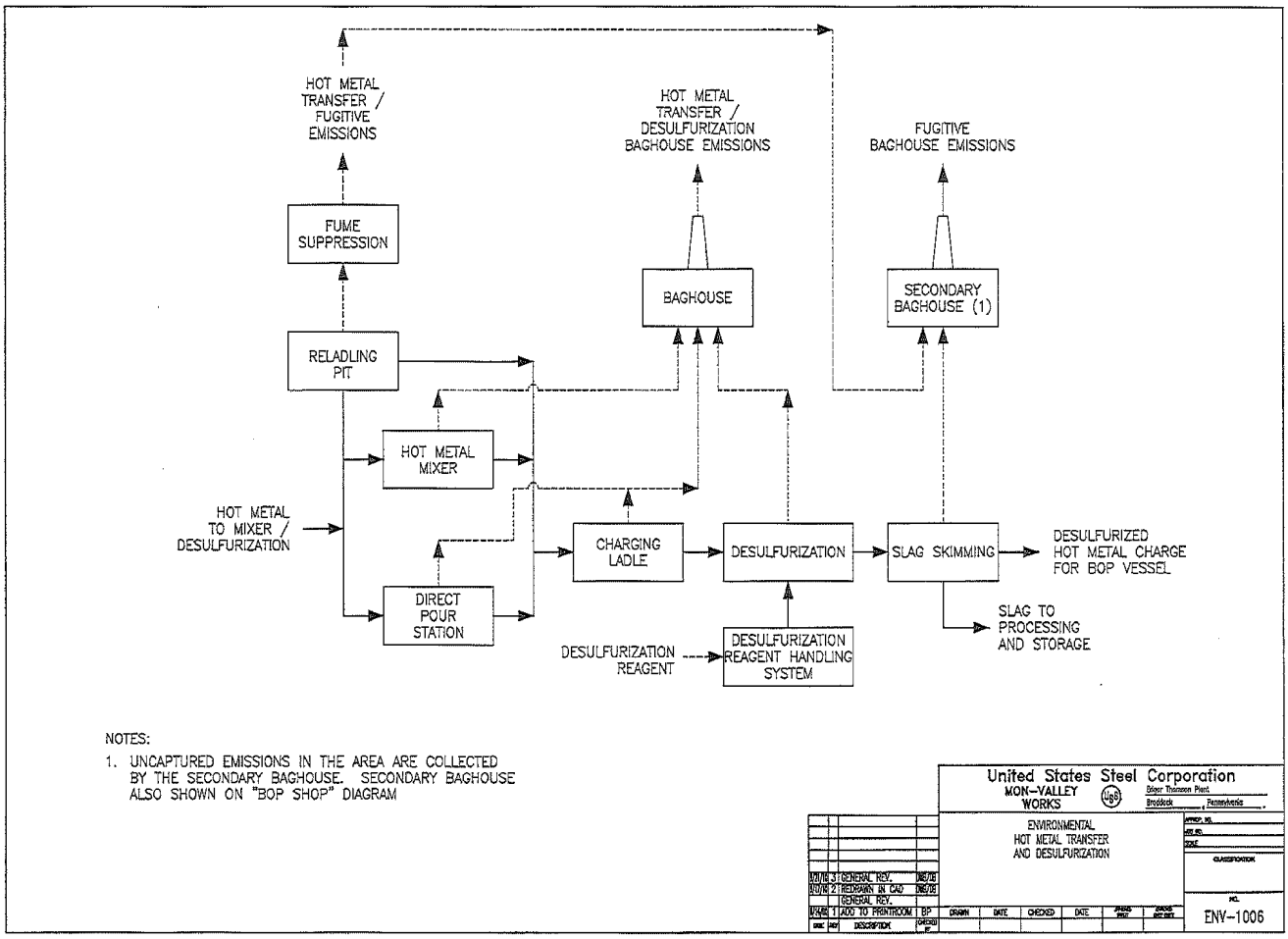
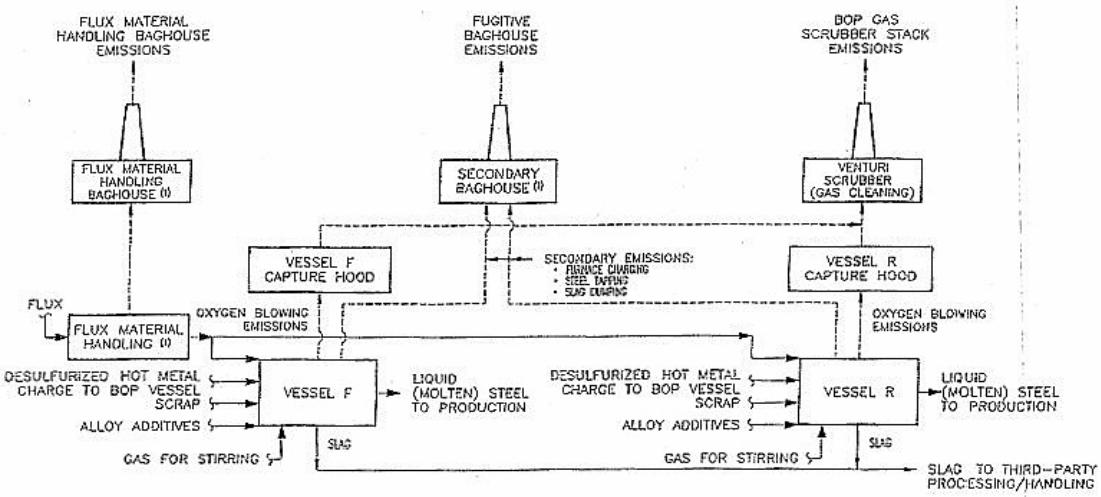
## Hot Metal Transfer and Desulfurization



**BOP Shop**




*NOTES:*

(1) *There are four flux material handling baghouses including flux material rail car unloading, transfer tower, and internal transfer/handling (two systems).*

(2) *Secondary baghouse also shown in "Hot Metal Transfer and Desulfurization" Diagram.*

ENVIROMENTAL
BOP SHOP

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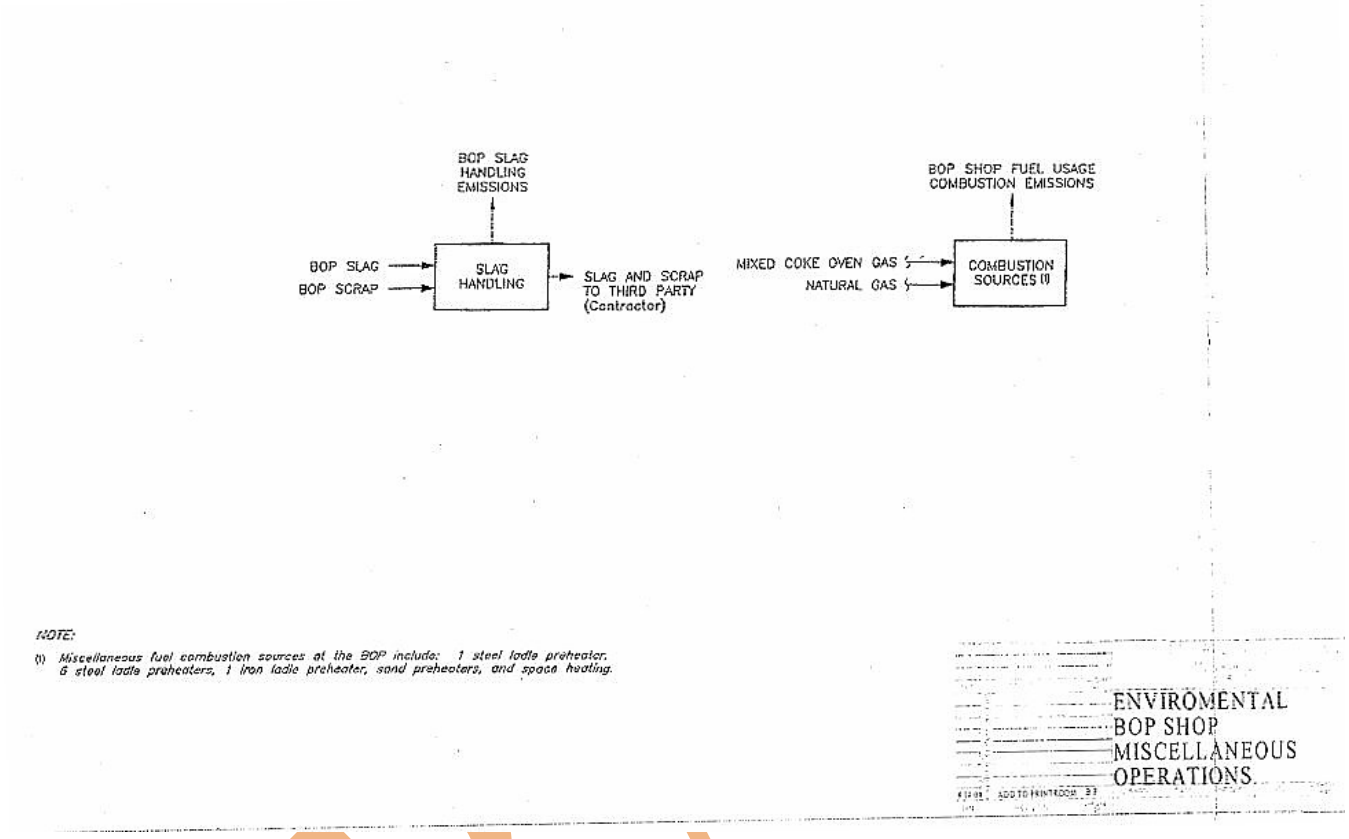
**BOP Shop Miscellaneous Operations**

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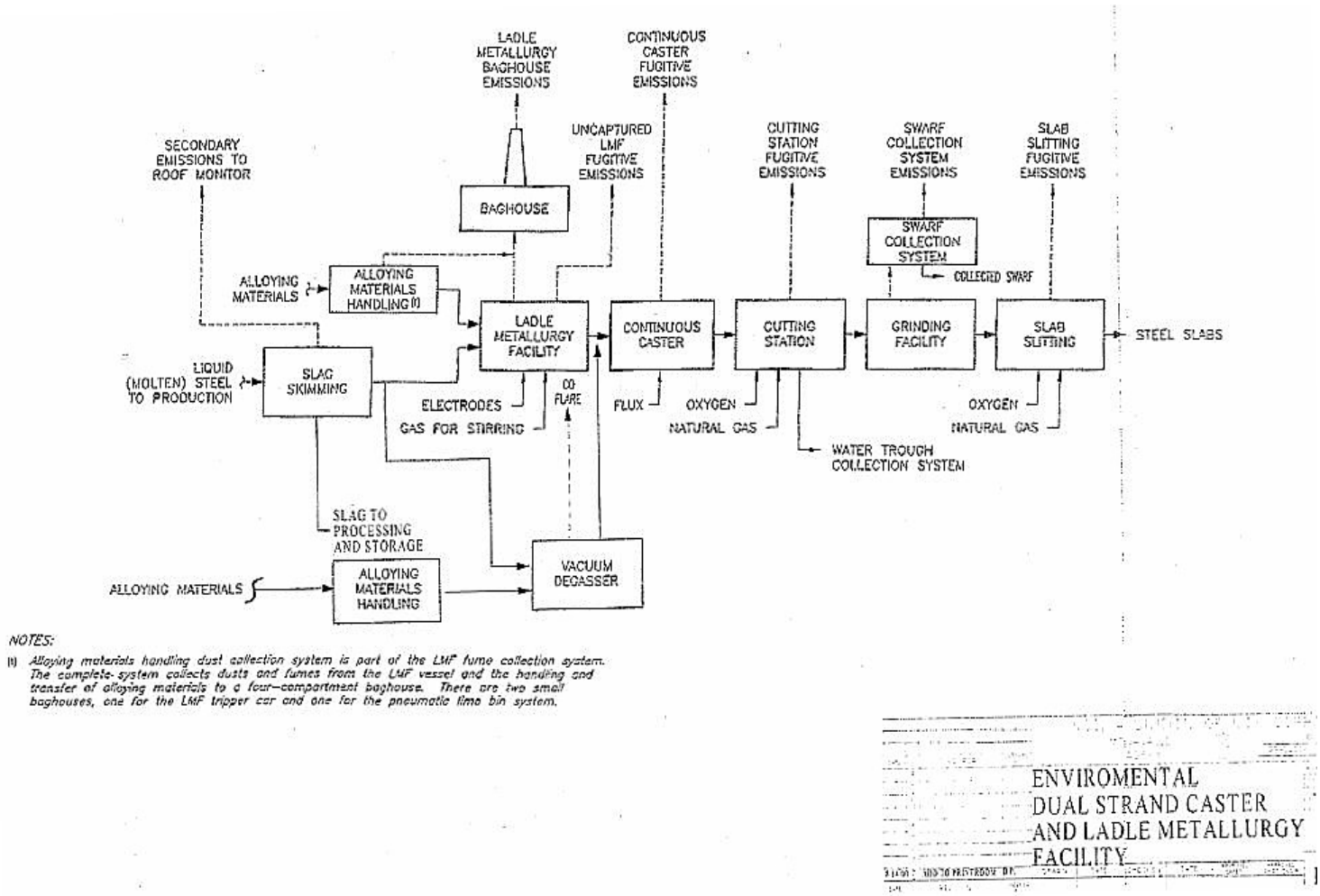
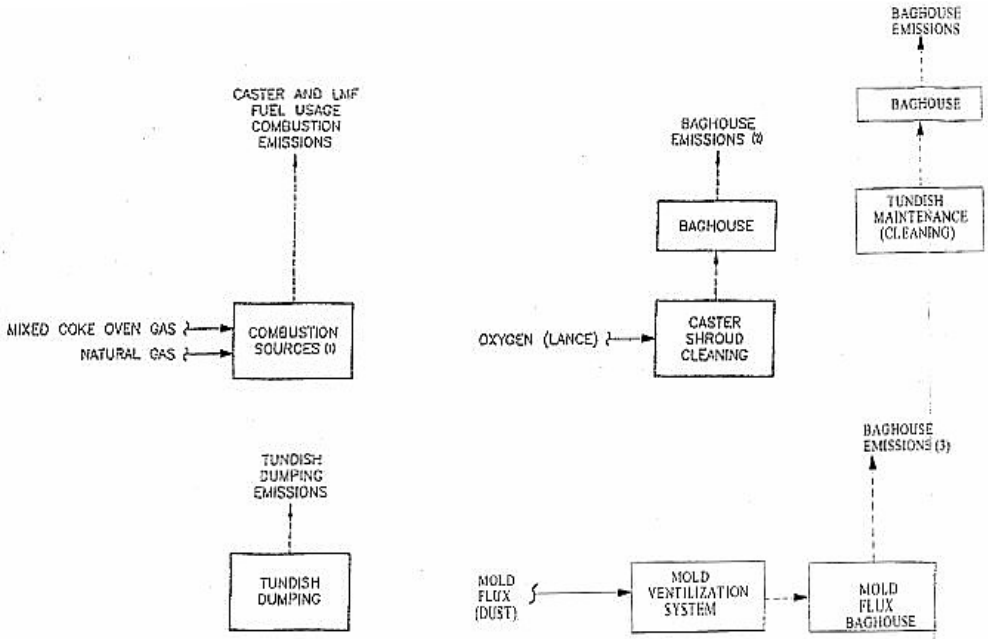
**Dual Strand Caster and Ladle Metallurgy Facility**



**Dual Strand Caster and Ladle Metallurgy Facility Miscellaneous Operations**




NOTES:

(1) Combustion sources include: 2 tundish preheaters, 2 nozzle heaters, 2 driers, 2 gas fired driers and space heating.

(2) The baghouse is vented inside the building.

(3) The baghouse is vented inside the caster spray chamber.

ENVIROMENTAL
DUAL STRAND CASTER AND LADLE METALLURGY FACILITY MISCELLANEOUS OPERATIONS

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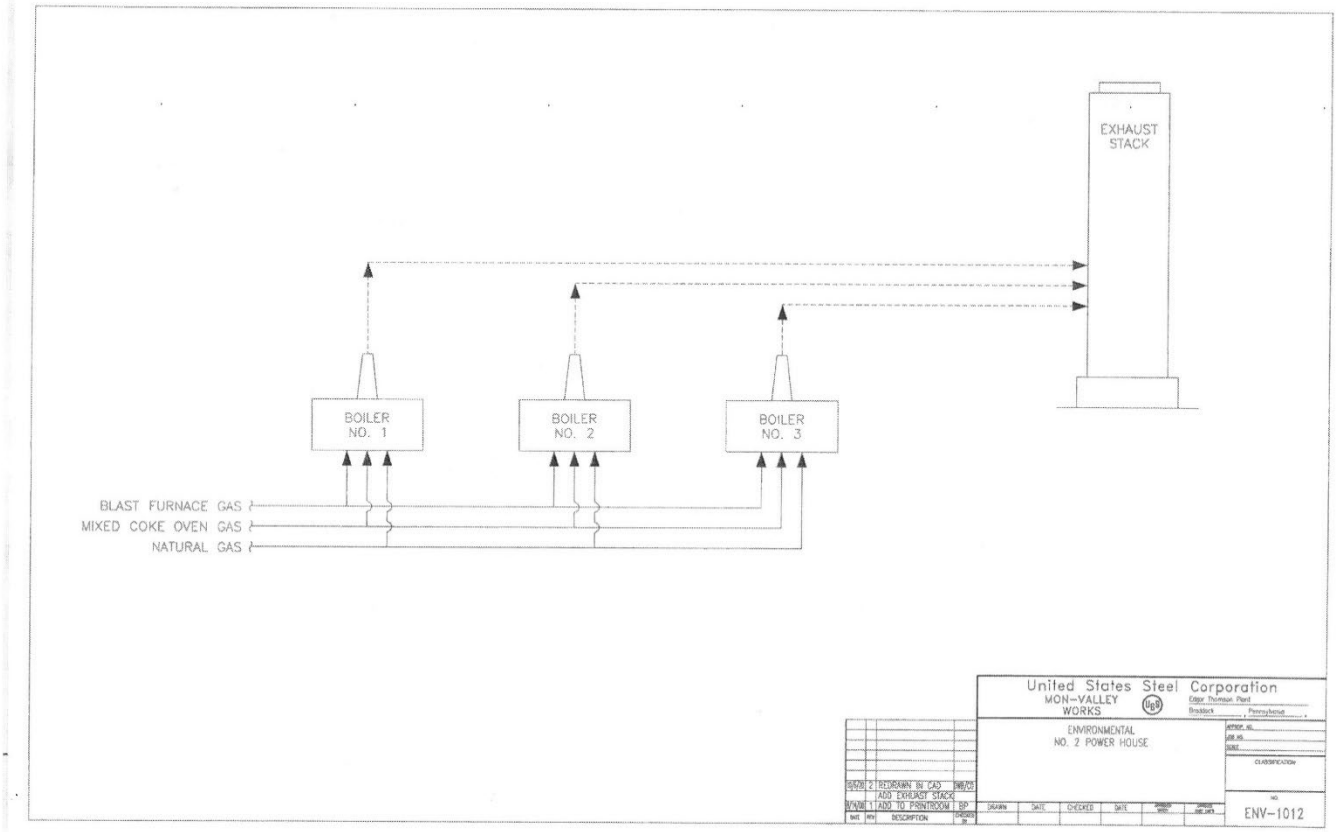
**Riley Boiler**



***DECLARATION OF POLICY***

*Pollution prevention is recognized as the preferred strategy (over pollution control) for reducing risk to air resources. Accordingly, pollution prevention measures should be integrated into air pollution control programs wherever possible, and the adoption by sources of cost-effective compliance strategies, incorporating pollution prevention, is encouraged. The Department will give expedited consideration to any permit modification request based on pollution prevention principles.*

**The permittee is subject to the terms and conditions set forth below. These terms and conditions constitute provisions of *Allegheny County Health Department Rules and Regulations, Article XXI Air Pollution Control*. The subject equipment has been conditionally approved for operation. The equipment shall be operated in conformity with the plans, specifications, conditions, and instructions which are part of your application, and may be periodically inspected for compliance by the Department. In the event that the terms and conditions of this permit or the applicable provisions of Article XXI conflict with the application for this permit, these terms and conditions and the applicable provisions of Article XXI shall prevail. Additionally, nothing in this permit relieves the permittee from the obligation to comply with all applicable Federal, State and Local laws and regulations.**

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## III. GENERAL CONDITIONS – Major Source

### 1. Prohibition of Air Pollution (§2101.11)

It shall be a violation of this permit to fail to comply with, or to cause or assist in the violation of, any requirement of this permit, or any order or permit issued pursuant to authority granted by Article XXI. The permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:

a. Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;
b. Cause an exceedance of the ambient air quality standards established by Article XXI §2101.10; or
c. May reasonably be anticipated to endanger the public health, safety, or welfare.

### 2. Definitions (§2101.20)

a. Except as specifically provided in this permit, terms used retain the meaning accorded them under the applicable provisions and requirements of Article XXI or the applicable federal or state regulation. Whenever used in this permit, or in any action taken pursuant to this permit, the words and phrases shall have the meanings stated, unless the context clearly indicates otherwise.

b. Unless specified otherwise in this permit or in the applicable regulation, the term "*year*" shall mean any twelve (12) consecutive months.

### 3. Conditions (§2102.03.c)

It shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02, for any person to fail to comply with any terms or conditions set forth in this permit.

**4. Certification (§2102.01)**

Any report, or compliance certification submitted under this permit shall contain written certification by a responsible official as to truth, accuracy, and completeness. This certification and any other certification required under this permit shall be signed by a responsible official of the source, and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

**5. Transfers (§2102.03.e)**

This permit shall not be transferable from one person to another, except in accordance with Article XXI §2102.03.e and in cases of change-in-ownership which are documented to the satisfaction of the Department, and shall be valid only for the specific sources and equipment for which this permit was issued. The transfer of permits in the case of change-in-ownership may be made consistent with the administrative permit amendment procedure of Article XXI §2103.14.b. The required documentation and fee must be received by the Department at least 30 days before the intended transfer date.

**6. Term (§2103.12.e, §2103.13.a)**

a. This permit shall remain valid for five (5) years from the date of issuance, or such other shorter period if required by the Clean Air Act, unless revoked. The terms and conditions of an expired permit shall automatically continue pending issuance of a new operating permit provided the permittee has submitted a timely and complete application and paid applicable fees required under Article XXI Part C, and the Department through no fault of the permittee is unable to issue or deny a new permit before the expiration of the previous permit.

b. Expiration. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with the requirements of Article XXI Part C.

**7. Need to Halt or Reduce Activity Not a Defense (§2103.12.f.2)**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**8. Property Rights (§2103.12.f.4)**

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

**9. Duty to Provide Information (§2103.12.f.5)**

a. The permittee shall furnish to the Department in writing within a reasonable time, any information that the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Department copies of any records required to be kept by the permit.

b. Upon cause shown by the permittee the records, reports, or information, or a particular portion thereof, claimed by the permittee to be confidential shall be submitted to the Department in accordance with the requirements of Article XXI, §2101.07.d.4. Information submitted to the Department under a claim of confidentiality, shall be available to the US EPA and the PADEP

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upon request and without restriction. Upon request of the permittee the confidential information may be submitted to the USEPA and PADEP directly. Emission data or any portions of any draft, proposed, or issued permits shall not be considered confidential.

**10. Modification of Section 112(b) Pollutants which are VOCs or PM10 (§2103.12.f.7)**

Except where precluded under the Clean Air Act or federal regulations promulgated under the Clean Air Act, if this permit limits the emissions of VOCs or $PM_{10}$ but does not limit the emissions of any hazardous air pollutants, the mixture of hazardous air pollutants which are VOCs or $PM_{10}$ can be modified so long as no permit emission limitations are violated. A log of all mixtures and changes shall be kept and reported to the Department with the next report required after each change.

**11. Right to Access (§2103.12.h.2)**

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized Department and other federal, state, county, and local government representatives to:

a. Enter upon the permittee's premises where a permitted source is located or an emissions-related activity is conducted, or where records are or should be kept under the conditions of the permit;
b. Have access to, copy and remove, at reasonable times, any records that must be kept under the conditions of the permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
d. As authorized by either Article XXI or the Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements.

**12. Certification of Compliance (§2103.12.h.5,)**

a. The permittee shall submit on an annual basis, certification of compliance with all terms and conditions contained in this permit, including emission limitations, standards, or work practices. The certification of compliance shall be made consistent with General Condition III.4 above and shall include the following information at a minimum:

1) The identification of each term or condition of the permit that is the basis of the certification;
2) The compliance status;
3) Whether any noncompliance was continuous or intermittent;
4) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with the provisions of this permit; and
5) Such other facts as the Department may require to determine the compliance status of the source.

b. All certification of compliance forms must be submitted to the Administrator as well as the Department by March 31 of each year for the time period beginning January 1 of the previous year and ending December 31 of the previous year. Compliance certifications should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

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**13. Record Keeping Requirements (§2103.12.j.1)**

a. The permittee shall maintain records of required monitoring information that include the following:

1) The date, place as defined in the permit, and time of sampling or measurements;
2) The date(s) analyses were performed;
3) The company or entity that performed the analyses;
4) The analytical techniques or methods used;
5) The results of such analyses; and
6) The operating parameters existing at the time of sampling or measurement.

b. The permittee shall maintain and make available to the Department, upon request, records including computerized records that may be necessary to comply with the reporting and emission statements in Article XXI §2108.01.e. Such records may include records of production, fuel usage, maintenance of production or pollution control equipment or other information determined by the Department to be necessary for identification and quantification of potential and actual air contaminant emissions.

**14. Retention of Records (§2103.12.j.2)**

The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

**15. Reporting Requirements (§2103.12.k)**

a. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by the Responsible Official.

b. Prompt reporting of deviations from permit requirements is required, including those attributable to upset conditions as defined in this permit and Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.

c. All reports submitted to the Department shall comply with the certification requirements of General Condition III.4 above.

d. Semiannual reports required by this permit shall be submitted to the Department as follows:

1) One semiannual report is due by July 31 of each year for the time period beginning January 1 and ending June 30.
2) One semiannual report is due by January 31 of each year for the time period beginning July 1 and ending December 31 of the previous year.

e. Reports should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

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**16. Severability Requirement (§2103.12.l)**

The provisions of this permit are severable, and if any provision of this permit is determined by a court of competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

**17. Existing Source Reactivations (§2103.13.d)**

The permittee shall not reactivate any source that has been out of operation or production for a period of one year or more unless the permittee has submitted a reactivation plan request to, and received a written reactivation plan approval from, the Department. Existing source reactivations shall meet all requirements of Article XXI §2103.13.d.

**18. Administrative Permit Amendment Procedures (§2103.14.b)**

An administrative permit amendment may be made consistent with the procedures of Article XXI §2103.14.b and §2103.24.b. Administrative permit amendments are not authorized for any amendment precluded by the Clean Air Act or the regulations there under.

**19. Revisions and Minor Permit Modification Procedures (§2103.14.c)**

Sources may apply for revisions and minor permit modifications on an expedited basis in accordance with Article XXI §2103.14.c and §2103.24.a.

**20. Significant Permit Modifications (§2103.14.d)**

Significant permit modifications shall meet all requirements of the applicable subparts of Article XXI, Part C, including those for applications, fees, public participation, review by affected States, and review by EPA, as they apply to permit issuance and permit renewal. The approval of a significant permit modification, if the entire permit has been reopened for review, shall commence a new full five (5) year permit term. The Department shall take final action on all such permits within nine (9) months following receipt of a complete application.

**21. Duty to Comply (§2103.12.f.1)**

The permittee shall comply with all permit conditions and all other applicable requirements at all times. Any permit noncompliance constitutes a violation of the Clean Air Act, the Air Pollution Control Act, and Article XXI and is grounds for any and all enforcement action, including, but not limited to, permit termination, revocation and reissuance, or modification, and denial of a permit renewal application.

**22. Renewals (§2103.13.a. b., §2103.23.a. & b )**

a. Renewal of this permit is subject to the same fees and procedural requirements, including those for public participation and affected State and EPA review, that apply to initial permit issuance. The application for renewal shall be submitted at least six (6) months but not more than eighteen (18) months prior to expiration of this permit. The application shall also include submission of a supplemental compliance review as required by Article XXI §2102.01.

b. If a timely and complete application for an Operating Permit renewal is submitted, consistent with this Subpart, but the Department, through no fault of the applicant, has failed to issue or deny the

DRAFT

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 applicable permit shield shall extend beyond the original permit term until final action on the renewal application. Failure of the Department to issue or deny a permit by the renewal date shall be an appealable action. The Court of Common Pleas may require that the Department take action on an application without further delay.

**23. Reopenings for Cause (§2103.12.f.3, §2103.25.a)**

a. This permit shall be reopened and reissued under any of the following circumstances:

1) Additional requirements under the Clean Air Act become applicable to a major source with a remaining permit term of three (3) or more years. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended solely due to the failure of the Department to act on a permit renewal application in a timely fashion.
2) Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into this permit.
3) The Department or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.
4) The Administrator or the Department determines that this permit must be reissued or revoked to assure compliance with the applicable requirements.

b. This permit may be modified; revoked, reopened, and reissued; or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in this permit.

**24. Reopenings for Cause by the EPA (§2103.25.b)**

This permit may be modified, reopened and reissued, revoked or terminated for cause by the EPA in accordance with procedures specified in Article XXI §2103.25.b.

**25. Annual Operating Permit Administration Fee (§2103.40)**

In each year during the term of this permit, on or before the last day of the month in which the application for this permit was submitted, the permittee shall submit to the Department, in addition to any other applicable administration fees, an Annual Operating Permit Administration Fee in accordance with §2103.40. by check or money order payable to the "Allegheny County Air Pollution Control Fund" in the amount specified in the fee schedule applicable at that time.

**26. Annual Major Source Emissions Fees Requirements (§2103.41)**

No later than September 1 of each year, the permittee shall pay an annual emission fee in accordance with Article XXI §2103.41 for each ton of a regulated pollutant (except for carbon monoxide) actually emitted from the source. The permittee shall not be required to pay an emission fee for emissions of more than

DRAFT

4,000 tons of each regulated pollutant. The emission fee shall be increased in each year after 1995 by the percentage, if any, by which the Consumer Price Index for the most recent calendar year exceeds the Consumer Price Index for the previous calendar year.

**27. Other Requirements not Affected (§2104.08, §2105.02)**

Compliance with the requirements of this permit shall not in any manner relieve any person from the duty to fully comply with any other applicable Federal, State, or County statute, rule, regulation, or the like, including but not limited to the odor emission standards under Article XXI §2104.04, any applicable NSPSs, NESHAPs, MACTs, or Generally Achievable Control Technology (GACT) standards now or hereafter established by the EPA, and any applicable requirements of BACT or LAER as provided by Article XXI, any condition contained in any applicable Installation or Operating Permit and/or any additional or more stringent requirements contained in an order issued to such person pursuant to Article XXI Part I.

**28. Termination of Operation (§2108.01.a)**

In the event that operation of any source of air contaminants is permanently terminated, the person responsible for such source shall so report, in writing, to the Department within 60 days of such termination.

**29. Tests by the Department (§2108.02.d)**

Notwithstanding any tests conducted pursuant to Article XXI §2108.02, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the person responsible for such source or equipment shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.

**30. Other Rights and Remedies Preserved (§2109.02.b)**

Nothing in this permit shall be construed as impairing any right or remedy now existing or hereafter created in equity, common law or statutory law with respect to air pollution, nor shall any court be deprived of such jurisdiction for the reason that such air pollution constitutes a violation of this permit.

**31. Enforcement and Emergency Orders (§2109.03, §2109.05)**

a. The person responsible for this source shall be subject to any and all enforcement and emergency orders issued to it by the Department in accordance with Article XXI §2109.03, §2109.04 and §2109.05.

b. Upon request, any person aggrieved by an Enforcement Order or Emergency Order shall be granted a hearing as provided by Article XXI §2109.03.d; provided however, that an Emergency Order shall continue in full force and effect notwithstanding the pendency of any such appeal.

c. Failure to comply with an Enforcement Order or immediately comply with an Emergency Order shall be a violation of this permit thus giving rise to the remedies provided by Article XXI §2109.02.

**32. Penalties, Fines, and Interest (§2109.07.a)**

A source that fails to pay any fee required under this permit when due shall pay a civil penalty of 50% of

DRAFT

the fee amount, plus interest on the fee amount computed in accordance with Article XXI §2109.06.a.4 from the date the fee was required to be paid. In addition, the source may have this permit revoked for failure to pay any fee required.

**33. Appeals (§2109.10)**

In accordance with State Law and County regulations and ordinances, any person aggrieved by an order or other final action of the Department issued pursuant to Article XXI or any unsuccessful petitioner to the Administrator under Article XXI Part C, Subpart 2, shall have the right to appeal the action to the Director in accordance with the applicable County regulations and ordinances.

**34. Risk Management (§2104.08, 40 CFR Part 68)**

Should this stationary source, as defined in 40 CFR Part 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in Part 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by General Condition III.12 above.

**35. Operational Flexibility (§2103.14.a)**

a. The owner or operator shall not make any changes at this source, including trades of increases and decreases in emissions within the permitted source, without first obtaining a permit revision for such changes, unless:

1) The changes do not require an Installation Permit under §2102.04 of this Article or violate the terms of an Operating Permit or an Installation Permit;
2) The permit specifically allows for changes that do not cause specific emissions increases greater than a de minimis emission increase, and the changes do not exceed such emissions increase allowed under the permit, in accordance with General Condition III.36 below;
3) The changes do not violate major source applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements; and
4) By no later than seven (7) days prior to the date on which the implementation of the proposed change is commenced, a written notification is submitted to the Department, for attachment to the Department's copy of the relevant permit, which includes:
   a) A brief description of the change within the permitted source;
   b) The date on which the change will occur;
   c) The pollutants emitted; and
   d) Any change in emissions.

**36. De Minimis Emission Increases (§2103.14.e)**

a. The Department may allow, as a condition of an Operating Permit, *de minimis* emission increases from a new or existing source up to the amounts authorized in condition III.36.d below.

b. A *de minimis* increase may not occur at a source if it either:
1) Increases the emissions of a pollutant regulated under Section 112 of the Clean Air Act (42 U.S.C.A. §7412) except as authorized in conditions III.36.d.4) and 5) below;

DRAFT

2) Subjects the source to the permit requirements of Article XXI, §§2102.05, 2102.06, or 2102.07 (relating to prevention of significant deterioration of air quality and major new source and major modification review); or
3) Violates an applicable requirement of this Article, the state Air Pollution Control Act, the Clean Air Act, or the regulations promulgated under the Air Pollution Control Act or the Clean Air Act.

c. The permittee shall provide the Department with 7 days prior written notice of any *de minimis* emission increase. The notice shall identify and describe the pollutants that will be emitted as a result of the *de minimis* emissions increase and provide emission rates in tons/year and in terms necessary to establish compliance consistent with any applicable requirement. The Department may disapprove or condition the *de minimis* emission increase at any time.

d. Except as provided in condition III.36.e below, the maximum *de minimis* emission rate increases, as measured in tons/year, that may be authorized in the permit during the term of the permit are:
1) Four tons of carbon monoxide from an emissions unit during the term of the permit and 20 tons of carbon monoxide at the source during the term of the permit;
2) One ton of $NO_X$ from an emissions unit during the term of the permit and 5 tons of $NO_X$ at the source during the term of the permit;
3) One and six-tenths tons of oxides of sulfur from an emissions unit during the term of the permit and 8.0 tons of oxides of sulfur at the source during the term of the permit;
4) Six-tenths of a ton of $PM_{10}$ from an emissions unit during the term of the permit and 3.0 tons of $PM_{10}$ at the source during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act, the regulations thereunder, or Article XXI; and
5) One ton of VOC's from an emissions unit during the term of the permit and 5 tons of VOC's at the source during the term of the permit. This shall include emissions of a pollutant regulated under Section 112 of the Clean Air Act unless precluded by the Clean Air Act, the regulations thereunder, or Article XXI.

e. The Department may allow, as a condition of an operating permit, installation of the minor sources exempted under §2102.04.a.5 of Article XXI.

f. *De minimis* emission threshold levels cannot be met by offsetting emission increases with emission decreases at the same emissions unit.

**37. Permit Shield (§2103.22)**

a. The permittee's compliance with the conditions of this permit shall be deemed compliance with all major source applicable requirements as of the date of permit issuance, provided that:

1) Such major source applicable requirements are included and are specifically identified in the permit; or

2) The Department, 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 the determination or a concise summary thereof.

b. Nothing in Article XXI §2103.22.e or the Title V Permit shall alter or affect the following:

DRAFT

1) The provisions of Section 303 of the Clean Air Act and the provisions of Article XXI regarding emergency orders, including the authority of the Administrator and the Department under such provisions;
2) The liability of any person who owns, operates, or allows to be operated, a source in violation of any major source applicable requirements prior to or at the time of permit issuance;
3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; or
4) The ability of the EPA or the County to obtain information from the permittee pursuant to Section 114 of the Clean Air Act, the provisions of Article XXI and State law.

c. Unless precluded by the Clean Air Act or regulations therein, final action by the Department on administrative amendments, minor and significant permit modifications, and operational flexibility changes shall be covered by the permit shield provided such amendments, modifications and changes meet the relevant requirements of Article XXI.

d. The permit shield authorized under Article XXI §2103.22 is in effect for the permit terms and conditions as identified in this permit.

**38. Circumvention (§2101.14)**

For purposes of determining compliance with the provisions of this permit and Article XXI, no credit shall be given to any person for any device or technique, including but not limited to the operation of any source with unnecessary amounts of air, the combining of separate sources except as specifically permitted by Article XXI and the Department, the use of stacks exceeding Good Engineering Practice height as defined by regulations promulgated by the US EPA at 40 CFR §§51.100 and 51.110 and Subpart I, and other dispersion techniques, which without reducing the amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise violate the provisions of this Article; except that, for purposes of determining compliance with Article §2104.04 concerning odors, credit for such devices or techniques, except for the use of a masking agent, may be given.

**39. Duty to Supplement and Correct Relevant Facts (§2103.11.d.2)**

a. The permittee shall provide additional information as necessary to address requirements that become applicable to the source after the date it files a complete application but prior to the Department taking action on the permit application.

b. The permittee shall provide supplementary fact or corrected information upon becoming aware that incorrect information has been submitted or relevant facts were not submitted.

c. Except as otherwise required by this permit and Article XXI, the Clean Air Act, or the regulations thereunder, the permittee shall submit additional information as necessary to address changes occurring at the source after the date it files a complete application but prior to the Department taking action on the permit application.

d. The applicant shall submit information requested by the Department which is reasonably necessary to evaluate the permit application.

DRAFT

**40. Effect (§2102.03.g.)**

a. Except as specifically otherwise provided under Article XXI, Part C, issuance of a permit pursuant to Article XXI Part B or Part C shall not in any manner relieve any person of the duty to fully comply with the requirements of this permit, Article XXI or any other provision of law, nor shall it in any manner preclude or affect the right of the Department to initiate any enforcement action whatsoever for violations of this permit or Article XXI, whether occurring before or after the issuance of such permit. Further, except as specifically otherwise provided under Article XXI Part C the issuance of a permit shall not be a defense to any nuisance action, nor shall such permit be construed as a certificate of compliance with the requirements of this permit or Article XXI.

**41. Installation Permits (§2102.04.a.1.)**

It shall be a violation of this permit giving rise to the remedies set forth in Article XXI Part I for any person to install, modify, replace, reconstruct, or reactivate any source or air pollution control equipment which would require an installation permit or permit modification in accordance with Article XXI Part B or Part C.

DRAFT

# IV. SITE LEVEL TERMS AND CONDITIONS

## 1. Reporting of Upset Conditions (§2103.12.k.2)

The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.

## 2. Visible Emissions (§2104.01.a)

Except as provided for by Article XXI §2108.01.d pertaining to a cold start, no person shall operate, or allow to be operated, any source in such manner that the opacity of visible emissions from a flue or process fugitive emissions from such source, excluding uncombined water:

a. Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,

b. Equal or exceed an opacity of 60% at any time.

## 3. Odor Emissions (§2104.04) (County-only enforceable)

No person shall operate, or allow to be operated, any source in such manner that emissions of malodorous matter from such source are perceptible beyond the property line.

## 4. Materials Handling (§2104.05)

The permittee shall not conduct, or allow to be conducted, any materials handling operation in such manner that emissions from such operation are visible at or beyond the property line.

## 5. Operation and Maintenance (§2105.03)

All air pollution control equipment required by this permit or any order under Article XXI, and all equivalent compliance techniques approved by the Department, shall be properly installed, maintained, and operated consistently with good air pollution control practice.

## 6. Open Burning (§2105.50)

No person shall conduct, or allow to be conducted, the open burning of any material, except where the Department has issued an Open Burning Permit to such person in accordance with Article XXI §2105.50 or where the open burning is conducted solely for the purpose of non-commercial preparation of food for human consumption, recreation, light, ornament, or provision of warmth for outside workers, and in a manner, which contributes a negligible amount of air contaminants.

## 7. Shutdown of Control Equipment (§2108.01.b)

a. In the event any air pollution control equipment is shut down for reasons other than a breakdown, the person responsible for such equipment shall report, in writing, to the Department the intent to shut down such equipment at least 24 hours prior to the planned shutdown. Notwithstanding the submission of such report, the equipment shall not be shut down until the approval of the Department is obtained; provided, however, that no such report shall be required if the source(s)

DRAFT

served by such air pollution control equipment is also shut down at all times that such equipment is shut down.

b. The Department shall act on all requested shutdowns as promptly as possible. If the Department does not take action on such requests within ten (10) calendar days of receipt of the notice, the request shall be deemed denied, and upon request, the owner or operator of the affected source shall have a right to appeal in accordance with the provisions of Article XI.

c. The prior report required by Site Level Condition IV.7.a above shall include:

1) Identification of the specific equipment to be shut down, its location and permit number (if permitted), together with an identification of the source(s) affected;
2) The reasons for the shutdown;
3) The expected length of time that the equipment will be out of service;
4) Identification of the nature and quantity of emissions likely to occur during the shutdown;
5) Measures, including extra labor and equipment, which will be taken to minimize the length of the shutdown, the amount of air contaminants emitted, or the ambient effects of the emissions;
6) Measures which will be taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impracticable to shut down or curtail the affected source(s) during the shutdown; and
7) Such other information as may be required by the Department.

d. Written notice required under condition IV.7.a above should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

**8. Breakdowns (§2108.01.c)**

a. In the event that any air pollution control equipment, process equipment, or other source of air contaminants breaks down in such manner as to have a substantial likelihood of causing the emission of air contaminants in violation of this permit, or of causing the emission into the open air of potentially toxic or hazardous materials, the person responsible for such equipment or source shall immediately, but in no event later than sixty (60) minutes after the commencement of the breakdown, notify the Department of such breakdown and shall, as expeditiously as possible but in no event later than seven (7) days after the original notification, provide written notice to the Department.

b. To the maximum extent possible, all oral and written notices required shall include all pertinent facts, including:

1) Identification of the specific equipment which has broken down, its location and permit number (if permitted), together with an identification of all related devices, equipment, and other sources which will be affected.
2) The nature and probable cause of the breakdown.
3) The expected length of time that the equipment will be inoperable or that the emissions will continue.
4) Identification of the specific material(s) which are being, or are likely to be emitted, together with a statement concerning its toxic qualities, including its qualities as an irritant, and its potential for causing illness, disability, or mortality.
5) The estimated quantity of each material being or likely to be emitted.

DRAFT

6) Measures, including extra labor and equipment, taken or to be taken to minimize the length of the breakdown, the amount of air contaminants emitted, or the ambient effects of the emissions, together with an implementation schedule.
7) Measures being taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impractical to shut down the source(s), or any part thereof, during the breakdown.

c. Notices required shall be updated, in writing, as needed to advise the Department of changes in the information contained therein. In addition, any changes concerning potentially toxic or hazardous emissions shall be reported immediately. All additional information requested by the Department shall be submitted as expeditiously as practicable.

d. Unless otherwise directed by the Department, the Department shall be notified whenever the condition causing the breakdown is corrected or the equipment or other source is placed back in operation by no later than 9:00 AM on the next County business day. Within seven (7) days thereafter, written notice shall be submitted pursuant to Paragraphs a and b above.

e. Breakdown reporting shall not apply to breakdowns of air pollution control equipment which occur during the initial startup of said equipment, provided that emissions resulting from the breakdown are of the same nature and quantity as the emissions occurring prior to startup of the air pollution control equipment.

f. In no case shall the reporting of a breakdown prevent prosecution for any violation of this permit or Article XXI.

g. Written notice required under condition IV.8.a above should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

**9. Cold Start (§2108.01.d)**

In the event of a cold start on any fuel-burning or combustion equipment, except stationary internal combustion engines and combustion turbines used by utilities to meet peak load demands, the person responsible for such equipment shall report in writing to the Department the intent to perform such cold start at least 24 hours prior to the planned cold start. Such report shall identify the equipment and fuel(s) involved and shall include the expected time and duration of the startup. Upon written application from the person responsible for fuel-burning or combustion equipment which is routinely used to meet peak load demands and which is shown by experience not to be excessively emissive during a cold start, the Department may waive these requirements and may instead require periodic reports listing all cold starts which occurred during the report period. The Department shall make such waiver in writing, specifying such terms and conditions as are appropriate to achieve the purposes of Article XXI. Such waiver may be terminated by the Department at any time by written notice to the applicant. Written notice should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

**10. Monitoring of Malodorous Matter Beyond Facility Boundaries (§2104.04)**

The permittee shall take all reasonable action as may be necessary to prevent malodorous matter from becoming perceptible beyond facility boundaries. Further, the permittee shall perform such observations as may be deemed necessary along facility boundaries to ensure that malodorous matter beyond the facility

DRAFT

boundary in accordance with Article XXI §2107.13 is not perceptible and record all findings and corrective action measures taken.

**11. Emissions Inventory Statements (§2108.01.e & g)**

a. Emissions inventory statements in accordance with Article XXI §2108.01.e shall be submitted to the Department by March 15 of each year for the preceding calendar year. The Department may require more frequent submittals if the Department determines that more frequent submissions are required by the EPA or that analysis of the data on a more frequent basis is necessary to implement the requirements of Article XXI or the Clean Air Act.

b. The failure to submit any report or update within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

c. Reports should be submitted online through the ACHD Air Quality Regulated Entities Portal (REP). If REP is not available, written notice should be sent to the Department at aqreports@alleghenycounty.us.

**12. Orders (§2108.01.f)**

In addition to meeting the requirements of General Condition III.28 and Site Level Conditions IV.7 through IV.11 above, inclusive, the person responsible for any source shall, upon order by the Department, report to the Department such information as the Department may require in order to assess the actual and potential contribution of the source to air quality. The order shall specify a reasonable time in which to make such a report.

**13. Violations (§2108.01.g)**

The failure to submit any report or update thereof required by General Condition III.28 and Site Level Conditions IV.7 through IV.12 above, inclusive, within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

**14. Emissions Testing (§2108.02)**

a. **Orders:** The person responsible for any source shall, upon order by the Department, conduct, or cause to be conducted, such emissions tests as specified by the Department within such reasonable time as is specified by the Department. Test results shall be submitted in writing to the Department within 20 days after completion of the tests, unless a different period is specified in the Department's order. Emissions testing shall comply with all applicable requirements of Article XXI §2108.02.e.

b. **Tests by the Department:** Notwithstanding any tests conducted pursuant to this permit, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the permittee shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.

c. **Testing Requirements:** No later than 45 days prior to conducting any tests required by this

DRAFT

permit, the person responsible for the affected source shall submit for the Department's approval a written test protocol explaining the intended testing plan, including any deviations from standard testing procedures, the proposed operating conditions of the source during the test, calibration data for specific test equipment and a demonstration that the tests will be conducted under the direct supervision of persons qualified by training and experience satisfactory to the Department to conduct such tests. In addition, at least 30 days prior to conducting such tests, the person responsible shall notify the Department in writing of the time(s) and date(s) on which the tests will be conducted and shall allow Department personnel to observe such tests, record data, provide pre-weighed filters, analyze samples in a County laboratory and to take samples for independent analysis. Test results shall be comprehensively and accurately reported in the units of measurement specified by the applicable emission limitations of this permit.

d. Test methods and procedures shall conform to the applicable reference method set forth in this permit or Article XXI Part G, or where those methods are not applicable, to an alternative sampling and testing procedure approved by the Department consistent with Article XXI §2108.02.e.2.

e. **Violations:** The failure to perform tests as required by this permit or an order of the Department, the failure to submit test results within the time specified, the knowing submission of false information, the willful failure to submit complete results, or the refusal to allow the Department, upon presentation of a search warrant, to conduct tests, shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

**15. Abrasive Blasting (§2105.51)**

a. Except where such blasting is a part of a process requiring an operating permit , no person shall conduct or allow to be conducted, abrasive blasting or power tool cleaning of any surface, structure, or part thereof, which has a total area greater than 1,000 square feet unless such abrasive blasting complies with all applicable requirements of Article XXI §2105.51.

b. In addition to complying with all applicable provisions of §2105.51, no person shall conduct, or allow to be conducted, abrasive blasting of any surface unless such abrasive blasting also complies with all other applicable requirements of Article XXI unless such requirements are specifically addressed by §2105.51.

**16. Asbestos Abatement (§2105.62, §2105.63)**

In the event of removal, encasement, or encapsulation of Asbestos-Containing Material (ACM) at a facility or in the event of the demolition of any facility, the permittee shall comply with all applicable provisions of Article XXI §2105.62 and §2105.63.

**17. Protection of Stratospheric Ozone (40 CFR Part 82)**

a. Permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
   1) All containers in which a Class I or Class II substance is stored or transported, all products containing a Class I substance, and all products directly manufactured with a process that uses a Class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106;
   2) The placement of the required warning statement must comply with the requirements pursuant to §82.108;

DRAFT

3) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110; and
4) No person may modify, remove or interfere with the required warning statement except as described in §82.112.

b. Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F:
1) Persons opening appliances for maintenance, service, repair or disposal must comply with the prohibitions and required practices pursuant to §82.154 and §82.156;
2) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158;
3) Persons maintaining, servicing, repairing or disposing of appliances, must be certified by an approved technician certification program pursuant to §82.161;
4) Persons maintaining, servicing, repairing or disposing of appliances must certify to the Administrator of the U.S. Environmental Protection Agency pursuant to §82.162;
5) Persons disposing of small appliances, motor vehicle air conditioners (MVAC) and MVAC-like appliances, must comply with the record keeping requirements pursuant to §82.166;
6) Owners of commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156; and
7) Owners or operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

c. If the permittee manufactures, transforms, destroys, imports or exports a Class I or Class II substance, the Permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A (Production and Consumption Controls).

d. If the permittee performs a service on a motor vehicle that involves an ozone-depleting substance, refrigerant or regulated substitute substance in the MVAC, the Permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B (Servicing of Motor Vehicle Air Conditioners).

e. The permittee may switch from any ozone-depleting substance to any alternative that is listed as acceptable in the Significant New Alternatives Policy (SNAP) program promulgated pursuant to 40 CFR Part 82, Subpart G.

**18. Volatile Organic Compound Storage Tanks (§2105.12.a)**

No person shall place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure of 1.5 psia or greater under actual storage conditions in any aboveground stationary storage tank having a capacity equal to or greater than 2,000 gallons but less than or equal to 40,000 gallons, unless there is in operation on such tank pressure relief valves which are set to release at the higher of 0.7 psig of pressure or 0.3 psig of vacuum or at the highest possible pressure and vacuum in accordance with State or local fire codes, National Fire Prevention Association guidelines, or other national consensus standard approved in writing by the Department. Petroleum liquid storage vessels that are used to store produced crude oil and condensate prior to lease custody transfer are exempt from these requirements.

**19. Permit Source Premises (§2105.40)**

a. **General:** No person shall operate, or allow to be operated, any source for which a permit is required by Article XXI Part C in such manner that emissions from any open land, roadway, haul

DRAFT

road, yard, or other premises located upon the source or from any material being transported within such source or from any source-owned access road, haul road, or parking lot over five (5) parking spaces:

1) Are visible at or beyond the property line of such source;
2) Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
3) Have an opacity of 60% or more at any time.

b. **Deposition on Other Premises:** Visible emissions from any solid or liquid material that has been deposited by any means from a source onto any other premises shall be considered emissions from such source within the meaning of Site Level Condition IV.19.a above.

**20. Parking Lots and Roadways (§2105.42)**

a. The permittee shall not maintain for use, or allow to be used, any parking lot over 50 parking spaces or used by more than 50 vehicles in any day or any other roadway carrying more than 100 vehicles in any day or 15 vehicles in any hour in such manner that emissions from such parking lot or roadway:

1) Are visible at or beyond the property line;
2) Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any 60-minute period; or
3) Have an opacity of 60% or more at any time.

b. Visible emissions from any solid or liquid material that has been deposited by any means from a parking lot or roadway onto any other premises shall be considered emissions from such parking lot or roadway.

c. Site Level Condition IV.20.a above shall apply during any repairs or maintenance done to such parking lot or roadway.

d. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.20 may be enforced by any municipal or local government unit having jurisdiction over the place where such parking lots or roadways are located. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.20.

**21. Permit Source Transport (§2105.43)**

a. No person shall transport, or allow to be transported, any solid or liquid material outside the boundary line of any source for which a permit is required by Article XXI Part C in such manner that there is any visible emission, leak, spill, or other escape of such material during transport.

b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.21 may be enforced by any municipal or local government unit having jurisdiction over the place where such visible emission, leak, spill, or other escape of material during transport occurs. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for

DRAFT

any violation of Site Level Condition IV.21.

**22. Construction and Land Clearing (§2105.45)**

a. No person shall conduct, or allow to be conducted, any construction or land clearing activities in such manner that the opacity of emissions from such activities:

1) Equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
2) Equal or exceed 60% at any time.

b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.22 may be enforced by any municipal or local government unit having jurisdiction over the place where such construction or land clearing activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.22.

**23. Mining (§2105.46)**

No person shall conduct, or allow to be conducted, any mining activities in such manner that emissions from such activities:

a. Are visible at or beyond the property line;
b. Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
c. Have an opacity of 60% or more at any time.

**24. Demolition (§2105.47)**

a. No person shall conduct, or allow to be conducted, any demolition activities in such manner that the opacity of the emissions from such activities equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any 60-minute period.

b. Notwithstanding any other provisions of this permit, the prohibitions of Site Level Condition IV.24 may be enforced by any municipal or local government unit having jurisdiction over the place where such demolition activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.24.

**25. Fugitive Emissions (§2105.49)**

The person responsible for a source of fugitive emissions, in addition to complying with all other applicable provisions of this permit shall take all reasonable actions to prevent fugitive air contaminants from becoming airborne. Such actions may include, but are not limited to:

a. The use of asphalt, oil, water, or suitable chemicals for dust control;
b. The paving and maintenance of roadways, parking lots and the like;
c. The prompt removal of earth or other material which has been deposited by leaks from transport, erosion or other means;

DRAFT

d. The adoption of work or other practices to minimize emissions;
e. Enclosure of the source; and
f. The proper hooding, venting, and collection of fugitive emissions.

**26. Episode Plans (§2106.02)**

The permittee shall upon written request of the Department, submit a source curtailment plan, consistent with good industrial practice and safe operating procedures, designed to reduce emissions of air contaminants during air pollution episodes. Such plans shall meet the requirements of Article XXI §2106.02.

**27. New Source Performance Standards (§2105.05)**

a. It shall be a violation of this permit giving rise to the remedies provided by §2109.02 of Article XXI for any person to operate, or allow to be operated, any source in a manner that does not comply with all requirements of any applicable NSPS now or hereafter established by the EPA, except if such person has obtained from EPA a waiver pursuant to Section 111 or Section 129 of the Clean Air Act or is otherwise lawfully temporarily relieved of the duty to comply with such requirements.

b. Any person who operates, or allows to be operated, any source subject to any NSPS shall conduct, or cause to be conducted, such tests, measurements, monitoring and the like as is required by such standard. All notices, reports, test results and the like as are required by such standard shall be submitted to the Department in the manner and time specified by such standard. All information, data and the like which is required to be maintained by such standard shall be made available to the Department upon request for inspection and copying.

**28. $NO_X$ Budget Trading Program (25 Pa Code Chapter 145 Subchapter A; 40 CFR Part 96, Subparts BBBB, FFFF, HHHH)**

a. Riley boilers B001, B002 and B003 are $NO_X$ Budget units as defined in 25 Pa. Code §145.2. The permittee shall meet the requirements of the PA $NO_X$ Budget Trading Program (25 PA Code §145 Subchapter A) for non-EGUs.

b. Upon request, the permittee shall provide a copy of all reports provided to the PADEP required by Condition IV.28.a above

**29. National Emission Standards for Hazardous Air Pollutants (§2104.08)**

The permittee shall comply with each applicable emission limitation, work practice standard, and operation and maintenance requirement of 40 CFR Part 63, Subpart FFFFF – *National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities*.

**30. Consent Order and Agreement**

Until terminated, the following Consent Decrees subsequent amendments and revisions that apply to U.S. Steel Edgar Thomson Works are hereby incorporated by reference into this permit:

a. Second Consent Decree (Civil Action Nos. 79-709 and 91-329);
b. Subsequent Order (Civil Action No. 99-1783) and

DRAFT

c. Consent Order and Agreement (COA), 3rd Amendment, July 6, 2011.

**31. 40 CFR 63 Subparts A and FFFFF [§63.7800(b); §63.7831(a)]**

a. The permittee shall implement the following plans established in October 19, 2015 or the most recent developed plans:

1) Operation and maintenance plan
2) Site-specific monitoring plan

b. The established plan required in condition IV.31 above shall apply to the following processes

1) #1 and #3 Blast Furnace Emission System
2) "F" and "R" BOP Furnace Emission System
3) LMF Emission System
4) Mixer Emission System

**32. $SO_2$ SIP Monitoring Requirements:**

a. The permittee shall monitor the hourly $H_2S$ concentration of the mixed gas, per conditions IV.32.b and IV.32.c, and the amount of fuel combusted in each emission unit V.A, V.B, V.D and V.H [$SO_2$ SIP IP 0051-I006, Condition V.A.3.a; §2103.12.i]

b. The permittee shall measure the $H_2S$ content of the blast furnace gas combusted at the facility at least once every calendar quarter. The sulfur content of BFG shall be determined by obtaining and analyzing samples of BFG produced at the blast furnaces at a sample location downstream of the gas cleaning system but prior to a combustion source. [$SO_2$ SIP IP 0051-I006, Condition V.A.3.b; §2103.12.i]

c. Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the permittee shall continuously monitor and record the $H_2S$ concentration (in grains(gr)/100 dscf) of the COG combusted and the fuel flow rate. Continuously shall be defined as at least once every 15 minutes. Under the current operating scenario, coke oven gas measurements are taken at the Clairton Plant. [$SO_2$ SIP IP 0051-I006, Condition V.A.3.c; §2103.12.i]

d. The permittee shall not operate, or allow to be operated, any source in such manner that unburned coke oven gas is emitted into the open air. In addition, the permittee shall not flare, mix, or combust coke oven gas, or allow such gas to be flared, mixed or combusted unless the concentration of sulfur compounds, measured as hydrogen sulfide, in such gas is less than or equal to 35 grains per hundred dry standard cubic feet of coke oven gas produced by the Clairton Plant, when all sulfur emissions from the Claus Sulfur Recovery Plant and the tail gas cleaning equipment thereon, expressed as equivalent $H_2S$ are added to the measured $H_2S$. The concentration of sulfur compounds specified shall include the tail-gas sulfur, measured as hydrogen sulfide, emitted from sulfur removal equipment. [$SO_2$ SIP IP 0051-I006, Condition IV.27; §2105.21.h, §2105.21.h.4 & §2105.21.h.5 ].

DRAFT

**33. Greenhouse Gas Reporting (40 CFR Part 98)**

If the facility emits 25,000 metric tons or more of carbon dioxide equivalent ($CO_2e$) in any 12-month period, the facility shall submit reports to the US EPA in accordance with 40 CFR Part 98.

DRAFT

# V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

## A. Process P001a and P002a: Blast Furnace No. 1 and Blast Furnace No. 3

| | |
|---|---|
| **Process Description:** | Blast Furnace No. 1 and Casthouse, and Blast Furnace No. 3 and Casthouse |
| **Facility ID:** | Blast Furnace No. 1: P001a; Blast Furnace No. 3: P002a |
| **Max. Design Rate:** | Blast Furnace No. 1: 1,752,000 TPY; Blast Furnace No. 3: 1,752,000 TPY hot metal |
| **Fuel(s):** | COG, NG |
| **Raw Materials:** | Coke, Iron-Bearing Materials, Fluxes |
| **Control Device(s):** | Casthouse Baghouse (Shared Between Blast Furnace Nos. 1 and 3 Casthouses); and Dust Catcher/Venturi Scrubber for Blast Furnace Gas Cleaning |
| **Stack I.D.:** | S002 (Casthouse Baghouse Louvers) |

### 1. Restrictions:

a. At no time shall the permittee allow Blast Furnace No. 1 and No. 3 and Casthouses to operate unless the subject equipment is properly operated and maintained according to good engineering and air pollution control practices as required by conditions V.A.3.d and V.A.3.e, with the exception of actions to mitigate emergency conditions. [RACT Order No. 235, Condition 1.1; §2105.06; §2105.03; §2102.04.b.5]

b. The permittee shall at all times maintain and properly operate a double bell and hopper system to capture blast furnace raw material charging emissions. [§2103.12.a.2.B; §2105.03]

c. The permittee shall continue use of the venturi scrubber on the furnace off-gas. [§2101.05.a.1; §2103.12.a.2.B; Permit No. 84-I-0008-P]

d. The permittee shall at all times during blast furnace No. 1 and Casthouse operation install and utilize, at a minimum, the following emission control technology to control particulate emissions from the iron trough; iron runners; iron spouts and iron ladles: [Permit No. 7035003-004-90105, issued July 7, 1986; §2101.05.a.1]

1) A local hood that extends over a portion of the iron trough to cover, at a minimum, the entire maximum trajectory of hot metal into the iron trough. The local hood is to be located below the bustle pipe and is evacuated both in front of and behind the bustle pipe at a normal flow rate of 140,000 acfm and the collected particulate emissions are to be exhausted to the Blast Furnace Baghouse;
2) An air "curtain" designed to direct emissions toward the local hood. This curtain will consist of at least18 air jets positioned on a stationary, inverted u-shaped pipe, and will operate whenever hot metal or slag is flowing from the taphole, except during blast furnace startup where employees may need to position themselves between the air curtain and the taphole to ensure safe operation;
3) Iron runner covers which cover the iron runner system whenever iron flows from the taphole, but allow openings for iron gates and removal of iron runner covers during emergency situations;
4) Moveable steam or gas lances, one located at each iron spout to direct steam or gas into the iron ladle;

DRAFT

5) Gas lances, one located at each iron and slag gate (also referred to as a dam or diverter) to suppress emissions escaping from these open areas of the runner system; and
6) Two cumulative meters, one to monitor the amount of steam used per cast and the other to monitor the amount of gas used per cast.

e. The permittee shall at all times during Blast Furnace No. 3 and casthouse operation utilize the following emission control and operating technology below to control particulate emissions from the iron trough, the iron and runners, the iron and slag spouts, and the iron ladles, and shall direct such controlled emission to the Casthouse Baghouse. [Permit No. 7035003-002-90107, issued February 18, 1993; Civil Action Nos. 79-709 and 91-329, Section VI.A; §2101.05.a.1; §2109.06]

1) A local hood that extends over a portion of the iron trough to cover, at a minimum, the entire maximum trajectory of hot metal into the iron trough. The local hood is to be located below the bustle pipe and is evacuated both in front of and behind the bustle pipe at a normal flow rate of 140,000 acfm and the collected particulate emissions are to be exhausted to the Blast Furnace Baghouse;
2) An air "curtain" designed to direct emissions toward the local hood and operate whenever hot metal or slag is flowing from the taphole (the curtain is to consist of 18 air jets positioned on a stationary, inverted U-shaped pipe), except during blast furnace startup where employees may need to position themselves between the air curtain and the taphole to ensure safe operation;

3) Iron runner covers which cover the iron runner system whenever iron flows from the taphole, but allow openings for iron gates and removal of iron runner covers during emergency situations;
4) Slag runner covers which cover the slag runner system whenever slag is flowing in the runners, but allow openings for slag gates (also referred to dams or diverters) and removal of slag runner covers during emergency situations;
5) Gas lances located at each iron spout to direct gas into the iron ladle;
6) Gas lances located at the iron diverter (or iron gates/dam) to suppress emissions escaping from this open area of the runner system;
7) A cumulative meter, to monitor the amount of gas used per cast; and
8) Installed instrumentation and computer monitoring equipment.

f. The Blast Furnace No.1 or Blast Furnace No. 3 shall comply with the COG requirements in condition IV.32.d [§2105.21.h.4]

g. The permittee must not cause to be discharged to the atmosphere any gases that exit from the No. 1 and No. 3 Blast Furnace Casthouses baghouse that contain particulate matter in excess of 0.01 gr/dscf. [§63.7790(a), Table 1, Item 7.a.]

h. No person shall operate, or allow to be operated, processes P001a and P002a, in such manner that the opacity of visible emissions from a flue or process fugitive emissions from such source, excluding uncombined water: [§2104.01.a]

1) Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
2) Equal or exceed an opacity of 60% at any time.

i. The permittee must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the Casthouse or structure housing the blast furnaces that exhibit opacity greater

DRAFT

than 20 percent (6-minute average). [§63.7790(a), Table 1, Item 7.b]

j. For the Casthouse Baghouse: [§63.7790(b)(1)]
1) The permittee must operate the baghouse fan motor amperes applied to emissions from the No. 1 and No. 3 Blast Furnace Casthouses at or above 662 amps value or settings established for the operating limits in the most recent developed operation and maintenance plan (October 19, 2015). [§63.7790(b)(1); §2103.12.g]
2) The permittee must maintain the dampers positions as established in the most recent operation and maintenance plan.

k. For the Casthouse Baghouse subject to the operating limit in V.A.1.i above, the permittee shall establish appropriate site-specific operating limit(s) and have a record of the operating parameter data measured during the performance test in accordance with Condition V.A.2.m.1) below. [§63.7825(a)(2)]

l. The permittee must be in compliance with the emission limitations and operation and maintenance requirements in 40 CFR 63, Subpart FFFFF at all times. [§63.7810(a)]

m. Emissions from the Blast Furnace No. 1 and Casthouse, exhausting at the Casthouse Baghouse, shall not exceed the emission limitations in Table V-A-1 below at any time: [§2103.12.a.2.B; §2104.02.c.9.A]

**TABLE V-A-1**
**Blast Furnace No. 1 Emission Limitations**

| Pollutant | Hourly Emission Limit (lb/hr) | Annual Emission Limit (tons/year)* |
|---|---|---|
| Particulate Matter (filterable) | 51.93 | 227.45 |
| $PM_{10}$ (filterable) | 51.22 | 224.34 |
| $PM_{2.5}$ (filterable) | 50.78 | 222.44 |
| PM (condensible) | 5.93 | 25.97 |
| Nitrogen Oxides ($NO_X$) | 78.02 | 341.73 |
| Sulfur Dioxide ($SO_2$) | 30.58 | 133.93 |
| Carbon Monoxide (CO) | 243.36 | 1,065.91 |
| Volatile Organic Compounds (VOC) | 6.75 | 29.57 |
| HCL | 0.46 | 2.03 |
| Total HAPs | 4.49 | 19.66 |

*A year is defined as any consecutive 12-month period.
SO2 emissions from NG & COG
The emissions limit includes both stack and fugitive.

n. The permittee shall not operate or allow to be operated the Blast Furnace No. 1 and Casthouse in such a manner that emissions of particulate matter exceed at any time the rate determined by the formula below [§2104.02.c.9.A]:

DRAFT

Allowable particulate emissions from Primary Iron Production

$A = 0.76E^{+0.42}$

Where:
A = allowable emissions in pounds per hour, and
E = emission index of (F) x (W) pounds per hour,

F = process factor of 100 pounds per ton of hot metal produced,
W= production rate in tons per hour of hot metal produced.

o. The permittee shall not operate, or allow to be operated, process P001a or P002a, in such manner that the concentration of sulfur oxides, expressed as sulfur dioxide, in the effluent gas exceeds the lesser of the potential to emit or 500 ppm (dry volumetric basis) at any time [§2104.03.c].

p. Emissions from the Blast Furnace No. 3 and Casthouse, exhausting at the Casthouse Baghouse, shall not exceed the emission limitations in Table V-A-2 below at any time (Permit No. 7035003-002-90107 issued February 18, 1993; §2103.12.a.2.B; §2104.02.c.9.A; $SO_2$ SIP IP 0051-I006, Condition V.A.1.c).

**TABLE V-A-2**
**Blast Furnace No. 3 Emission Limitations**

| POLLUTANT | Hourly Emission Limit (lb/hr) | Annual Emission Limit (tons/year)* |
|---|---|---|
| Particulate Matter (filterable) | 43.26 | 189.28 |
| $PM_{10}$ (filterable) | 42.55 | 186.17 |
| $PM_{2.5}$ (filterable) | 42.12 | 184.27 |
| PM (condensable) | 5.93 | 25.97 |
| Nitrogen Oxides ($NO_X$) | 78.02 | 341.73 |
| Sulfur Dioxide ($SO_2$) | 30.58 | 133.93 |
| Carbon Monoxide (CO) | 242.47 | 1,065.91 |
| Volatile Organic Compounds (VOC) | 6.75 | 29.57 |
| HCL | 0.46 | 2.03 |
| Total HAPs | 4.56 | 19.95 |

*A year is defined as any consecutive 12-month period.
SO2 emissions from NG & COG
The emissions limit includes both stack and fugitive

q. The permittee shall not operate or allow to be operated the Blast Furnace No. 3 and Casthouse in such a manner that emissions of particulate matter exceed at any time the rate determined by the formula below [§2104.02.c.9.A]:

Allowable particulate emissions from Primary Iron Production

DRAFT

$A = 0.76E^{+0.42}$

Where:
A = allowable emissions in pounds per hour, and
E = emission index of (F) x (W) pounds per hour,
F = process factor 100 pounds per ton of hot metal produced,
W= production rate in tons per hour.

r. $SO_2$ emissions from the Casthouse Baghouse shall not exceed the limitations in Table V-A-3 below: [$SO_2$ SIP IP 0051-I006, Condition V.A.1.c; §2105.21.h.4]

**Table V-A-3**
**$SO_2$ Emission Limitations for the Blast Furnace 1 & 3**

| PROCESS/EQUIPMENT | Maximum Allowable $SO_2$ Emission Limit (lb/hr) | Maximum Allowable $SO_2$ Emission Limit (tons/year)* |
|---|---|---|
| Blast Furnace 1 Casthouse (roof & fume suppression) | 2.10 | 8.80 |
| Continuous Casting (roof) | 5.25 | 22.10 |
| Casthouse Baghouse | 45.10 | 197.54 |

s. The PM emission limits in Table V-A-1 and Table V-A-2 shall apply to the emissions from Blast Furnaces No. 1 and No. 3, respectively, exhausting at the Casthouse Baghouse. All fugitive emissions from this process shall be included unless the Casthouse Baghouse stack emissions can be accurately measured, and all fugitive emissions do not exceed the standards in §2104.01. [§2104.02.c]

**2. Testing Requirements:**

a. The permittee shall perform emission tests for exhaust gas PM, $PM_{10}$ and $PM_{2.5}$, concentrations (gr/dscf), condensable PM and equivalent emission rates (lb/hr) at the No. 1 and No. 3 Blast Furnace Casthouse Baghouse to demonstrate compliance with conditions V.A.1.f, V.A.1.m, and V.A.1.p. The PM, $PM_{10}$ and $PM_{2.5}$ testing shall be repeated at least once every two years from the date of the most recent valid test. The testing shall be conducted in accordance with approved EPA Methods in Appendix A of 40 CFR Part 60, Article XXI §2108.02 or another Department approved test method. (§2103.12.h.1; §2103.12.i; §2108.02)

b. The permittee shall have sulfur dioxide ($SO_2$) emissions stack tests performed on the Casthouse Baghouse at least once every two years to demonstrate compliance with the casthouse baghouse emissions in condition V.A.1.r, Table V-A-3. $SO_2$ emission tests shall be conducted according to Article XXI, §2108.02. The permittee shall submit a stack test protocol to the Department for approval at least 45 days prior to the test date(s). [$SO_2$ SIP IP 0051-I006, Condition V.A.2.a; §2108.02.b and §2108.02.e]

c. The permittee shall perform emissions tests for $NO_X$ and CO on Blast Furnaces No. 1 and 3 Casthouse Baghouse to demonstrate compliance with conditions V.A.1.m and V.A.1.p. The $NO_X$ and CO testing shall be repeated at least once every two years from the date of the most recent valid test. The testing shall be conducted in accordance with the following approved EPA Methods in

DRAFT

Appendix A of 40 CFR Part 60, Article XXI §2108.02 or another Department approved test method. (§2103.12.h.1; §2108.02.b, §2108.02.e.)

1) Method 7, 7A, 7B, 7C, 7D, or 7E to determine the $NO_X$ emissions
2) Method 10, 10A or 10B to determine the CO emissions
3) Other EPA or Department approved test method or EPA/Department approved modified test method.

d. The permittee shall perform VOC and HCL emissions testing on Blast Furnaces No. 1 and 3 Casthouse Baghouse once every four years from the date of the prior valid test in order to demonstrate compliance with Condition V.A.1.m and V.A.1.p. Such testing shall be conducted in accordance with applicable U.S. EPA approved test methods, Article XXI §2108.02, or another Department approved test method. [§2103.12.h.1; §2108.02.b, §2108.02.e.]

e. The permittee must conduct each performance test that applies to the capture system for the blast furnace Casthouses according to the requirements in §63.7(e)(1) and the conditions detailed in Conditions V.A.2.f through V.A.2.i below . [§2103.12.h; §63.7822(a)]

f. The permittee shall submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin. [§63.7840(d)]

g. To determine compliance with the applicable emission limits for particulate matter in Conditions V.A.1.f, V.A.1.m and V.A.1.p, follow the test methods and procedures in paragraphs V.A.2.f.1) and V.A.2.f.2) below, and Site Level Condition IV.14 above. [§2103.12.h; §63.7822(b) and §2108.02.]

1) Determine the concentration of particulate matter according to the following approved EPA test methods in appendix A to 40 CFR, Part 60:
   a) Method 1 to select sampling port locations and the number of traverse points. Sampling ports must be located at the outlet of the control device and prior to any releases to the atmosphere.
   b) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.
   c) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.
   d) Method 4 to determine the moisture content of the stack gas.
   e) Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter (front half filterable catch only).
   f) Method 201 as applicable
   g) Method 202 as applicable, to determine the condensable PM & $PM_{2.5}$
   h) Method 18 to determine the VOC emissions, and
   i) Other EPA or Department approved test method.

2) Collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

h. For the Casthouse Baghouse, the permittee shall sample for an integral number of furnace tapping operations sufficient to obtain at least 1 hour of sampling for each test run. [§63.7822(e)]

i. For the Casthouse Baghouse, the permittee shall sample only when the Blast Furnace No. 1 and Casthouse and/or Blast Furnace No. 3 and Casthouse process operations are being conducted. [§2103.12.h; §63.7822(h)]

DRAFT

j. Subject to approval by the Department, the permittee may conduct representative sampling of stacks when there are more than three stacks associated with a process. [§2103.12.h; §63.7822(i)]

k. The permittee must conduct each performance test that applies to the No. 1 and No. 3 Blast Furnace Casthouses according to the requirements in §2108.02, §63.7(h)(5), and the conditions detailed in Conditions V.A.2.k and V.A.2.l below. [§2103.12.h; §63.7823(a)]

l. The permittee must conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter. [§2103.12.h; §63.7823(b)]

m. The permittee shall determine compliance with the MACT opacity limit in Condition V.A.1.h above for the Blast Furnace Casthouses using conditions V.A.2.l.1) and V.A.2.l.2) below: [§2103.12.h; §63.7823(c)]

1) Using a certified observer, determine the opacity of emissions according to Method 9 in appendix A to 40 CFR, Part 60. [§2103.12.h; §63.7823(c)(i)]
2) Obtain a minimum of 30 6-minute block averages. Make observations during tapping of the furnaces. Tapping begins when the furnace is opened, usually by creating a hole near the bottom of the furnace and ends when the hole is plugged. [§2103.12.h; §63.7823(c)(ii)]

n. The permittee must certify that the Blast Furnace Casthouse emission control system baghouse operated during the performance test at the site-specific operating limits established in the October 19, 2015 O&M Plan or the most recent operation and maintenance plan using the procedures in conditions V.A.2.m.1) through V.A.2.m.4) below. [§2103.12.h; §63.7824(a)]

1) Concurrent with all opacity observations, measure and record values for each of the operating limit parameters in your capture system operation and maintenance plan according to the monitoring requirements specified in §63.7830(a). [§2103.12.h; §63.7824(a)(1)]

2) For any dampers that are manually set and remain at the same position at all times the capture system is operating, the damper position must be visually checked and recorded at the beginning and end of each opacity observation period segment. [§2103.12.h; §63.7824(a)(2)]

3) Review and record the monitoring data. Identify and explain any times the capture system operated outside the applicable operating limits. [§2103.12.h; §63.7824(a)(3)]

4) Certify in your performance test report that during all observation period segments, the capture system was operating at the values or settings established in your capture system operation and maintenance plan. [§2103.12.h; §63.7824(a)(4)]

o. The permittee may change the operating limits for a capture system if the requirements in paragraphs V.A.2.n.1) through V.A.2.n.3) below are met. [§2103.12.h; §63.7824(c)]

1) Submit a written notification to the Department of your request to conduct a new performance test to revise the operating limit.
2) Conduct a performance test to demonstrate compliance with the applicable emission limitation in Conditions V.A.1.f and V.A.1.h
3) Establish revised operating limits according to the applicable procedures in Condition V.A.2.m above for a control device or capture system.

DRAFT

p. The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.14 above and Article XXI §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

a. The permittee shall monitor and record notations of visible emissions once per week of the No. 1 and No. 3 Casthouse buildings and the Casthouse Baghouse exhaust outlets. These observations shall be performed during normal daylight operations. A trained individual shall record whether any emissions are observed. The permittee may skip to monthly monitoring after six consecutive months of compliance with the weekly monitoring. [§2102.04.e; §2103.12.h.1 & §2103.12.i]

b. The permittee shall measure the sulfur concentration of coke oven gas used for combustion or flaring at the facility as required in condition IV.32.c. Measurements of hydrogen sulfide concentrations in coke oven gas above shall be conducted according to Section §2107.08 of Article XXI. Under the current operating scenario coke oven gas measurements are taken at the Clairton Plant. However, if there is a change to the current operating scenario, the sulfur concentration measurements will be taken at the Edgar Thomson Plant. [$SO_2$ SIP IP 0051-I006, Condition V.A.3.c; §2103.12.h.5.B]

c. The permittee shall measure the $H_2S$ content of the blast furnace gas combusted as required in condition IV.32.b. The sulfur content of BFG shall be determined by obtaining and analyzing samples of BFG produced at the blast furnaces at a sample location downstream of the gas cleaning system but prior to a combustion source. The sulfur content shall be determined by analyzing the sample for volumetric concentrations of trace sulfur compounds in the BFG using test method ASTM D6228-98 or D5504-08 (or other Department approved method). Testing shall be conducted at least once every calendar quarter. [$SO_2$ SIP IP 0051-I006, Condition V.A.3.b; §2103.12.h.5.B]

d. The permittee shall conduct inspections of the No. 1 and No. 3 Blast Furnace Casthouse emission control system baghouse at their specified frequencies according to the following requirements: [§2103.12.i; §63.7830(b)(4)(i)-(v), (vii), (viii)]

1) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
2) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
3) Check the compressed air supply for pulse-jet baghouses each day.
4) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
5) Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.
6) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
7) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

e. The permittee must operate according to the site-specific monitoring plan established in October 19, 2015 or the most recent developed site-specific monitoring plan and make it available to the Department upon request. The site-specific monitoring plan shall address the following requirements: [§2103.12.i; §63.7831(a)(1)-(6)]

DRAFT

1) Installation of the Continuous Parametric Monitoring System (CPMS) sampling probe or other interface at a measurement location relative to the No. 1 and No. 3 Blast Furnace Casthouse emission control system such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last control device);
2) Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system;
3) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).
4) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8);
5) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and
6) Ongoing recordkeeping and reporting procedures in accordance the general requirements of §§63.10(c), (e)(1), and (e)(2)(i).

f. Unless otherwise specified, each CPMS must: [§2103.12.i; §63.7831(b)]

1) Complete a minimum of one cycle of operation for each successive 15-minute period and collect a minimum of three of the required four data points to constitute a valid hour of data;
2) Provide valid hourly data for at least 95 percent of every averaging period; and
3) Determine and record the hourly average of all recorded readings.

g. The permittee must conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan. [§2103.12.i; §63.7831(c)]

h. The permittee must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan. [§2103.12.i; §63.7831(d)]

i. The permittee must install, operate, and maintain each CPMS on the No. 1 and No. 3 Blast Furnace Casthouse emission control system baghouse according to the requirements in Conditions V.A.3.e through V.A.3.h above. [§2103.12.i; §63.7831(e)]

j. Except for monitoring malfunctions, out-of-control periods as specified in §63.8(c)(7), associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the permittee must monitor continuously (or collect data at all required intervals) at all times the No. 1 and No. 3 Blast Furnace process is operating. [§2103.12.i; §63.7832(a)]

k. The permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. The permittee must use all the data collected during all other periods in assessing compliance. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions [§2103.12.i; §63.7832(b); §63.7832(c)]

l. The permittee shall demonstrate continuous compliance for the No. 1 and No. 3 Blast Furnace Casthouse baghouse subject to an emission or opacity limit in Condition V.A.1.f or V.A.1.h above by meeting the following requirements: [§2103.12.i; §63.7833(a)]

1) Maintaining emissions of particulate matter from No. 1 and No. 3 Blast Furnace Casthouse

DRAFT

emission control system baghouse outlet at or below 0.01 gr/dscf. [§2105.03 and Table 3, Item 7.a, 40 CFR 63, Subpart FFFFF]

2) Maintaining the opacity of secondary emissions that exit any opening in the Casthouses or structures housing the Casthouse at or below 20 percent (6-minute average). [§2105.03 and Table 3, Item 7.b, 40 CFR 63, Subpart FFFFF]
3) Conducting subsequent performance tests at least every two years from the date of the initial performance test. [§2108.02; §2103.12.h.1; Table 3, Item 7.c, 40 CFR 63, Subpart FFFFF]

m. The permittee shall demonstrate continuous compliance for the Casthouse baghouse subject to an operating limit in Condition V.A.1.i above by meeting the following requirements: [§2103.12.i; §63.7833(b)]

1) Operate the capture system at or above the lowest values or settings established for the operating limits in your operation and maintenance plan; and
2) Monitor the capture system according to the requirements in §63.7830(a) and collect, reduce, and record the monitoring data for each of the operating limit parameters according to the applicable requirements of 40 CFR 63, Subpart FFFFF.

n. The permittee shall monitor the amount of fuel combusted in each emission unit listed in condition Tables V-A-1 and V-A-2. [§2102.04.b.6; §2103.12.i]

o. The Department reserves the right to revert the monitoring frequency in condition V.A.3.a above back from monthly to weekly at any time, based on but not limited to the review of the compliance certification and semi-annual report of monitoring and recordkeeping, complaints, monitoring results, and/or Department findings. [§2103.12.h.1]

**4. Record Keeping Requirements:**

a. The permittee shall keep and maintain the following data for the Casthouse Baghouse required in condition V.A.3.a and V.A.3.d above: [§2103.12.h.1; §2103.12.j]

1) Baghouse fan motor amperage (every hour);
2) Once per day (minimum) recording of the differential pressure drops across each baghouse; and
3) Records of all control equipment inspections required by this permit and any maintenance required as per these inspections necessary to maintain compliance with the conditions of this permit.

b. The permittee shall keep and maintain records to demonstrate compliance with the requirements of this permit, including the following: (§2103.12.h.1; $SO_2$ SIP IP 0051-I006, Condition V.A.4.a)

1) Number of blast furnace casts and hot metal production (daily, monthly, 12-month);
2) Daily recordings of the amount of gas used by the gas lances at the iron ladle area and iron and slag gates (also referred to as dams and/or diverters);
3) The total amount and type of fuel injected into the blast furnace through the tuyeres used at the blast furnace (daily, monthly, 12-month);
4) The total amount and type of additional fuel used in iron oxide fume suppression, COG railcar thaw lines, torpedo car cleaning and ladle drying and firing (daily, monthly, 12-month);
5) The COG sulfur concentration, as $H_2S$, measured in accordance with condition V.A.3.b above;
6) The BFG sulfur concentration combusted at the facility as measured in accordance with condition V.A.3.c; and

DRAFT

7) Stack test protocols and reports.

c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.h.1]

d. The permittee shall keep the following records: [§2103.12.j; §63.7842(a)]

1) A copy of each notification and report that was submitted to comply with 40 CFR Part 63, Subpart FFFFF, including all documentation supporting any initial notification or notification of compliance status that was submitted, according to the requirements in §63.10(b)(2)(xiv).
2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
3) Records of performance tests, performance evaluations, and opacity observations as required in §63.10(b)(2)(viii).

e. The permittee shall keep the records required in §63.6(h)(6) for visual observations. [§2103.12.j; §63.7842(c)]

f. The permittee shall keep the records required in Conditions V.A.3.l and V.A.3.m above, and V.A.6.e and V.A.6.f below to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to the capture system applied to secondary emissions. [§2103.12.j; §63.7842(d)]

g. The permittee shall keep records of visible emission notations as required by V.A.3.a above [§2103.12.j.2]

h. The permittee shall maintain records of all maintenance performed on the Blast Furnaces 1 & 3. These records shall be made available to the Department upon request for inspection and/or copying. [RACT IP8a, Condition V.C.2.a; 25 Pa Code §129.100; §2102.04.b.5]

i. The records must be in a form suitable and readily available to the Department for expeditious review, according to §63.10(b)(1). [§2103.12.j; §63.7843(a) and §2103.12.j.2]

j. As specified in §63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [§2103.12.j; §63.7843(b) and §2103.12.j.2]

k. The permittee must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). The permittee can keep the records offsite for the remaining 3 years. [§2103.12.j; §63.7843(c)]

**5. Reporting Requirements:**

a. The permittee shall report the following information semiannually to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k.1; $SO_2$ SIP IP 0051-I006, Condition V.A.5.a]

1) Total monthly hot metal produced per furnace;
2) Amount of gas used by the gas lances at the iron ladle area and iron and slag gates (also referred to as dams and/or diverters);
3) The total amount and type of fuel injected into the blast furnace through the tuyeres used at the

DRAFT

blast furnace;

4) The total amount and type of additional fuel used in iron oxide fume suppression, COG railcar thaw lines, torpedo car cleaning and ladle drying and firing; and
5) Non-compliance information required to be recorded by V.A.4.c above.

b. Reporting instances of non-compliance in accordance with condition V.A.5.a.5) above, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k.1]

c. Deviations. The permittee must report each instance in which you did not meet each emission limitation in Conditions V.A.1.f and V.A.1.h above.. The permittee also must report each instance in which you did not meet each operation and maintenance requirement in Condition V.A.6.d below. These instances are deviations from the emission limitations and operation and maintenance requirements in 40 CFR Part 63, Subpart FFFFF. These deviations must be reported according to the requirements in Conditions V.A.5.g through V.A.5.h . [§2103.12.k; §63.7835(a)]

d. For the emission limitation in Condition V.A.1.f above, the permittee must submit a notification of compliance status according to V.A.5.f below. [§2103.12.k; §63.7825(c)]

e. The permittee must submit all of the applicable notifications in §§63.6(h)(4) and (5), 63.7(b) and (c), 63.8(e) and (f)(4), and 63.9(b) through (h) by the specified dates. [§2103.12.k; §63.7840(a)]

f. The permittee shall submit a notification of compliance status according to §63.9(h)(2)(ii). [§2103.12.k; §63.7840(e)]

1) For each compliance demonstration that does not include a performance test, the permittee must submit the notification of compliance status before the close of business on the 30th calendar day following completion of the compliance demonstration.
2) For each compliance demonstration that does include a performance test, the permittee must submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to §63.10(d)(2).

g. Compliance report due dates. The permittee must submit a semiannual compliance report to the Department according to General Condition III.15: [§2103.12.k; §63.7841(a)]

h. Compliance report contents. Each compliance report must include the information in paragraphs V.A.5.h.1) through V.A.5.h.3) below and, as applicable, paragraphs V.A.5.h.4) through V.A.5.h.8) below. [§2103.12.k; §63.7841(b)]

1) Company name and address.

2) Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
3) Date of report and beginning and ending dates of the reporting period.

4) If the permittee had a startup, shutdown, or malfunction during the reporting period and took actions consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in §63.10(d)(5)(i).

5) If there were no deviations from the continuous compliance requirements in Conditions V.A.3.l

DRAFT

and V.A.3.m above, and V.A.6.e and V.A.6.f below, a statement that there were no deviations from the emission limitations or operation and maintenance requirements during the reporting period.

6) If there were no periods during which a continuous monitoring system (including a CPMS), was out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

7) For each deviation from an emission limitation in Condition V.A.1.f that occurs at the Casthouse emission capture and control system, where a continuous monitoring system is not used (including a CPMS) to comply with an emission limitation in 40 CFR Part 63, Subpart FFFFF, the compliance report must contain the information in paragraphs V.A.5.h.1) through V.A.5.h.4) above and the information in paragraphs V.A.5.h.7)a) and V.A.5.h.7)b) below. This includes periods of startup, shutdown, and malfunction.

   a) The total operating time of the Casthouse emission capture and control system during the reporting period.
   b) Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

8) For each deviation from an emission limitation occurring at the Casthouse emission capture and control system where you are using a continuous monitoring system (including a CPMS) to comply with the emission limitation in 40 CFR Part 63, Subpart FFFFF, you must include the information in paragraphs V.A.5.h.1) through V.A.5.h.4) above and the information in paragraphs V.A.5.h.8)a) through V.A.5.h.8)j) below. This includes periods of startup, shutdown, and malfunction.

   a) The date and time that each malfunction started and stopped.

   b) The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.

   c) The date, time, and duration that each continuous monitoring system was out-of-control as specified in §63.8(c)(7), including the information in §63.8(c)(8).

   d) The date and time that each deviation started and stopped.

   e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

   f) A breakdown of the total duration of the deviations during the reporting period including those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

   g) A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

   h) A brief description of the process units.

DRAFT

i) A brief description of the continuous monitoring system.

j) The date of the latest continuous monitoring system certification or audit.

k) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

**6. Work Practice Standards:**

a. The permittee shall employ the following procedures for each cast at Edgar Thomson Blast Furnace #1. If unusual or abnormal operating conditions preclude the use of these procedures, the circumstances causing the abnormal conditions and their duration shall be reported as required by Allegheny County Health Department rules: [Permit No. 7035003-004-90105, issued July 7, 1986; §2101.05.a.1]

1) The trough hood shall be evacuated during every cast. At all times when the trough is drained after a cast, the hood shall be evacuated during the times that hot metal is being blown out of the trough.
2) The air curtain shall be operated during all casts.
3) All runner covers shall be in place on active runners at all times during each cast.
4) A complete set of spare runner covers shall be kept available for use at the Casthouse.
5) Runner bed materials shall be selected to minimize emissions.
6) Steam or gas shall be used at all slag and iron ladles just prior to and during the filling of every ladle at every cast.
7) Steam and gas usage meters at the iron and ladle area shall be operable at all times and the consumption of steam and/or gas shall be recorded daily. The meters will record only the gas and/or steam consumed to suppress emissions during casting.
8) Gas lances shall be used just prior to and during the flow of hot metal or slag through each gate, to suppress emissions generated from these open areas.
9) Gas usage meters at the iron gates shall be operable at all times and consumption of gas used during casting shall be recorded daily.

b. The permittee shall employ the following procedures for each cast at Edgar Thomson Blast Furnace No. 3. If unusual or abnormal operating conditions preclude the use of these procedures, the circumstances causing the abnormal conditions and their duration shall be reported as required by Allegheny County Health Department rules: [Permit No. 7035003-002-90107, issued February 18, 1993; §2101.05.a.1]

1) The trough hood shall be evacuated during every cast. At all times when the trough is drained after a cast, the hood shall be evacuated during the times that hot metal is being blown out of the trough.
2) The air curtain shall be operated during all casts.
3) All runner covers shall be in place on active runners at all times during each cast.
4) A complete set of spare runner covers shall be kept available for use at the Casthouse.
5) Runner bed materials shall be selected to minimize emissions.
6) Gas flames shall be used at all iron ladles prior to and during the filling of every ladle at every cast.
7) Gas flames shall be used at the iron diverter at all times when hot metal is flowing through the diverter.
8) Gas usage meters at the iron ladle area and diverter area shall be operable at all times and the

DRAFT

consumption of gas shall be recorded daily. The meters will record only the gas consumed to suppress emissions during casting.

9) All ladles shall be maintained so as to minimize emissions.

c. As required by §63.6(e)(1)(i), the permittee must always operate and maintain the blast furnace, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR Part 63, Subpart FFFFF. [§63.7800(a); §2105.03]

d. The permittee must operate at all times according to the operation and maintenance plan developed in October 19, 2015 or the most recent developed operation and maintenance plan for the No. 1 and No. 3 Blast Furnace Casthouse emission control system. The plan must address the following elements: [§63.7800(b); §2105.03]

1) Monthly inspections of the ductwork to isolation dampers (external); air curtain system integrity; emission gas lances; emission hood; external ductwork from isolation damper; isolation damper & actuator; baghouse fan integrity etc. This inspection must include observations of the physical appearance of the equipment (*e.g.,* presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection. [§63.7800(b)(1)]

2) Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance. [§63.7800(b)(2)]

3) The permittee must establish the operating limits for each capture system applied to blast furnace casthouses 1 & 3 according to the requirements in paragraphs V.A.6.d.3)a) through V.A.6.d.3)c) below: [§2103.12.h.1; §63.7800(b)(3)(iii)]

a) Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a minimum, the permittee must use appropriate operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure. [§63.7800(b)(3)(i)]

b) For each operating limit parameter selected in paragraph V.A.6.d.3)a) above, designate the value or setting for the parameter at which the capture system operates during the process operation. If your operation allows for more than one process to be operating simultaneously, designate the value or setting for the parameter at which the capture system operates during each possible configuration that you may operate. [§63.7800(b)(3)(ii)]

c) Include documentation in your plan to support your selection of the operating limits established for the capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a

DRAFT

description of each selected operating limit parameter, a rationale for why you chose the parameter, a description of the method used to monitor the parameter according to the requirements of §63.7830(a), and the data used to set the value or setting for the parameter for each of your process configurations. [§63.7800(b)(3)]

e. For the No. 1 and No. 3 Blast Furnace Casthouse baghouse system subject to an operating limit in Condition V.A.1.i above, the permittee must demonstrate continuous compliance with the operation and maintenance requirements in Condition V.A.6.d above by meeting the following requirements: [§2103.12.h.1; §63.7834(a)]

1) Making monthly inspections of capture systems and initiating corrective action according to Condition V.A.6.d.1) above and recording all information needed to document conformance with these requirements; and
2) Performing preventative maintenance according to Condition V.A.6.d.2) above and recording all information needed to document conformance with these requirements.

f. The permittee must maintain a current copy of the operation and maintenance plan required in Condition V.A.6.d above onsite and available for inspection upon request. The permittee must keep the plans for the life of the blast furnace emission capture and control system. [§63.7834(b)]

g. At no time shall the permittee operate the Blast Furnaces 1 & 3 unless they are properly operated and maintained according to good engineering and air pollution control practices by performing regular maintenance with the exception of actions to mitigate emergency conditions. [RACT IP8a, Condition V.C.1.a.; 25 Pa Code §129.99; §2102.04.b.5]

**7. Additional Requirements:**

a. The permittee shall comply with the following additional requirements for Blast Furnace No. 3: [Permit No. 7035003-002-90107, issued February 18, 1993; §2101.05.a.1]

1) The permittee may experiment with different existing techniques or any future development techniques for emission suppression provided that the compliance is maintained and only after prior notice has been given to the Department. The initial notice may be oral but must be confirmed in writing within ten (10) days and should include the duration of the experimentation period.
2) The gas flow into each ladle being filled shall be adjusted so as to keep any emissions escaping the iron ladle from contributing to or causing a cast house roof visible emissions violation of Site Level Terms and Conditions IV.2 above.
3) In the event the emissions escaping the ladle being filled cannot be kept in compliance with the requirements of Site Level Terms and Condition IV.2 above, the filling shall be aborted at that iron ladle and the next ladle will be started as available, providing safety of the operation in not affected.
4) The Casthouse Fume Collection Baghouse shall be kept in good operating condition.

b. For Blast Furnace No. 1, the permittee may experiment with existing techniques or any future development techniques for emission suppression provided that compliance is maintained and only after prior notice has been given to the Department. The initial notice may be oral but must be confirmed in writing and should include the duration of the experimentation period. [Permit No. 7035003-004-90105, issued July 7, 1986]

DRAFT

c. The General Provisions in §63.1 through §63.15 that apply to the permittee are listed in Table 4, 40 CFR Part 63, Subpart FFFFF. [§63.7850]

d. The definitions in §63.7852 are incorporated by reference into this permit.

***PERMIT SHIELD IN EFFECT***

DRAFT

## B. Process P001b And P002b: Blast Furnace No. 1 Stoves and Blast Furnace No. 3 Stoves

**Process Description**: Blast Furnace No. 1 Stoves and Blast Furnace No. 3 Stoves (3 Stoves for each blast furnace)
**Facility ID:** P001b and P002b
**Max. Heat Input:** 495 MMBtu/hour (total for each set of blast furnace stoves)
**Fuel(s):** BFG, COG, NG
**Control Device(s):** None
**Stack I.D.:** S001 and S004

### 1. Restrictions:

a. At no time shall the permittee allow the No. 1 and No. 3 Blast Furnace Stoves to operate unless the subject equipment is properly operated and maintained according to good engineering and air pollution control practices by performing regular maintenance, and as required by conditions V.B.3.a and V.B.4, with the exception of actions to mitigate emergency conditions. [RACT Order No. 235, Condition 1.1; §2102.04.b.5]

b. The permittee shall only combust coke oven gas, natural gas and blast furnace gas in the No. 1 and No. 3 Blast Furnace Stoves. [§2103.12.a.2.B]

c. The Blast Furnace No.1 or Blast Furnace No. 3 stoves shall comply with the COG requirements in condition IV.32.d [§2105.21.h.4]

d. Nitrogen Oxide ($NO_X$) emissions from each Stoves No. 1 or 3, shall not at any time exceed 0.03 lb/MMBtu with the exception of actions to mitigate emergency situations. [RACT IP8a, Condition V.B.1.b; 25 Pa code §129.99; 2102.04.b.5; §2105.06.d]

e. Emissions from the No. 1 or No. 3 Blast Furnace Stoves shall not exceed the emission limitations in Table V-B-1 below: [§2104.03.a.2.B, §2104.02.b, §2103.12.a.2.B; RACT IP8a, Condition V.B.1.b]

**TABLE V-B-1**
**Emission Limitations for the No. 1 or No. 3 Blast Furnace Stoves**

| Pollutant | Hourly Emission Limit For each set of Stoves (lb/hr) | Annual Emission Limit For each set of Stoves (tons/year)* |
|---|---|---|
| Particulate Matter (filterable) | 24.75 | 108.41 |
| $PM_{10}$ (filterable) | 24.75 | 108.41 |
| $PM_{2.5}$(filterable) | 24.75 | 108.41 |
| PM-condensable | 3.25 | 14.24 |
| Nitrogen Oxide ($NO_X$) | 14.85 | 65.04 |
| Carbon Monoxide (CO) | 650.65 | 2,849.86 |
| Volatile Organic Compound | 3.24 | 14.21 |
| HCL | 0.74 | 3.24 |
| Total HAPs | 7.15 | 31.33 |

*A year is defined as any consecutive 12-month

f. $SO_2$ emissions from the following sources shall not exceed the limitations in Table V-B-2 below:

DRAFT

[SO2 SIP IP 0051-I006, Condition V.A.1.c); §2102.04.b.6, §2105.21.h.4]

**Table V-B-2**
**$SO_2$ Emission Limitations for the Blast Furnace Stoves 1 & 3**

| Process/Equipment | Maximum Allowable $SO_2$ Emission Limit (lb/hr) | Maximum Allowable $SO_2$ Emission Limit (tons/year)* |
|---|---|---|
| Blast Furnace 1 Stoves | 98.50 | 431.43 |
| Blast Furnace 3 Stoves | 90.00 | 394.20 |

*A year is defined as any consecutive 12-month

g. The permittee shall not operate or allow to be operated, No. 1 or No. 3 Blast Furnace Stoves where the equipment is fired with two (2) or more types of fuel, in such a manner that emissions of particulate matter (PM) exceed the rate determined by the following formula: [§2104.02.a.3]

$A = \Sigma x_i a_i$

Where: A = allowable emissions in lbs/MMBtu actual heat input
i = fuel type (i.e., BFG, COG, NG)
$x_i$ = fraction of total actual heat input in Btus provided by fuel type i
$a_i$ = allowable emissions in lbs/MMBtu actual heat input for fuel type i, (i.e., BFG, 0.05 lb/MMBtu; COG, 0.02 lb/MMBtu; NG, 0.008 lb/MMBtu)

h. The permittee shall not operate No. 1 or No. 3 Blast Furnace Stoves in such a manner that emissions of sulfur oxides, expressed as sulfur dioxide ($SO_2$), exceed the rate determined by the formula: [§2104.03.a.2.B]

$A = 1.7E^{-0.14}$

Where: A = allowable emissions in lbs/MMBtu of actual heat input; and
E = actual heat input in MMBtu/hr.

**2. Testing Requirements:**

a. The permittee shall perform emission tests for exhaust gas PM, $PM_{10}$, $PM_{2.5}$, $NO_X$, CO and $SO_2$ concentrations (gr/dscf; ppm) and equivalent emission rates (lb/hr; lb/MMBtu) at the No. 1 and No. 3 Blast Furnace Stoves. PM, $PM_{10}$, $PM_{2.5}$, including condensable PM, NOx, CO and sulfur oxides testing shall be repeated at least once every two years from the date of the most recent test. [§2103.12.h.1; §2103.12.i; §2108.02; $SO_2$ SIP IP 0051-I006, Condition V.A.2.a; RACT IP8a, Condition V.B.2.a]

1) Determine the emissions (filterable & condensable) of particulate matter according to the following approved EPA test methods in appendix A to 40 CFR, Part 60 or another Department approved test method:
   a) Method 1 to select sampling port locations and the number of traverse points. Sampling ports must be located at the outlet of the control device and prior to any releases to the atmosphere.
   b) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.
   c) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

DRAFT

d) Method 4 to determine the moisture content of the stack gas.
e) Method 5, 5D, or 17, as applicable, to determine the concentration and mass emission rate of particulate matter (front half filterable catch only).
f) Method 201A to determine the $PM_{10}$,
g) Method 202 or other method approved by the Department to determine $PM_{2.5}$,
h) Methods 7 through 7E to determine the $NO_X$ emissions
i) Method 6 to determine the $SO_X$ emissions.
j) Method 10 to determine the CO emissions

2) Collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

3) Monitor and record the following operating parameters (at a minimum) during the test(s):

a) The heat value (BTU/scf) of each gas (COG, BFG, natural gas) combusted during the test;
b) Hot metal production rate (tons/hr) during each test run; and
c) Volume of each gas (COG, BFG, natural gas) combusted during the test.

b. The permittee shall perform VOC and HCL emissions testing on No. 1 and No. 3 Blast Furnace Stoves once every four years from the date of the prior valid test in order to demonstrate compliance with Condition V.B.1.d above. Such testing shall be conducted in accordance with applicable U.S. EPA approved test methods, Article XXI §2108.02, or another Department approved test method. [§2103.12.h.1; §2108.02.b, §2108.02.e.]

c. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

a. Notations of visible emissions from the Blast Furnace No.1 Stoves and Blast Furnace No. 3 Stoves operations shall be performed once per week during normal daylight operations. A trained individual shall record whether any emissions are observed. The permittee may skip to monthly monitoring after six consecutive months of compliance with the weekly monitoring. [§2103.12.h.1; §2102.04.e]

b. The Department reserves the right to revert the monitoring frequency in condition V.B.3.a above back from monthly to weekly at any time, based on but not limited to the review of the compliance certification and semi-annual report of monitoring and recordkeeping, complaints, monitoring results, and/or Department findings. [§2103.12.h.1]

**4. Record Keeping Requirements:**

a. The permittee shall keep and maintain the following data for the No. 1 and No. 3 Blast Furnace Stoves: [$SO_2$ SIP IP 0051-I006, Condition V.A.4.a; RACT IP8a, Condition V.B.4.a; §2103.12.h; §2103.12.j]
1) Fuel type and consumption (hourly, daily, monthly, and 12-month);
2) Records of operation, maintenance, inspection, calibration and/or replacement of combustion

DRAFT

equipment necessary for proper operation of the stoves.

b. The following records must be maintained for the adjustment and tune up required in condition V.B.6.b for Blast Furnaces No. 1 and No. 3 Stoves: [RACT IP8a, Condition V.B.4.b; 25 Pa Code §129.99; §2102.04.b.5]

1) The date of the adjustment procedure;
2) The name of the technicians;
3) The operating rate or load after adjustment;
4) The excess oxygen rate after adjustment; and
5) Other information required by the applicable operating permit.

c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j]

d. The permittee shall keep records of visible emission notations as required by V.B.3.a above. [§2103.12.j]

e. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [$SO_2$ SIP IP 0051-I006, Condition V.A.4.c; RACT IP8a, Condition V.B.4.c; 25 Pa Code §129.100; §2103.12.j.2]

**5. Reporting Requirements:**

a. The permittee shall report the non-compliance information required to be recorded by V.B.4.b above semiannually to the Department in accordance with General Condition III.15 above. The report shall contain all required information for the time period of the report, along with all corrective actions taken to restore the subject equipment to compliance. If all of the terms and conditions of this permit are complied with during the reporting period, then no report is necessary under this permit condition [$SO_2$ SIP IP 0051-I006, Condition V.A.5.a; RACT IP8a, Condition V.B.5.a; §2103.12.k.1]

b. Reporting instances of non-compliance in accordance with condition V.B.5.a above, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

**6. Work Practice Standards:**

a. At no time shall the permittee allow the No. 1 and No. 3 Blast Furnace Stoves to operate unless the subject equipment is properly operated and maintained according to good engineering and air pollution control practices by performing regular maintenance, with the exception of actions to mitigate emergency conditions. [RACT Order No. 235, Condition 1.1; RACT IP8a, Condition V.B6.a, 25 Pa Code §129.99; §2102.04.b.5]

b. The permittee shall conduct annual adjustment and tune-up on the blast furnaces No. 1 & No. 3 stove accessible combustion system components to include at a minimum: [RACT IP8a, Condition V.B.6.b, 25 Pa Code §129.99; §2102.04.b.5; §2105.06.d.2]

DRAFT

1) Inspection, adjustment, cleaning, or replacement of fuel-burning control system equipment, for proper operation as specified by the manufacturer;
2) Inspection of the air-to-fuel ratio control system and adjustments necessary to ensure proper calibration and operation as specified by the manufacture

c. The permittee shall calibrate, maintain, and operate all instrumentation, process equipment, and control equipment according to the applicable terms and conditions of this permit. [§2105.03]

***PERMIT SHIELD IN EFFECT***

DRAFT

## C. Process P001c: Blast Furnace Gas (BFG) Flare

**Process Description**: BFG Flare to Combust Excess BFG Generated at Blast Furnace No. 1 and No. 3
**Facility ID:** P001c
**Max. Design Rate:** 3 million cubic feet per hour of BFG (26,280 MMCF/yr)
**Fuel(s):** BFG
**Stack I.D.:** S003

### 1. Restrictions:

a. At no time shall the permittee allow the Blast Furnace Gas (BFG) Flare to operate unless it is being maintained and operated in accordance with good engineering practice and air pollution control practices by performing regular maintenance, and as required by condition V.C.3.a, with the exception of actions to mitigate emergency conditions. [RACT IP8a, Condition V.C.1.a; 25 Pa Code §129.99; §2102.04.b.5]

b. The permittee shall only operate the BFG flare in order to combust excess BFG not combusted at the Blast Furnace Nos. 1 and 3 stoves and/or the Nos. 1, 2, and 3 Riley Boilers. [§2103.12.a.2.B]

c. The flare shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [§2103.12.a.2.B]

d. Emissions from the Blast Furnace Gas Flare shall not exceed the emission limitations in Table V-C-1 below: [§2104.03.a.2.B, §2104.02.b, §2103.12.a.2.B]

**TABLE V-C-1**
**Emission Limitations for the Blast Furnace Gas Flare**

| Pollutant | Hourly Emission Limit For each set of Stoves (lb/hr) | Annual Emission Limit For each set of Stoves (tons/year)* |
|---|---|---|
| Particulate Matter | 0.64 | 2.82 |
| $PM_{10}$ | 0.33 | 1.44 |
| $PM_{2.5}$ | 0.15 | 0.65 |
| Nitrogen Oxide ($NO_X$) | 18.32 | 80.42 |
| Carbon Monoxide (CO) | 83.70 | 366.61 |
| Sulfur Dioxide (SO2) | 45.90 | 201.04 |

*A year is defined as any consecutive 12-month

### 2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

DRAFT

**3. Monitoring Requirements:**

a. Notations of visible emissions from the Blast Furnace Gas Flare operations shall be performed once per week during normal daylight operations. A trained individual shall record whether any emissions are observed. The permittee may skip to monthly monitoring after six consecutive months of compliance with the weekly monitoring. [§2103.12.i; §2102.04.e]

b. The permittee shall perform monthly visual inspections of the exhaust system to ensure that the equipment is operating properly, and that the integrity of the equipment exhaust systems are not compromised by damage, malfunction or deterioration. Repairs shall be initiated immediately to correct obvious failures and deficiencies and completed as soon as practicable.

**4. Record Keeping Requirements:**

a. The permittee shall keep and maintain records of the total amount of BFG combusted at the flare (daily and 12-month). [§2103.12.h.1; §2103.12.j]

b. The permittee shall keep records of visible emission notations as required by V.C.3.a above. [§2103.12.h.1; §2103.12.j]

c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.h.1; §2103.12.j]

d. The permittee shall maintain records of all maintenance performed on the BFG flare. These records shall be made available to the Department upon request for inspection and/or copying. [RACT IP8a, Condition V.C.2.a; 25 Pa Code §129.100; §2102.04.b.5]

e. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2; §2103.12.j]

**5. Reporting Requirements:**

a. The permittee shall report the non-compliance information required to be recorded by V.C.4.c above semiannually to the Department in accordance with General Condition III.15.above. The reports shall contain all required information for the time period of the report. [§2103.12.k.1]

b. Reporting instances of non-compliance in accordance with condition V.C.5.a above, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

**6. Work Practice Standards:**

a. The permittee shall maintain and operate the BFG flare according to a flare minimization plan that includes: [RACT IP8a, Condition V.C.1.b; 25 Pa Code §129.99; §2102.04.b.5]

1) A listing of all process units and ancillary equipment connected to the flare for each affected flare,
2) A description of the equipment, processes and procedures installed or implemented within the last five years to reduce flaring; and a description of any equipment, processes or procedures the owner or operator plans to install or implement to eliminate or reduce flaring from planned,

DRAFT

turnarounds and other scheduled maintenance, based on an evaluation of these activities during the previous five years

3) The facility must follow the flare minimization plan and operate the flare in such a manner that minimizes all flaring except during emergencies, shutdowns, startups, turnarounds or essential operational needs, and
4) The plan should be updated periodically to account for changes in the operation of the flare, such as new connections to the flare or the installation of a flare gas recovery system

b. The permittee shall calibrate, maintain, and operate all instrumentation, process equipment, and control equipment according to good engineering practices. [§2105.03]

***PERMIT SHIELD IN EFFECT***

DRAFT

## D. Process P003: Basic Oxygen Process (BOP) Shop

**Process Description**: Basic Oxygen Process (BOP) Shop
**Facility ID:** P003
**Max. Design Rate:** 3,467,500 TPY steel
**Fuel(s):** COG, Natural Gas
**Raw Materials:** Hot Metal (Iron), Fluxes, Scrap, Alloy Additives
**Control Device(s):** See Below
**Stack I.D.:** See Below

Process P003, the BOP Shop, consists of the following equipment and activities:

| I.D. | SOURCE DESCRIPTION | CONTROL DEVICE(S) | STACK ID |
|---|---|---|---|
| P003-1 | Hot Metal Transfer at Mixer | BOP Mixer & Desulfurization Baghouse | S005 |
| P003-2 | Hot Metal Transfer at Reladling Pit | Fume Suppression | N/A |
| P003-3 | Hot Metal Transfer at Direct Pour Station | BOP Mixer & Desulfurization Baghouse | S005 |
| P003-4 | Hot Metal Desulfurization | BOP Mixer & Desulfurization Baghouse | S005 |
| P003-5 | Hot Metal Slag Skimming | BOP Secondary Baghouse | S006 |
| P003-6 | BOP Vessel F Charging, Tapping & Slag Dumping | BOP Secondary Baghouse | S006 |
| P003-7 | BOP Vessel F Oxygen Blowing | Vessel F Capture Hood/BOP Shop Gas Cleaning Venturi Scrubber | S007 & S008 (2 Stacks) |
| P003-8 | BOP Vessel R Charging, Tapping & Slag Dumping | BOP Secondary Baghouse | S006 |
| P003-9 | BOP Vessel R Oxygen Blowing | Vessel R Capture Hood/BOP Shop Gas Cleaning Venturi Scrubber | S007 & S008 (2 Stacks) |
| P003-10a | BOP Shop Flux Material Rail Car Hopper Unloading | Flux Material Baghouse | BH1 |
| P003-10b | BOP Shop Flux Material Transfer Tower | Transfer Tower Baghouse | BH2 |
| P003-10c | BOP Shop Flux Internal Transfer & Handling System 1 | Flux Handling Baghouse 1 | BH3 |
| P003-10d | BOP Shop Flux Internal Transfer & Handling System 2 | Flux Handling Baghouse 2 | BH4 |
| P003-11a | BOP Shop – COG Usage | None | N/A |
| P003-11b | BOP Shop – Natural Gas Usage | None | N/A |

DRAFT

**1. Restrictions:**

a. The permittee shall at no time operate the BOP Shop while generating particulate emissions unless the subject equipment is properly maintained and operated in accordance with the following: [§2101.05.a.1; §2103.12.a.2.B]

1) Emissions from the hot metal mixer, direct pour station, charging ladle and metal desulfurization station shall be controlled by movable hood car and mixer fixed hood and directed to the BOP Mixer & Desulfurization Baghouse;
2) Emissions from hot metal slag skimming and BOP Vessel F and R charging, tapping and slag dumping shall be controlled by the charging aisle and furnace aisle roof canopies and charging hoods and directed to the BOP Secondary Baghouse;
3) Emissions from flux railcar hopper, BOP flux material transfer tower, BOP flux material internal conveying/transfer No.1, and BOP flux material internal conveying/transfer No.2 shall be controlled and directed to a respective dedicated baghouse;
4) Emissions from oxygen blowing at BOP Vessels F and R shall be controlled by a water-cooled hood above each Vessel and directed to the BOP Shop Gas Cleaning Venturi Scrubber.

b. The permittee shall not charge Number two (#2) automotive scrap bundles into any BOP vessel. [Permit No. 7035003-002-93800, Condition 6, issued January 10, 1991]

c. The permittee shall incline the BOP vessel between 310° and 320° (between 40° and 50° from the vertical axis) during the pouring of hot metal into a BOP vessel. [Civil Action No. 99-1783; Permit No. 7035003-002-93800, Condition 5, issued January 10, 1991]

d. The permittee shall at all times operate and maintain the BOP Shop, including the BOP furnaces and associated primary and secondary emission control equipment, in compliance with Article XXI, §2104.01.a (Allegheny County Opacity Regulation), as specified at Site Level Terms and Conditions IV.2 above. [Civil Action No. 99-1783, Section IV.4, issued March 3, 2000; §2109.06]

e. The BOP Shop ladle and vessel preheating and drying shall comply with the COG requirements in condition IV.32.d [§2105.21.h.4]

f. The permittee must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF with an open hood system that contain, on a flow-weighted basis, particulate matter in excess of 0.02 gr/dscf during the steel production cycle; [§2103.12.g; §63.7790(a), Table 1, Item 9.b]

g. The permittee must not cause to be discharged to the atmosphere any gases that exit from a control device used solely for the collection of secondary emissions from the BOPF that contain particulate matter in excess of 0.005 gr/dscf. [§63.7790(a)(1), Table 1, Item 9.c; §2103.12.g; §2102.04.b.6, §2105.03 and IP- 0051-I004a]

h. The permittee must not cause to be discharged to the atmosphere any gases that exit from a control device used for the collection of emissions from each hot metal transfer, skimming, and desulfurization operation that contain particulate matter in excess of 0.01 gr/dscf. [§2103.12.g; §63.7790(a), Table 1, Item 10]

i. The permittee must not cause to be discharged into the atmosphere any secondary emissions that exit any opening in the BOPF shop or any other building housing the BOPF or BOPF shop

DRAFT

operation that exhibit opacity greater than 20 percent (3-minute average). [§2103.12.g; §63.7790(a), Table 1, Item 12 and IP-0051-I004a, Condition V.A.1.F]

j. The permittee must meet each operating limit for capture systems and control devices in paragraphs V.D.1.j.1) and V.D.1.j.2) below: §2103.12.g; [§63.7790(b)]

1) The permittee must operate the secondary baghouse fan motor amperes applied to secondary emissions from a BOPF at or above 305 amps value or settings established for the operating limits in the most recent developed operation and maintenance plan (October 19, 2015). [§2103.12.g; §63.7790(b)(1), IP-0051-I004a, Condition V.A.1.g]

2) For a venturi scrubber applied to meet the particulate emission limit in Condition V.D.1.f above, the permittee must maintain the hourly average pressure drop of 75.96 inches of water column and scrubber water flow rate at or above 3,203 GPM levels established during the most recent performance test. [§2103.12.g; §63.7790(b)(2)]

k. The permittee must be in compliance with the emission limitations requirements in 40 CFR 63, Subpart FFFFF at all times. [§2103.12.g; §63.7810(a)]

l. Emissions from the BOP Shop, including all point (stacks S007 & S008) and fugitive emissions, shall not exceed the emission limitations in Table V-D-1 below. Fugitive emissions shall be included in accordance with Article XXI, §2104.02.c. [§2103.12.a.2.B, §2104.02.c.9.B; $SO_2$ SIP IP 0051-I006, Condition V.A.1.c, Table V-A-2]

**TABLE V-D-1**
**BOP Shop Emission Limitations**

| POLLUTANT | Hourly Emission Limit (lb/hr) | Annual Emission Limit (tons/year)* |
|---|---|---|
| Particulate Matter (filterable)* | 44.12 | 193.24 |
| $PM_{10}$ (filterable)* | 44.12 | 193.24 |
| $PM_{2.5}$ (filterable) | 44.12 | 193.24 |
| Nitrogen Oxides ($NO_X$) | 41.45 | 181.55 |
| Carbon Monoxide (CO) | 2,575.44 | 11,280.42 |
| Sulfur Dioxide ($SO_2$) | 2.71 | 11.88 |
| Volatile Organic Compounds (VOC) | 3.80 | 16.63 |

*A year is defined as any consecutive 12-month period.

m. Emissions from the outlet of the BOP Shop Secondary Emission Control baghouse shall not exceed the emissions limitations in Table V-D-2. [IP-0051-I004a & §2103.12.a.2.B; $SO_2$ SIP IP #0051-I006, Condition V.A.1.c Table V-1-2]

DRAFT

**TABLE V-D-2**
**BOP Shop Emission Limitations: F & R Vessel BOP Secondary Emission Control System**

| Process Component | Stack ID | Pollutant | Hourly Emission Limit (lb/hr)** | Annual Emission Limit (ton/year)* |
|---|---|---|---|---|
| Vessel F/R BOP Shop Secondary Emission Control System | S006 | PM (filterable) | 24.90 | 109.10 |
| | | $PM_{10}$ (filterable) | 24.90 | 109.10 |
| | | $PM_{2.5}$ (filterable) | 24.90 | 109.10 |
| | | VOC | 2.33 | 10.22 |

*A year is defined as any consecutive 12-month period.
**Includes emissions from hot metal slag skimming, vessels F & R furnace charging, steel tapping and slag dumping.

n. $SO_2$ emissions from the BOP Process (roof) shall not exceed the limitations in Tables V-D-3 and V-A-2 below[§2103.12.a.2.B; $SO_2$ SIP IP #0051-I006, Condition V.A.1.c Table V-1-2]

**TABLE V-D-3**

| POLLUTANT | Hourly Emission Limit (lb/hr) | Annual Emission Limit (tons/year)* |
|---|---|---|
| Sulfur Dioxide ($SO_2$) | 6.64 | 29.08 |

o. The permittee shall not operate or allow to be operated the primary steel production process in such a manner that emissions of particulate matter from the primary steel production process exceed at any time the rate determined by the formula below [§2104.02.c.9.]:

Allowable particulate emissions from Primary Steel Production

$A = 0.76E^{+0.42}$

Where:

A = allowable emissions in pounds per hour, and
E = emission index of (F) x (W) pounds per hour,
F = 40 pounds per ton of steel produced,
W= production rate in tons per hour steel produces.

This allowable emission shall apply to the sum of all stack emissions from such process including all emissions from any air pollution control device outlet(s) associated with such process. All fugitive emissions from such process shall be included in the sum of all stack emissions for purposes of this paragraph unless the stack emissions can be accurately measured, and all fugitive emissions do not exceed the standards established by §2104.01 of this Article or any alternative standard(s) established for such source pursuant to §2104.01 of Article XXI.

p. Emissions from the BOP Mixer and Desulfurization baghouse (stack S005), shall not exceed the emission limitations in Table V-D-3 below. [§2104.02.b; §2103.12.a.2.B]

DRAFT

**TABLE V-D-4**
**BOP Mixer and Desulfurization**

| POLLUTANT | Hourly Emission Limit (lb/hr) | Daily Emission Lbs/day | Annual Emission Limit (tons/year)* |
|---|---|---|---|
| Particulate Matter (filterable)* | 7.0 | 100 | 18.25 |
| $PM_{10}$ (filterable)* | 7.0 | 100 | 18.25 |
| Volatile Organic Compounds (VOC | 0.46 | | 2.01 |

* A year is defined as any consecutive 12-month period.

q. The permit shall not operate the BOP Mixer and Desulfurization baghouse (stack S005) in such a manner that the concentration of sulfur oxides, expressed as sulfur dioxide, in an effluent gas exceeds the lesser of the potential to emit or 500 ppm (dry volume basis). [§2104.03]

**2. Testing Requirements:**

a. The permittee shall perform emission tests for exhaust gas PM concentrations (gr/dscf) and equivalent lb/hr emission rates and plume opacity at stacks S006, S007 and S008 in accordance with Site Level Condition IV.14 above and §2108.02. The testing shall be repeated at least once every two years. [§2108.02 and §2103.12.h.1]

b. The permittee shall conduct subsequent performance tests to demonstrate compliance with all applicable PM and opacity limits in Conditions V.D.1.f through V.D.1.i above at the frequencies specified in Conditions V.D.2.c below. [§63.7821(a); §2103.12.h &§2108.02 ]

c. For the BOP Mixer and Desulfurization Baghouse, the permittee shall conduct subsequent performance tests no less frequently than once every five years from the date of the most recent valid test to demonstrate compliance with condition V.D.1.o. [§2103.12.h; §63.7821(c)]

d. The permittee must conduct each performance test that applies to the secondary emissions control baghouse according to the requirements in §63.7(e)(1) and the conditions detailed in Conditions V.D.2.e through V.D.2.i. [§2103.12.h; §63.7822(a)]

e. To determine compliance with the applicable emission limits for particulate matter in Conditions V.D.1.f through V.D.1.h above, follow the test methods and procedures in paragraphs V.D.2.e.1) and V.D.2.e.2) below, and Site Level Condition IV.14 above. [§2103.12.h; §63.7822(b) and §2108.02.]

1) Determine the concentration of particulate matter according to the following approved EPA test methods in appendix A to 40 CFR, Part 60 or another Department approved test method:

a) Method 1 to select sampling port locations and the number of traverse points. Sampling ports must be located at the outlet of the control device and prior to any releases to the atmosphere.
b) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.
c) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.
d) Method 4 to determine the moisture content of the stack gas.
e) Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter (front half filterable catch only).
f) Method 202 as applicable, to determine condensable PM & $PM_{2.5}$

DRAFT

2) Collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

f. The permittee shall perform emissions tests for $NO_X$, $SO_X$, CO and VOC on the BOP Shop venturi scrubber to demonstrate compliance with condition V.D.1.l. The testing shall be repeated at least once every two years from the date of the most recent valid. test. Testing for $NO_X$, $SO_X$, CO and VOC shall be conducted in accordance with the following approved EPA Methods in Appendix A of 40 CFR Part 60, Article XXI §2108.02 or another Department approved test method: (§2103.12.h.1; §2108.02.b, §2108.02.e.)

1) Method 7, 7A, 7B, 7C, 7D, or 7E to determine the $NO_X$ emissions;
2) Method 6 to determine the $SO_X$ emissions, and
3) Method 10, 10A or 10B to determine the CO emissions.
4) Method 18 to determine the VOC emissions

g. For a primary emission control system applied to emissions from a BOPF with an open hood system and for a control device applied solely to secondary emissions from a BOPF, the permittee must complete the requirements of paragraphs V.D.2.g.1) and V.D.2.g.2) below: [§2103.12.k; §63.7822(g)]

1) Sample only during the steel production cycle. Conduct sampling under conditions that are representative of normal operation. Record the start and end time of each steel production cycle and each period of abnormal operation; and [§2103.12.k; §63.7822(g)(1)]

2) Sample for an integral number of steel production cycles. The steel production cycle begins when the scrap is charged to the furnace and ends 3 minutes after the slag is emptied from the vessel into the slag pot. [§2103.12.h; §63.7822(g)(2)]

h. For a control device applied to emissions from BOP shop ancillary operations (hot metal transfer, skimming or desulfurization), sample only when the operation(s) is being conducted. [§2103.12.h; §63.7822(h)]

i. Subject to approval by the Department, the permittee may conduct representative sampling of stacks when there are more than three stacks associated with a process. [§2103.12.h; §63.7822(i)]

j. The permittee must conduct each performance test that applies to the BOP Shop according to the requirements in §2108.02, §63.7(h)(5), and the conditions detailed in Conditions V.D.2.k and V.D.2.l below. [§2103.12.h; §63.7823(a)]

k. The permittee must conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter. [§2103.12.h; §63.7823(b)]

l. To determine compliance with the opacity limit in Condition V.D.1.i above for the BOP shop: [§2103.12.h; §63.7823(d)]

1) Using a certified observer, determine the opacity of emissions according to Method 9 in appendix A to part 60 of this chapter except as specified in conditions V.D.2.l.2) and V.D.2.l.3) below: [§2103.12.h; §63.7823(d)(i)]

DRAFT

2) Instead of procedures in section 2.4 of Method 9 in appendix A to 40 CFR Part 60, record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles. [§2103.12.h; §63.7823(d)(ii)]

3) Instead of procedures in section 2.5 of Method 9 in appendix A to 40 CFR Part 60, determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals. [§2103.12.h; §63.7823(d)(iii)]

4) Opacity observations must cover the entire steel production cycle and must be made for at least three cycles. The steel production cycle begins when the scrap is charged to the furnace and ends 3 minutes after the slag is emptied from the vessel into the slag pot. [§2103.12.h; §63.7823(d)(4)]

5) Determine and record the starting and stopping times of the steel production cycle. [§2103.12.h; §63.7823(d)(5)]

m. The permittee must certify that the BOP secondary emission control system baghouse operated during the performance test at the site-specific operating limit established in the operation and maintenance plan, per Condition V.D.1.j.1) using the procedures in conditions V.D.2.m.1) through V.D.2.m.4) below. [§2103.12.h; §63.7824(a)]

1) Concurrent with all opacity observations, measure and record values for each of the operating limit parameters in your capture system operation and maintenance plan according to the monitoring requirements specified in §63.7830(a). [§2103.12.h; §63.7824(a)(1)]

2) For any dampers that are manually set and remain at the same position at all times the capture system is operating, the damper position must be visually checked and recorded at the beginning and end of each opacity observation period segment. [§2103.12.h; §63.7824(a)(2)]

3) Review and record the monitoring data. Identify and explain any times the capture system operated outside the applicable operating limits. [§2103.12.h; §63.7824(a)(3)]

4) Certify in your performance test report that during all observation period segments, the capture system was operating at the values or settings established in your capture system operation and maintenance plan. [§2103.12.h; §63.7824(a)(4)]

n. For a venturi scrubber subject to operating limits for pressure drop and scrubber water flow rate in Condition V.D.1.j.2) above, the permittee must establish site-specific operating limits according to the procedures in conditions V.D.2.n.1) and V.D.2.n.2) below. The permittee may establish the parametric monitoring limit during the initial performance test or during any other performance test run that meets the emission limit. [§2103.12.h; §63.7824(b)]

1) Using the CPMS required in §63.7830(c), measure and record the pressure drop and scrubber water flow rate during each run of the particulate matter performance test. [§2103.12.h; §63.7824(b)(1)]

2) Compute and record the hourly average pressure drop and scrubber water flow rate for each individual test run. Your operating limits are the lowest average pressure drop and scrubber water flow rate value in any of the three runs that meet the applicable emission limit. [§2103.12.h; §63.7824(b)(2)]

o. Measurement of visible emissions to determine compliance with the opacity limits in Condition V.D.1.d shall be performed according to the procedures established by §2107.11. [§2104.01.d]

DRAFT

p. The permittee may change the operating limits for a capture system if the requirements in conditionsV.D.2.p.1) through V.D.2.p.3) below are met. [§2103.12.h; §63.7824(c)]

1) Submit a written notification to the Department of the request to conduct a new performance test to revise the operating limit.
2) Conduct a performance test to demonstrate compliance with the applicable emission limitation in Conditions V.D.1.f above through V.D.1.h above.
3) Establish revised operating limits according to the applicable procedures in Condition V.D.2.m and V.D.2.n above for a control device or capture system.

q. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

a. The permittee shall measure the sulfur concentration of coke oven gas used for combustion or flaring at the facility as required in condition IV.32.c. Measurements of hydrogen sulfide concentrations in coke oven gas shall be conducted according to Section 2107.08 of Article XXI. Under the current operating scenario coke oven gas measurements are taken at the Clairton Plant. However, if there is a change to the current operating scenario, the sulfur concentration measurements will be taken at the Edgar Thomson Plant. (§2103.12.h.5.B). [$SO_2$ SIP IP 0051-I006; Condition V.A.3.c §2103.12.i]

b. For the BOP Secondary Baghouse system subject to an operating limit in Condition V.D.1.j.1) above established in your capture system operation and maintenance plan, the permittee shall install, operate, and maintain CPMS according to the requirements in Condition V.D.3.j and V.D.3.g below and requirements in paragraph V.D.3.b.1) and V.D.3.b.2) below. [§2103.12.i; §63.7830(a)]

1) Dampers that are manually set and remain in the same position are exempt from the requirement to install and operate a CPMS. If dampers are not manually set and remain in the same position, you must make a visual check at least once every 24 hours to verify that each damper for the capture system is in the same position as during the initial performance test.

2) If you use a flow measurement device to monitor the operating limit parameter for a capture system applied to secondary emissions from a BOP, you must monitor the average rate for each steel production cycle ( *e.g.,* the average actual volumetric flow rate through each separately ducted hood for each steel production cycle, the average total volumetric flow rate at the inlet to the control device for each steel production cycle) according to the requirements in V.D.3.m through V.D.3.o below.

c. For the Mixer Baghouse applied to meet the particulate emission limit in Conditions V.D.1.h and V.D.1.o above, the permittee shall install, operate, and maintain a bag leak detection system according to Condition V.D.3.k below and monitor the relative change in particulate matter loadings according to the requirements in Conditions V.D.3.m through V.D.3.o below. [§2103.12.i; §63.7830(b)(1)]

d. The permittee shall conduct inspections of the BOP Secondary Baghouse and Mixer Baghouse at the specified frequencies according to the following requirements: [§63.7830(b)(4)(i)-(viii);

DRAFT

§2103.12.i;]

1) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
2) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
3) Check the compressed air supply for pulse-jet baghouses each day.
4) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
5) Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.
6) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
7) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

e. For a venturi scrubber subject to the operating limits for pressure drop and scrubber water flow rate in Condition V.D.1.j.2) above the permittee must install, operate, and maintain CPMS according to the requirements in Condition V.D.3.l below and monitor the hourly average pressure drop and water flow rate according to the requirements in Conditions V.D.3.m through V.D.3.o below. [§2103.12.i; §63.7830(c)]

f. The permittee must operate according to the site-specific monitoring plan established on October 19, 2015 or the most recent developed site-specific monitoring plan and make it available for inspection upon request by the Department. The site-specific monitoring plan shall address the following requirements: [§2103.12.i; §63.7831(a)]

1) Installation of the CPMS sampling probe or other interface at a measurement location relative to the capture system applied to secondary emissions such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);
2) Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system;
3) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations);
4) Ongoing operation and maintenance procedures in accordance with the general requirements of §§63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8);
5) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and
6) Ongoing recordkeeping and reporting procedures in accordance the general requirements of §§63.10(c), (e)(1), and (e)(2)(i); and
7) Corrective action procedures you will follow in the event a venturi scrubber exceeds the operating limit in Condition V.D.1.j.2) above.

g. Unless otherwise specified, each CPMS must: [§2103.12.i; §63.7831(b)]

1) Complete a minimum of one cycle of operation for each successive 15-minute period and collect a minimum of three of the required four data points to constitute a valid hour of data;
2) Provide valid hourly data for at least 95 percent of every averaging period; and
3) Determine and record the hourly average of all recorded readings.

h. The permittee must conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan. [§2103.12.i; §63.7831(c)]

DRAFT

i. The permittee must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan. [§2103.12.i; §63.7831(d)]

j. The permittee must install, operate, and maintain each CPMS on the BOP secondary emission control baghouse according to the requirements in Conditions V.D.3.f through V.D.3.i above. [§2103.12.i; §63.7831(e)]'

k. For the Mixer Baghouse equipped with a bag leak detection system according to Condition V.D.3.c above, the permittee must install, operate, and maintain the bag leak detection system according to the following requirements: [§2103.12.i; §63.7831(f)]

1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

2) The system must provide output of relative changes in particulate matter loadings.

3) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it can be heard by the appropriate plant personnel.

4) Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, "Fabric Filter Bag Leak Detection Guidance," EPA–454/R–98–015, September 1997. The permittee may install, operate, and maintain other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations.

5) To make the initial adjustment of the system, establish the baseline output by adjusting the sensitivity (range) and the averaging period of the device. Then, establish the alarm set points and the alarm delay time.

6) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in your operation and maintenance plan. Do not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition.

7) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

l. For a venturi scrubber subject to operating limits in Condition V.D.1.j.2) above for pressure drop and scrubber water flow rate, the permittee shall install, operate, and maintain each CPMS according to the requirements in ConditionsV.D.3.f through V.D.3.i. [§2103.12.i; §63.7831(g)]

m. Except for monitoring malfunctions, out-of-control periods as specified in §63.8(c)(7), associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the permittee must monitor continuously (or collect data at all required intervals) at all times the capture system applied to secondary emissions is operating. [§2103.12.i; §63.7832(a)]

n. The permittee may not use data recorded during monitoring malfunctions, associated repairs, and

DRAFT

required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. The permittee must use all the data collected during all other periods in assessing compliance. [§2103.12.i; §63.7832(b)]

o. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [§2103.12.i; §63.7832(c)]

p. The permittee shall demonstrate continuous compliance with the BOP operation, hot metal transfer, skimming, and desulfurization operation at the BOP Shop subject to an emission or opacity limit in Conditions V.D.1.f through V.D.1.i above by meeting the following requirements: [§2103.12.i; §63.7833(a)]

1) For the BOP shop: [§2103.12.i; §63.7833(a), Table 3, Item 9]
   a) Maintain emissions of particulate matter from the primary control system for a BOPF with an open hood system at or below 0.02 gr/dscf;
   b) Maintain emissions of particulate matter from a control device applied solely to secondary emissions from a BOPF at or below 0.005 gr/dscf; and
   c) Conduct subsequent performance tests at least every two years from the date of the initial performance test.

2) For each hot metal transfer, skimming, and desulfurization operation at the BOP shop: [§2103.12.i; §63.7833(a), Table 3, Item 10]
   a) Maintain emissions of particulate matter from a control device at or below 0.01 gr/dscf; and
   b) Conduct subsequent performance tests at least once every five years from the date of the initial performance test. [Table 3, Item 10.b and § 63.7821]

3) For each roof monitor at the BOP shop: [§2103.12.i; §63.7833(a), Table 3, Item 12]
   a) Maintain the opacity of secondary emissions that exit any opening in the BOP shop or other building housing the BOP shop or shop operation at or below 20 percent (3-minute average); and
   b) Conduct subsequent performance tests at least every two years from the date of the initial performance test. [§63.7833(a), Table 3, Item 12.b and § 63.7821]

q. The permittee shall demonstrate continuous compliance with the BOP Secondary Baghouse and venturi scrubber subject to an operating limit in Condition V.D.1.j above by meeting the following requirements: [§2103.12.i; §63.7833(b)]

1) Operate the capture system at or above the lowest values or settings established for the operating limits in your operation and maintenance plan; and
2) Monitor the capture system according to the requirements in §63.7830(a) and collect, reduce, and record the monitoring data for each of the operating limit parameters according to the applicable requirements of 40 CFR 63, Subpart FFFFF.

r. For the Mixer baghouse applied to meet any particulate emission limit in 40 CFR 63 Subpart FFFFF Table 1, the permittee must demonstrate continuous compliance by meeting the requirements in paragraph V.D.3.r.1) as applicable, and paragraphs V.D.3.r.2) and V.D.3.r.3) below: [§2103.12.i; §63.7833(c)]

DRAFT

1) For a baghouse equipped with a bag leak detection system, operating and maintaining each bag leak detection system according to condition V.D.3.k above and recording all information needed to document conformance with these requirements. If you increase or decrease the sensitivity of the bag leak detection system beyond the limits specified in condition V.D.3.k.6) above, you must include a copy of the required written certification by a responsible official in the next semiannual compliance report.

2) Inspecting each baghouse according to the requirements in §63.7830(b)(4) and maintaining all records needed to document conformance with these requirements.

3) Maintaining records of the time you initiated corrective action in the event of a bag leak detection system alarm or when the hourly average opacity exceeded 5 percent, the corrective action(s) taken, and the date on which corrective action was completed.

s. For a venturi scrubber subject to the operating limits for pressure drop and scrubber water flow rate in V.D.1.j.2) above, the permittee must demonstrate continuous compliance by meeting the requirements of paragraphs (d)(1) through (4) of this section: [§2103.12.i; §63.7833(d)]

1) Maintaining the hourly average pressure drop and scrubber water flow rate at levels no lower than those established during the initial or subsequent performance test;

2) Operating and maintaining each venturi scrubber CPMS according to Condition V.D.3.l above and recording all information needed to document conformance with these requirements;

3) Collecting and reducing monitoring data for pressure drop and scrubber water flow rate according to Condition V.D.3.g above and recording all information needed to document conformance with these requirements.

4) If the hourly average pressure drops or scrubber water flow rate is below the operating limits, you must follow the corrective action procedures in Condition V.D.3.t below of this section.

t. If the hourly average pressure drop or water flow rate for a venturi scrubber exceeds the operating limit, the permittee must follow the procedures in paragraphs V.D.3.t.1) through V.D.3.t.3) below: [§2103.12.i; §63.7833(g)]

1) Permittee must initiate corrective action to determine the cause of the exceedance within 1 hour. During any period of corrective action, the permittee must continue to monitor, and record all required operating parameters for equipment that remains in operation. Within 24 hours of the exceedance, you must measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was successful, and the emission unit is in compliance with the applicable operating limit.

2) If the initial corrective action required in paragraph V.D.3.t.1) above was not successful, you must complete additional corrective action within the next 24 hours (48 hours from the time of the exceedance). During any period of corrective action, you must continue to monitor, and record all required operating parameters for equipment that remains in operation. After this second 24-hour period, you must again measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was

DRAFT

successful, and the emission unit is in compliance with the applicable operating limit.

3) If the second attempt at corrective action required in paragraph V.D.3.t.2) above was not successful, you must report the exceedance as a deviation in your next semiannual compliance report according to Condition V.D.5.h below.

u. Notations of visible emissions from the Basic Oxygen Process (BOP) Shop operations shall be performed once per week during normal daylight operations. A trained individual shall record whether any emissions are observed and whether these emissions extend beyond the facility property line. The permittee may skip to monthly monitoring after six consecutive months of compliance with the weekly monitoring. (§2103.12.h.1; §2102.04.e)

v. The Department reserves the right to revert the monitoring frequency in condition V.D.3.u above back from monthly to weekly at any time, based on but not limited to the review of the compliance certification and semi-annual report of monitoring and recordkeeping, complaints, monitoring results, and/or Department findings. [§2103.12.h.1]

**4. Record Keeping Requirements**

a. The permittee shall keep and maintain the following data for the BOP Shop Secondary Emission Control Baghouse: [§2103.12.j; §2103.12.h.1]

1) Records to demonstrate compliance with parameter chosen in accordance with V.D.1.j.1) and V.D.3.b; and
2) Once per day recording of the differential pressure drop across each baghouse module as required by Condition V.D.3.d above.

b. The permittee shall keep and maintain records to demonstrate compliance with the requirements of this permit, including stack test protocols and reports.[§2103.12.j; §2103.12.h.1]

c. The permittee shall keep and maintain records to demonstrate compliance with the requirements of this permit, including the following: [$SO_2$ SIP IP 0051-I006, Condition V.A.4.a§2103.12.j; §2103.12.h.1; §2108.01.e.2.E]

1) Number of BOP Shop heats and steel production (daily, monthly, 12-month);
2) The total amount and type of fuel used at the BOP Shop (hourly, monthly, 12-month);
3) The COG sulfur concentration, as $H_2S$, measured at U.S. Steel Clairton Works in accordance with condition V.D.3.a above; and
4) Stack test protocols and reports.

d. The permittee shall maintain records of air pollution control system inspections and performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment that is subject to section V.D of this permit. [§2103.12.j; §2103.12.h.1]

e. The permittee shall keep the following records: [§2103.12.j; §2103.12.h.1; §63.7842(a)]

1) A copy of each notification and report that was submitted to comply with 40 CFR Part 63, Subpart FFFFF, including all documentation supporting any initial notification or notification of compliance status that was submitted, according to the requirements in §63.10(b)(2)(xiv).
2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
3) Records of performance tests, performance evaluations, and opacity observations as required

DRAFT

in §63.10(b)(2)(viii).

f. The permittee shall keep the records required in §63.6(h)(6) for visual observations. [§2103.12.j; §2103.12.h.1; §63.7842(c)]

g. The permittee shall keep the records required in Conditions V.D.3.p through V.D.3.t above to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to you. [§2103.12.j; §2103.12.h.1; §63.7842(d)]

h. The records must be in a form suitable and readily available to the Department for expeditious review, according to §63.10(b)(1). [§2103.12.j; §2103.12.h.1; §63.7843(a) and §2103.12.j.2]

i. The permittee shall keep records of visible emission notations as required by V.D.3.u above.

j. The permittee shall record the monthly usage of Pot Coat containing hazardous air pollutants or VOCs semiannually. [§2103.12.j; §2104.08.c]

k. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j; §2103.12.h.1]

l. The permittee shall maintain records of all maintenance performed on the BOP Shop as required by condition V.D.6.m. These records shall be made available to the Department upon request for inspection and/or copying. (RACT IP8a, Condition V.C.2.a; 25 Pa Code §129.100; §2102.04.b.5)

m. As specified in §63.10(b)(1), All records shall be retained by the facility for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. These records shall be made available to the Department upon request for inspection and/or copying. [§63.7843(b) and §2103.12.j.2]

n. The permittee must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). Records may be kept offsite for the remaining 3 years. [§63.7843(c) and §2103.12.j.2]

**5. Reporting Requirements:**

a. The permittee shall report the following information semiannually to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k.1]

1) Total monthly BOP Shop fuel use, per fuel type;
2) The monthly average $H_2S$ content of the COG fired;
3) Non-compliance information required to be recorded by condition V.D.4.k above.

b. Reporting instances of non-compliance in accordance with condition V.D.4.k above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

c. Deviations. The permittee must report each instance in which you did not meet each emission limitation in Conditions V.D.1.f through V.D.1.h above. The permittee also must report each instance in which you did not meet each operation and maintenance requirement in Conditions

DRAFT

V.D.6.b through V.D.6.c below. These instances are deviations from the emission limitations and operation and maintenance requirements in 40 CFR Part 63, Subpart FFFFF. These deviations must be reported according to the requirements in Conditions V.D.5.h through V.D.5.j below. [§2103.12.k.1; §63.7835(a)]

d. For each emission limitation in Conditions V.D.1.f through V.D.1.h above, the permittee must submit an initial notification of compliance status. [§2103.12.k.1; §63.7825(c)]

e. The permittee must submit all of the applicable notifications in §§63.6(h)(4) and (5), 63.7(b) and (c), 63.8(e) and (f)(4), and 63.9(b) through (h) by the specified dates. [§2103.12.k.1; §63.7840(a)]

f. The permittee shall submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin. [§2103.12.k.1; §63.7840(d)]

g. Compliance report due dates. Unless the Department has approved a different schedule, the permittee must submit a semiannual compliance report to the Department according to the following requirements: [§2103.12.k.1; §63.7841(a)]
   1) The 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.
   2) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

h. Compliance report contents. Each compliance report must include the information in paragraphs V.D.5.h.1) through V.D.5.h.3) below and, as applicable, paragraphs V.D.5.h.4) through V.D.5.h.8) below. [§2103.12.k.1; §63.7841(b)]

   1) Company name and address.
   2) Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
   3) Date of report and beginning and ending dates of the reporting period.
   4) If the permittee had a startup, shutdown, or malfunction during the reporting period and took actions consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in §63.10(d)(5)(i).
   5) If there were no deviations from the continuous compliance requirements in Conditions V.D.3.p through V.D.3.t above, and V.D.6.d and V.D.6.e below, a statement that there were no deviations from the emission limitations or operation and maintenance requirements during the reporting period.
   6) If there were no periods during which a continuous monitoring system (including a CPMS), was out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.
   7) For each deviation from an emission limitation in Condition V.D.1.f through V.D.1.h above that occurs at the capture and control system applied to secondary emissions, where a continuous monitoring system is not used (including a CPMS) to comply with an emission limitation in 40 CFR Part 63, Subpart FFFFF, the compliance report must contain the information in conditions V.D.5.h.1) through V.D.5.h.4) and the information in conditions V.D.5.h.7)a) and V.D.5.h.7)b) below. .

      a) The total operating time of the capture and control system applied to secondary emissions during the reporting period.
      b) Information on the number, duration, and cause of deviations (including unknown cause,

DRAFT

if applicable) as applicable and the corrective action taken.

8) For each deviation from an emission limitation occurring at the capture and control system applied to secondary emissions where you are using a continuous monitoring system (including a CPMS) to comply with the emission limitation in 40 CFR Part 63, Subpart FFFFF, the permittee must include the information in paragraphs V.D.5.h.1) through V.D.5.h.4) above and the information in conditions V.D.5.h.8)a) through V.D.5.h.8)k) below.

a) The date and time that each malfunction started and stopped.
b) The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.
c) The date, time, and duration that each continuous monitoring system was out-of-control as specified in §63.8(c)(7), including the information in §63.8(c)(8).
d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.
e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.
f) A breakdown of the total duration of the deviations during the reporting period including those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.
g) A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.
h) A brief description of the process units.
i) A brief description of the continuous monitoring system.
j) The date of the latest continuous monitoring system certification or audit.
k) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

i. The permittee shall submit all applicable notifications in 40 CFR 63.6(h)(4) and (5), 63.7(b) and (c), 63.8(e) and (f)(4), and 63.9(b) through (h) that apply to the affected source by the dates specified. [§2104.08.a; 40 CFR 63.7840(a) and (b)]

j. The permittee shall report the monthly usage of Pot Coat used for ladle maintenance containing hazardous air pollutants of VOCs semiannually in accordance with General Condition III.15 above. [§2103.12.k.1; §2104.08.c]

**6. Work Practice Requirements:**

a. The permittee shall also operate and maintain the BOP Shop Secondary Emission Control System in accordance with the Operating and Maintenance Protocol contained in Civil Action No. 99-1783 as Exhibit 3, unless the permittee makes changes to the Protocol and informs EPA and the Department within 30 days of the implementation of such changes. [Civil Action No. 99-1783, Section IV.4, issued March 3, 2000; §2109.06]

b. As required by §63.6(e)(1)(i), the permittee must always operate and maintain the BOP Shop, including air pollution control and monitoring equipment, in a manner consistent with good engineering and air pollution control practices for minimizing emissions at least to the levels required by 40 CFR 63, Subpart FFFFF. [§63.7800(a) and RACT Order No. 235, Condition 1.1; §2102.04.b.5; §2105.03]

DRAFT

c. The permittee must operate at all times according to the written operation and maintenance plan developed on October 19, 2015 or the most recent developed operation and maintenance plan for the Primary and Secondary BOP capture system or control device. The plan must address the following elements: [§63.7800(b); §2103.12.h]

1) Monthly inspections of the following equipment for:

a) BOP Primary Emission Control Capture System (Venturi Scrubber)

- Vessel hoods
- Ductwork from quencher to damper
- Vessel isolation damper
- E-Stack and seal
- Hood sprays system
- Quencher water system
- Recycle water system
- Thickener and drum system
- Gas cooling water system
- Ductwork from cooling tower to ID fans
- Hood closed loop cooling water system
- Hood open loop cooling water system
- A&B ID fan system

b) BOP Secondary Emission Control Capture System (Fugitive Baghouse):

- Ductwork from roof to Isolation Dampers;
- Ductwork from isolation dampers to fan inlets
- Isolation dampers and actuators
- Baghouse fan integrity
- Charge hood
- Ductwork from charge hood to charge dampers
- Charge isolation dampers, seals and actuators

2) This inspection must include observations of the physical appearance of the equipment (*e.g.,* presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection. [§63.7800(b)(1)]

3) Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance. [§63.7800(b)(2)]

4) The permittee must establish the operating limits for each capture system applied to secondary emissions from a BOPF according to the requirements in conditions V.D.6.c.3)a) through V.D.6.c.3)c) below: [§2103.12.h; §63.7800(b)(3)]

a) Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a

DRAFT

minimum, the permittee must use appropriate operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure. [§63.7800(b)(3)(i)]

b) For each operating limit parameter selected in condition V.D.6.c.3)a) above, designate the value or setting for the parameter at which the capture system operates during the process operation. If your operation allows for more than one process to be operating simultaneously, designate the value or setting for the parameter at which the capture system operates during each possible configuration that you may operate. [§63.7800(b)(3)(ii)]

c) Include documentation in your plan to support your selection of the operating limits established for the capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why you chose the parameter, a description of the method used to monitor the parameter according to the requirements of §63.7830(a), and the data used to set the value or setting for the parameter for each of your process configurations. [§63.7800(b)(3)(iii)]

5) Corrective action procedures for baghouses equipped with bag leak detection systems or continuous opacity monitoring systems (COMS). In the event a bag leak detection system alarm is triggered or emissions from a baghouse equipped with a COMS exceed an hourly average opacity of 5 percent, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions may include, but are not limited to [§63.7800(b)(4)]:

a) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.
b) Sealing off defective bags or filter media.
c) Replacing defective bags or filter media or otherwise repairing the control device.
d) Sealing off a defective baghouse compartment.
e) Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.
A. Shutting down the process producing the particulate emissions.

6) Corrective action procedures for venturi scrubbers equipped with continuous parameter monitoring systems (CPMS). In the event a venturi scrubber exceeds the operating limit in V.D.1.j.2) above, you must take corrective actions consistent with your site-specific monitoring plan in accordance with §63.7831(a). [§63.7800(b)(5)]

d. For each capture system and control device applied to secondary emissions subject to an operating limit in Condition V.D.1.j above, the permittee must demonstrate continuous compliance with the operation and maintenance requirements in Condition V.D.6.c above by meeting the following requirements: [§63.7834(a)]

1) Making monthly inspections of capture systems and initiating corrective action according to

DRAFT

Condition V.D.6.c.1) above and recording all information needed to document conformance with these requirements; and

2) Performing preventative maintenance according to Condition V.D.6.c.2) above and recording all information needed to document conformance with these requirements.

e. The permittee must maintain a current copy of the operation and maintenance plan required in Condition V.D.6.c above onsite and available for inspection upon request. The permittee must keep the plans for the life of the BOPF secondary emission capture and control system. [§63.7834(b)]

f. The permittee shall calibrate, maintain, and operate all instrumentation, process equipment, and control equipment according to manufacturer's recommendations.[§2105.03]

g. The permittee shall charge hot metal into a BOP vessel by pouring the hot metal in a slow continuous flow at a steady rate. [Permit No. 7035003-002-93800, Condition 4, Issued January 10, 1991]

h. The permittee shall maintain the primary hoods and repaired as necessary to minimize the openings in the hood.[Permit No. 7035003-002-93800, Condition 8, Issued January 10, 1991]

i. The permittee shall operate the hot metal transfer fume control system during the transfer of the hot metal and during the desulfurization of hot metal. [Permit No. 7035003-002-93800, Condition 9, Issued January 10, 1991]

j. The permittee shall empty the flux handling baghouses by means of vacuum hopper truck or any other appropriate methods approved by the Department. [Permit No. 7035003-002-93800, Condition 10, Issued January 10, 1991]

k. The permittee shall empty the flux handling baghouses twice a week when the shop is operating at a weekly rate of 120 or more heats; and once a week if the operating rate is less than 120 heats per week. [Permit No. 7035003-002-93800, Condition 11, Issued January 10, 1991]

l. The permittee may charge the BOP vessel with up to and including 40,000 # of galvanized scrap. [Permit No. 7035003-002-93800, Condition 12, Issued January 10, 1991]

m. At no time shall the permittee operate the BOP Shop unless it is properly operated and maintained according to good engineering and air pollution control practices by performing regular maintenance with the exception of actions to mitigate emergency conditions. [RACT IP8a, Condition V.C.1.a; Order No. 235, Condition 1.1; 25 Pa Code §129.99; §2102.04.b.5]

**7. Additional Requirements**

a. The General Provisions in §63.1 through §63.15 that apply to the permittee are listed in Table 4, 40 CFR Part 63, Subpart FFFFF. [§63.7850]

b. The definitions in §63.7852 are incorporated by reference.

***PERMIT SHIELD IN EFFECT***

DRAFT

## E. Process P004: Ladle Metallurgical Facility

**Process Description**: Ladle Metallurgical Facility
**Facility ID:** P004
**Max. Design Rate:** 3,467,500 TPY steel
**Raw Materials:** Steel (Liquid), Fluxes, Scrap, Alloy Additives
**Control Device(s):** See Below
**Stack I.D.:** See Below

Process P004, the LMF Operation, consists of the following equipment and activities:

| I.D. | SOURCE DESCRIPTION | CONTROL DEVICE(S) | STACK ID |
|---|---|---|---|
| P004-1 | LMF Flux/Alloy Handling System | LMF Baghouse | S009 |
| P004-2 | LMF Vessel | LMF Baghouse | S009 |
| P004-3 | LMF Tripper Car Conveyor System | LMF Tripper Car Dust Collector | N/A (exhaust inside building) |
| P004-4 | Pneumatic Lime Bin Feeder System | Lime Bin Vent Dust Collector | n/a (exhausts inside building) |

### 1. Restrictions:

a. The permittee shall at no time, operate or allow to be operated, LMF Vessel and flux/alloy handling system unless the hood for capturing emissions from the vessel and ductwork connecting the capture hoods to the baghouse are in place and operating, controlling particulate emissions from the LMF Vessel and flux/alloy handling system. [IP 0051-I005, Condition V.A.1.a]

b. The permittee must not cause to be discharged to the atmosphere any gases that exits from the LMF Baghouse that contains particulate matter in excess of 0.0052 gr/dscf. [§2101.05.a.1; §2103.12.a.2.B; §2103.12.g; §63.7790(a), Table 1, Item 11; IP 0051-I005, Condition V.A.1.e; Permit No. 7035003-002-93900, Condition 2, issued March 1, 1994]

c. The permittee shall install and operate a pressure differential gauge on each baghouse module; [Permit No. 7035003-002-93900, condition 8]

d. The LMF Flux/Alloy Handling System and the LMF shall not be operated, nor allowed to be operated, in such manner that visible emissions from any related air pollution control equipment, excluding uncombined water, equal or exceed an opacity of 15% at any time. [IP 0051-I005, Condition V.A.1.c; Permit No. 7035003-002-93900, condition 3, issued March 1, 1994; §2101.05.a.1]

e. The LMF Flux/Alloy Handling System, the LMF and all related operations, activities, and facilities including all equipment preparation and repair shops, shall not be operated, nor allowed to be operated, in such manner that visible fugitive emissions from any of these operations or activities, excluding uncombined water: [IP 0051-I005, Condition V.A.1.d; Permit No. 7035003-002-93900, condition 4, issued March 1, 1994; §2101.05.a.1]

DRAFT

1) Equal or exceed an opacity of 15% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
2) Equal or exceed an opacity of 45% at any time.

f. Emissions from the transfer of lime materials from transport vehicles to the LMF Flux/Alloy Handling System shall be collected and exhausted to the LMF Dust Collectors (LMF Tripper Car Dust Collector and Lime Bin Vent Dust Collector). [IP 0051-I005, Condition V.A.6.e; Permit No. 7035003-002-93900, condition 5, issued March 1, 1994; §2101.05.a.1]

g. The automatic fume damper on the LMF emission control system shall maintain a negative pressure within the collection hood when operating to minimize any emissions that may escape the control system. [IP 0051-I005, Condition V.A.6.f; Permit No. 7035003-002-93900, condition 6, issued March 1, 1994; §2101.05.a.1]

h. No processing activities other than slag raking and argon bubbling related to slag raking shall be conducted at the LMF slag raking station located in the tapping aisle of the basic oxygen process (BOP) Shop. Other processing activities shall not be conducted at this station unless approved by the Department in a permit that specifically allows such additional processing activities following a demonstration, in a manner approved by the Department in advance that such activities do not cause or contribute to any violations of the applicable emissions standards. [Permit No. 7035003-002-93900, condition 9, issued March 1, 1994; §2101.05.a.1]

i. No wire feeding shall be made at the LMF station at any time when power is being supplied to the electrodes. [Permit No. 7035003-002-93900, condition 10, issued March 1, 1994; §2101.05.a.1]

j. The permittee must be in compliance with the emission limitations and operation and maintenance requirements in 40 CFR 63, Subpart FFFFF at all times, [IP 0051-I005, Condition V.A.1.e; §2103.12.g; §63.7810(a)]

k. Emissions from the outlet of the LMF Emission Control Baghouse shall not exceed the emission limitations in Table V-E-1 at any time. [IP 0051-I005, Condition V.A.1.j; Permit No. 7035003-002-93900, issued March 1, 1994; §2101.05.a.1; §2103.12.a.2.B]:

**Table V-E-1 - LMF Baghouse Emission Limitations**

| Pollutant | Hourly Emission Limit (lbs/hr) | Annual Emission Limit (tons/yr)[1] |
|---|---|---|
| Particulate Matter (filterable) | 5.12 | 22.43 |
| $PM_{10}$ (filterable) | 5.12 | 22.43 |
| $PM_{2.5}$ (filterable) | 5.12 | 22.43 |
| PM (condensable) | 0.25 | 1.10 |

[1]A year is defined as any 12 consecutive months.

**2. Testing Requirements:**

a. The permittee shall perform emission tests for exhaust gas PM concentrations (gr/dscf) and equivalent lb/hr emission rates and plume opacity at stack S009 in accordance with Site Level

DRAFT

Condition IV.14 above and §2108.02 to demonstrate compliance with Conditions V.E.1.b, V.E.1.d, and V.E.1.k above. The testing shall include condensable PM and shall be repeated at least once every two years. [§63.7821(a); §63.7821(c); §2108.02; §2103.12.h.1; and IP 0051-I005, Condition V.A.2.a]**.**

b. The permittee must conduct each performance test that applies to the LMF Baghouse emissions according to the requirements in §63.7(e)(1) and the conditions detailed in Conditions V.E.2.c and V.E.2.d below. [§63.7822(a)]

c. To determine compliance with the applicable emission limits for particulate matter in Conditions V.E.1.b, and V.E.1.k above, follow the test methods and procedures in paragraphs V.E.2.c.1) and V.E.2.c.2) below and Site Level Condition IV.14 above ("Emissions Testing Requirements"). [IP 0051-I005, Condition V.A.2.c; §2103.12.h; §63.7822(b) and §2108.02.]

1) Determine the concentration of particulate matter according to the following approved EPA test methods in appendix A to 40 CFR, Part 60, Article XXI §2108.02 or another Department approved test method:

a) Method 1 to select sampling port locations and the number of traverse points. Sampling ports must be located at the outlet of the control device and prior to any releases to the atmosphere.
b) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.
c) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.
d) Method 4 to determine the moisture content of the stack gas.
e) Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter (front half filterable catch only).
f) Method 202 to determine condensable PM or $PM_{2.5}$.

2) Collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

d. For the LMF baghouse applied to emissions from LMF operations, sample only when the operation(s) is being conducted. [P 0051-I005, Condition V.A.2.d; §2103.12.h; §63.7822(h)]

e. Subject to approval by the Department, the permittee may conduct representative sampling of stacks when there are more than three stacks associated with a process. [P 0051-I005, Condition V.A.2.e; §2103.12.h; §63.7822(i)]

f. The permittee must conduct each performance test that applies to the LMF according to the requirements in §2108.02, §63.7(h)(5), and the conditions detailed in Conditions V.E.2.g below. [§63.7823(a)]

g. The permittee must conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter. [P 0051-I005, Condition V.A.2.g; §2103.12.h; §63.7823(b)]

h. Measurement of visible emissions to determine compliance with the opacity limits in Condition V.E.1.e above shall be performed according to the procedures established by §2107.11. [§2104.01.d]

DRAFT

i. The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

a. For each baghouse applied to meet the particulate emission limit in Condition V.E.1.b above, the permittee shall install, operate, and maintain a bag leak detection system according to Condition V.E.3.g below and monitor the relative change in particulate matter loadings according to the requirements in Conditions V.E.3.h and V.E.3.j below. [§2103.12.i; §63.7830(b)(1)]

b. The permittee shall conduct inspections of the LMF Baghouse at the specified frequencies according to the following requirements: [§63.7830(b)(4)(i)-(viii); §2103.12.i; IP 0051-I005, Condition V.A.3.b]

1) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
2) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
3) Check the compressed air supply for pulse-jet baghouse each day.
4) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
5) Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.
6) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
7) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

c. The permittee must operate according to the site-specific monitoring plan established in October 19, 2015 or the most recent developed site specific monitoring plan that addresses the following requirements: [§2103.12.i; §63.7831(a)]

1) Installation of the CPMS sampling probe or other interface at a measurement location relative to the capture system applied to the LMF process emissions such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);
2) Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system;
3) Performance evaluation procedures and acceptance criteria (e.g., calibrations);
4) Ongoing operation and maintenance procedures in accordance with the general requirements of §§63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8);
5) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and
6) Ongoing recordkeeping and reporting procedures in accordance the general requirements of §§63.10(c), (e)(1), and (e)(2)(i); and

d. Unless otherwise specified, each CPMS must: [§2103.12.i; §63.7831(b)]

1) Complete a minimum of one cycle of operation for each successive 15-minute period and collect a minimum of three of the required four data points to constitute a valid hour of data;
2) Provide valid hourly data for at least 95 percent of every averaging period; and

DRAFT

3) Determine and record the hourly average of all recorded readings.

e. The permittee must conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan. [§2103.12.i; §63.7831(c)]

f. The permittee must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan. [§2103.12.i; §63.7831(d)]

g. For each baghouse equipped with a bag leak detection system according to Condition V.E.3.a above the permittee must install, operate, and maintain the bag leak detection system according to the following requirements: [§2103.12.i; §63.7831(f) and IP 0051-I005, Condition V.A.3.c]

1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
2) The system must provide output of relative changes in particulate matter loadings.
3) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it can be heard by the appropriate plant personnel.
4) Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, "Fabric Filter Bag Leak Detection Guidance," EPA–454/R–98–015, September 1997. The permittee may install, operate, and maintain other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations.
5) To make the initial adjustment of the system, establish the baseline output by adjusting the sensitivity (range) and the averaging period of the device. Then, establish the alarm set points and the alarm delay time.
6) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in your operation and maintenance plan. Do not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition.
7) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

h. Except for monitoring malfunctions, out-of-control periods as specified in §63.8(c)(7), associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the permittee must monitor continuously (or collect data at all required intervals) at all times the capture system applied to LMF emissions is operating. [§2103.12.i; §63.7832(a)]

i. The permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. The permittee must use all the data collected during all other periods in assessing compliance. [§2103.12.i; §63.7832(b)]

j. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [§2103.12.i; §63.7832(c)]

DRAFT

k. The permittee shall demonstrate continuous compliance with the ladle metallurgy operation subject to an emission or opacity limit in Conditions V.E.1.b above by meeting the following requirements: [§2103.12.i; §63.7833(a), Table 3-11 & 12; and IP 0051-I005, Condition V.A.3.d]

1) For each ladle metallurgy operation at the BOP shop: [§2103.12.i; §63.7833(a), Table 3, Item 11]

a) Maintain emissions of particulate matter from a control device at or below 0.0052 gr/dscf; and
b) Conduct subsequent performance tests no less frequently than once every two years. [§63.7833(a)Table 3, Item 11.b and § 63.7821]

l. The permittee must demonstrate continuous compliance with the particulate emission limit in V.E.1.b above at the LMF Baghouse by meeting the requirements in paragraph V.E.3.l.1) and paragraphs V.E.3.l.2) and V.E.3.l.3)below. [§2103.12.i; §63.7833(c)]

1) For a baghouse equipped with a bag leak detection system, operating and maintaining each bag leak detection system according to condition V.E.3.g above and recording all information needed to document conformance with these requirements. If you increase or decrease the sensitivity of the bag leak detection system beyond the limits specified in condition V.E.3.g.6) above, you must include a copy of the required written certification by a responsible official in the next semiannual compliance report.

2) Inspecting each baghouse according to the requirements in §63.7830(b)(4) and maintaining all records needed to document conformance with these requirements.

3) Maintaining records of the time you initiated corrective action in the event of a bag leak detection system alarm, the corrective action(s) taken, and the date on which corrective action was completed.

m. When operating, the permittee shall monitor and record once per shift the pressure measurement to demonstrate compliance with the collection hood negative pressure requirement of condition V.E.1.g above. [Permit No. 7035003-002-93900, condition 6, issued March 1, 1994; §2101.05.a.1]

n. Notations of visible emissions from the LMF Baghouse stacks shall be performed once per quarter during normal daylight operations. A trained individual shall record whether any emissions are observed. [§2103.12.h.1]

o. Quarterly visual inspections of the LMF dust collectors to ensure that the equipment is operating properly, and that the integrity of the control equipment exhausts systems are not compromised by damage, malfunction, or deterioration. Repairs shall be made as soon as practicable to correct obvious failures or deficiencies. [§2103.12.h.1]

p. Notations of visible emissions from the LMF operations shall be performed once per week during normal daylight operations. A trained individual shall record whether any emissions are observed and whether these emissions extend beyond the facility property line. The permittee may skip to monthly monitoring after six consecutive months of compliance with the weekly monitoring. [§2103.12.h.1; §2102.04.e]

q. The Department reserves the right to revert the monitoring frequency in condition V.E.3.p above

DRAFT

back from monthly to weekly at any time, based on but not limited to the review of the compliance certification and semi-annual report of monitoring and recordkeeping, complaints, monitoring results, and/or Department findings. [§2103.12.h.1]

**4. Record Keeping Requirements**

a. The permittee shall keep and maintain records to demonstrate compliance with the requirements of this permit, including stack test protocols and reports. [§2103.12.j; §2103.12.h.1 and IP 0051-I005, Condition V.A.4.a]

b. The permittee shall keep and maintain records to demonstrate compliance with the requirements of this permit, Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include the following: [§2103.12.j; §2103.12.h.1]

1) LMF liquid (molten) steel production (daily, monthly, 12-month);
2) The differential pressure drops across each compartment of the LMF Baghouse as required by condition V.E.3.b.1) (recorded once per day) [IP 0051-I005, Condition V.A.4.a]
3) The pressure reading of the LMF Baghouse collection hood (recorded once per day) [Permit No. 7035003-002-93900, Condition 6; and

c. The permittee shall maintain records of air pollution control system inspections and performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment that is subject to section V.E above of this permit. [§2103.12.j; §2103.12.h.1 and IP 0051-I005, Condition V.A.4.c]

d. The permittee shall keep the following records: [§2103.12.j; §2103.12.h.1; §63.7842(a) and IP 0051-I005, Condition V.A.4.d]

1) A copy of each notification and report that was submitted to comply with 40 CFR Part 63, Subpart FFFFF, including all documentation supporting any initial notification or notification of compliance status that was submitted, according to the requirements in §63.10(b)(2)(xiv).
2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
3) Records of performance tests, performance evaluations, and opacity observations as required in §63.10(b)(2)(viii).

e. The permittee shall keep the records required in §63.6(h)(6) and V.E.3.p above for visual observations. [§2103.12.j; §2103.12.h.1; §63.7842(c) and IP 0051-I005, Condition V.A.4.e]

f. The permittee shall keep the records required in Conditions V.E.3.k and V.E.3.l above to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to you. [§2103.12.j; §2103.12.h.1; §63.7842(d) and IP 0051-I005, Condition V.A.4.f]

g. The records must be in a form suitable and readily available to the Department for expeditious review, according to §63.10(b)(1). [§2103.12.j; §2103.12.h.1; §63.7843(a) and §2103.12.j.2 and IP 0051-I005, Condition V.A.3.g]

h. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j; §2103.12.h.1]

i. The permittee shall maintain records of all maintenance performed on the Ladle Metallurgy Facility (LMF) as required in condition V.E.6.c. These records shall be made available to the Department

DRAFT

upon request for inspection and/or copying. [RACT IP8a, Condition V.C.2.a; 25 Pa Code §129.100; §2102.04.b.5]

j. As specified in §63.10(b)(1), All records shall be retained by the facility for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. These records shall be made available to the Department upon request for inspection and/or copying. [§63.7843(b) and §2103.12.j.2 and IP 0051-I005, Condition V.A.3.h]

k. The permittee must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). Records may be kept offsite for the remaining 3 years. [§63.7843(c) and §2103.12.j.2 and IP 0051-I005, Condition V.A.3.i]

**5. Reporting Requirements:**

a. The permittee shall report the non-compliance information required to be recorded by condition V.E.4.i above semi-annually to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k.1]

b. Reporting instances of non-compliance in accordance with condition V.E.5.a above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.7 above, if appropriate. [§2103.12.k.1 and IP 0051-I005, Condition V.A.5.a]

c. Deviations. The permittee must report each instance in which you did not meet each emission limitation in Condition V.E.1.b above.. The permittee also must report each instance in which you did not meet each operation and maintenance requirement in Condition V.E.6.a below. These instances are deviations from the emission limitations and operation and maintenance requirements in 40 CFR Part 63, Subpart FFFFF. These deviations must be reported according to the requirements in ConditionsV.E.5.h through V.E.5.j below. [§2103.12.k.1; §63.7835(a) and IP 0051-I005, Condition V.A.5.b]

d. For the emission limitation in Conditions V.E.1.b above, the permittee must submit a notification of compliance status according to V.E.5.g below. [§2103.12.k.1; §63.7825(c) and IP 0051-I005, Condition V.A.5.d]

e. The permittee must submit all of the applicable notifications in §§63.6(h)(4) and (5), 63.7(b) and (c), 63.8(e) and (f)(4), and 63.9(b) through (h) by the specified dates. [§2103.12.k.1; §63.7840(a) and IP 0051-I005, Condition V.A.5.e]

f. The permittee shall submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin. [§2103.12.k.1; §63.7840(d) and IP 0051-I005, Condition V.A.5.f]

g. The permittee shall submit a notification of compliance status according to §63.9(h)(2)(ii). [§2103.12.k; §63.7840(e) and IP 0051-I005, Condition V.A.5.g]

1) For each initial compliance demonstration that does not include a performance test, the permittee must submit the notification of compliance status before the close of business on the 30th calendar day following completion of the initial compliance demonstration.
2) For each initial compliance demonstration that does include a performance test, the permittee

DRAFT

must submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to §63.10(d)(2).

h. Compliance report due dates. Unless the Department has approved a different schedule, the permittee must submit a semiannual compliance report to the Department according to the following requirements: [§2103.12.k.1; §63.7841(a) and IP 0051-I005, Condition V.A.5.h]

1) The 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.
2) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

i. Compliance report contents. Each compliance report must include the information in conditions V.E.5.i.1) through V.E.5.i.3) below and, as applicable, conditions V.E.5.i.4) through V.E.5.i.7) below. [§2103.12.k.1§63.7841(b) and IP 0051-I005, Condition V.A.5.i]

1) Company name and address.
2) Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
3) Date of report and beginning and ending dates of the reporting period.
4) If there were no deviations from the continuous compliance requirements in conditions V.E.3.k and V.E.3.l above, a statement that there were no deviations from the emission limitations or operation and maintenance requirements during the reporting period.
5) If there were no periods during which a continuous monitoring system (including a CPMS), was out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.
6) For each deviation from an emission limitation in condition V.E.1.b above that occurs at the capture and control system applied to emissions, where a continuous monitoring system is not used (including a CPMS) to comply with an emission limitation in 40 CFR Part 63, Subpart FFFFF, the compliance report must contain the information in conditions V.E.5.i.1) through V.E.5.i.4) above and the information in conditions V.E.5.i.6)a) and V.E.5.i.6)b) below.

   a) The total operating time of the capture and control system applied to secondary emissions during the reporting period.
   b) Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

7) For each deviation from an emission limitation occurring at the capture and control system applied to LMF emissions where you are using a continuous monitoring system (including a CPMS) to comply with the emission limitation in 40 CFR Part 63, Subpart FFFFF, the permittee must include the information in conditions V.E.5.i.1) through V.E.5.i.4) above and the Information in conditions V.E.5.i.7)a) through V.E.5.i.7)k) below. This includes periods of startup, shutdown, and malfunction.

   a) The date and time that each malfunction started and stopped.
   b) The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.
   c) The date, time, and duration that each continuous monitoring system was out-of-control as specified in §63.8(c)(7), including the information in §63.8(c)(8).

DRAFT

d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.
e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.
f) A breakdown of the total duration of the deviations during the reporting period including those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.
g) A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.
h) A brief description of the process units.
i) A brief description of the continuous monitoring system.
j) The date of the latest continuous monitoring system certification or audit.
k) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

j. The permittee shall submit all applicable notifications in 40 CFR 63.6(h)(4) and (5), 63.7(b) and (c), 63.8(e) and (f)(4), and 63.9(b) through (h) that apply to the affected source by the dates specified. As specified in §63.(b)(2), the permittee shall submit the initial notification no later than September 17, 2003. [§2104.08.a; 40 CFR 63.7840(a) and (b)]

**6. Work Practice Requirements:**

a. As required by §63.6(e)(1)(i), the permittee must always operate and maintain the LMF emission control system, including air pollution control and monitoring equipment, in a manner consistent with good engineering and air pollution control practices for minimizing emissions at least to the levels required by 40 CFR 63, Subpart FFFFF. [§63.7800(a) and RACT Order No. 235, Condition 1.1; §2102.04.b.5; §2105.03 and IP 0051-I005, Condition V.A.6.a]

b. The permittee shall calibrate, maintain, and operate all instrumentation, process equipment, and control equipment according to manufacturer's recommendations and good engineering practices. [§2105.03]

c. At no time shall the permittee operate the Ladle Metallurgy Facility (LMF) unless it is properly operated and maintained according to good engineering and air pollution control practices by performing regular maintenance with the exception of actions to mitigate emergency conditions. [RACT IP8a, Condition V.C.1.a.5; 25 Pa Code §129.99; §2102.04.b.5]

**7. Additional Requirements:**

a. The General Provisions in §63.1 through §63.15 that apply to the permittee are listed in Table 4, 40 CFR Part 63, Subpart FFFFF. [§63.7850; IP 0051-I005, Condition V.A.7.a]

b. The definitions in §63.7852 are incorporated by reference. [IP 0051-I005, Condition V.A.7.b]

***PERMIT SHIELD IN EFFECT***

DRAFT

## F. Process P005: Dual Strand Continuous Caster

**Process Description**: Dual Strand Continuous Caster
**Facility ID:** P005
**Max. Design Rate:** 3,467,500 TPY steel
**Fuel(s):** COG, Natural Gas
**Raw Materials:** Steel (Liquid), Fluxes
**Control Device(s):** See Below
**Stack I.D.:** See Below

Process P005, the Dual Strand Continuous Caster, consists of the following equipment and activities:

| I.D. | SOURCE DESCRIPTION | CONTROL DEVICE(S) | STACK ID |
|---|---|---|---|
| P005-1 | Dual Strand Continuous Caster | N/A | n/a (exhausts inside the Caster Building |
| P005-2 | Continuous Caster Cutting Station | N/A | n/a (exhausts inside the Caster Building |
| P005-3 | Caster Shroud Cleaning | Caster Shroud Dust Collector | n/a (exhausts inside the Caster Building |
| P005-4 | Slab Slitting | N/A | n/a (exhausts inside the Caster Building |
| P005-5 | Tundish Maintenance | Tundish Maintenance Dust Collector | N/A |
| P005-6 | Caster Mold Flux Feeder System | Mold Flux Baghouse | n/a (exhausts inside the Caster Building |
| P005-7 | Caster Tundish Preheaters | N/A | n/a (exhausts inside the Caster Building |

### 1. Restrictions:

a. The Dual Strand Continuous Caster Shop shall comply with the COG requirements in condition IV.32.d. [§2105.21.h.4]

b. The Continuous Caster Shop, and all related operations, activities, and facilities including all equipment preparation and repair shops, shall not be operated, nor allowed to be operated, in such manner that visible fugitive emissions from any of these operations or activities, excluding uncombined water: [Permit No. 7035003-002-93900, condition 4, issued March 1, 1994; §2101.05.a.1]

1) Equal or exceed an opacity of 15% for a period or periods aggregating more than two and one half (2.5) minutes in any sixty (60) minute period; or
2) Equal or exceed an opacity of 45% at any time.

DRAFT

c. Emissions from the Caster Tundish Preheaters shall not exceed the emissions limitations in Table V-F-1 below: [Permit No. 7035003-002-93900, issued March 1, 1994; §2101.05.a.1; §2103.12.a.2.B]

**Table V-FF-1:**
**Caster Tundish Preheaters Emission Limitations**

| Pollutant | Annual Emission Limit (tons/year)* |
|---|---|
| PM/ $PM_{10}$ (filterable) | 1.0 |
| PM-condensable | 0.86 |
| Sulfur Oxide | 23 |
| Nitrogen Oxide | 12.0 |
| Carbon Monoxide | 3.0 |
| Volatile Organic Compounds | 1.0 |

*A year is defined as any consecutive 12-month period.

**2. Testing Requirements:**

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

**3. Monitoring Requirements:**

a. The permittee shall measure the monthly quantity of natural gas and coke oven gas combusted by the Caster Tundish Preheaters. [§2103.12.h.5.B]

b. The permittee shall measure the sulfur concentration of all coke oven gas used for combustion or flaring at the facility, a minimum of once per each successive twenty-four-hour time period. The sulfur concentration shall be expressed and recorded as hydrogen sulfide. Measurements of hydrogen sulfide concentrations in coke oven gas shall be conducted according to Section 2107.08 of Article XXI. Under the current operating scenario coke oven gas measurements are taken at the Clairton Plant, and these measurements will satisfy this condition (V.F.3.b). However, if there is a change to the current operating scenario, the sulfur concentration measurements required by this condition (V.F.3.b) will be taken at the Edgar Thomson Plant. [§2103.12.h.5.B]

c. Notations of visible emissions from the Caster Shop operations shall be performed once per week during normal daylight operations. A trained individual shall record whether any emissions are observed and whether these emissions extend beyond the facility property line. The permittee may skip to monthly monitoring after six consecutive months of compliance with the weekly monitoring. [§2103.12.h.1; §2102.04.e]

d. The Department reserves the right to revert the monitoring frequency in condition V.F.3.c above back from monthly to weekly at any time, based on but not limited to the review of the compliance certification and semi-annual report of monitoring and recordkeeping, complaints, monitoring results, and/or Department findings. [§2103.12.h.1]

DRAFT

**4. Record Keeping Requirements**

a. The permittee shall keep and maintain records to demonstrate compliance with the requirements of this permit, including stack test protocols and reports. [§2103.12.j; §2103.12.h.1]

b. The permittee shall keep and maintain records to demonstrate compliance with the requirements of this permit, Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include the following: [§2103.12.j; §2103.12.h.1]

1) The total amount and type of fuel used at the Caster Tundish Preheaters (monthly, 12-month);
2) Dual Strand Caster production (daily, monthly, 12-month);
3) The COG sulfur concentration, as $H_2S$, measured at U.S. Steel Clairton Works in accordance with condition V.F.3.b above; and
4) Stack test protocols and reports.

c. The permittee shall maintain records of inspections, performance evaluations, calibration checks, adjustments, and maintenance performed on the Caster Tundish Preheaters. [§2103.12.j; §2103.12.h.1]

d. The permittee shall keep records of visible emission notations as required by V.F.3.c above. [§2103.12.j; §2103.12.h.1]

e. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j; §2103.12.h.1]

f. The permittee shall maintain records of all maintenance performed on the Dual Strand Caster as required in condition V.F.6.c. These records shall be made available to the Department upon request for inspection and/or copying. [RACT IP8a, Condition V.C.2.a; 25 Pa Code §129.100; §2102.04.b.5]

g. All records shall be retained by the facility for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

**5. Reporting Requirements:**

a. The permittee shall report the following information semiannually to the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k.1]

1) Total monthly Caster Tundish Preheater fuel use, per fuel type;
2) The monthly average $H_2S$ content of the COG fired; and
3) Non-compliance information required to be recorded by condition V.F.4.e above.

b. Reporting instances of non-compliance in accordance with condition V.F.4.e above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

DRAFT

**6. Work Practice Requirements:**

a. The permittee shall not, at any time, operate the Continuous Casting Shop unless it is properly operated and maintained according to good engineering and air pollution control practices, with the exception of actions to mitigate emergency conditions. [RACT Order No. 235, Condition 1.1; §2102.04.b.5, §2105.03]

b. The permittee shall calibrate, maintain, and operate the Caster Tundish Preheaters according to manufacturer's recommendations and good engineering practices. [§2105.03]

c. At no time shall the permittee operate the Dual Strand Caster unless it is properly operated and maintained according to good engineering and air pollution control practices by performing regular maintenance with the exception of actions to mitigate emergency conditions. [RACT IP8a, Condition V.C.1.a; 25 Pa Code §129.99; §2102.04.b.5]

**7. Additional Requirements**

None except as specified elsewhere.

***PERMIT SHIELD IN EFFECT***

DRAFT

## G. Process P006: Vacuum Degasser

**Process Description**: Vacuum Degasser (Decarburization of Steel)
**Facility ID:** P006
**Capacity:** 1,200,000 TPY
**Fuel:** COG, NG
**Raw Materials:** Steel (Liquid), Alloying Materials, Fluxes
**Safety Device:** CO Flare
**Stack I.D.:** S011

### 1. Restrictions:

a. The Vacuum Degasser shall not be operated without a properly operating flare on the exhaust. [Permit No. 94-I0006-P, condition 1, issued October 20, 1995]

b. The preheating and drying of the degasser vessels shall comply with the COG requirements in condition IV.32.d. [§2105.21.h.4]

c. The concentration of sulfur oxides expressed as sulfur dioxide, in the effluent gas from the Vacuum Degasser shall not exceed the lesser of the potential to emit or 500 ppm (dry volumetric basis) at any time [§2104.03.c].

d. The flare shall be operated with a flame present at all times while the Vacuum Degasser is operating. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [§2103.12.a.2.B]

### 2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]

### 3. Monitoring Requirements:

a. The permittee shall monitor and record the parameters indicated below for the Vacuum Degasser Flare: [§2103.12.h.1; §2103.12.i]

1) Notations of visible emissions from the Vacuum Degasser operations shall be performed once per month (if operating) during normal daylight operations. A trained individual shall record whether any emissions are observed. The permittee may skip to quarterly monitoring after six consecutive months of compliance with the monthly monitoring. (§2103.12.h.1; §2102.04.e); and
2) Monthly visual inspections of the exhaust system and control/safety device to ensure that the equipment is operating properly, and that the integrity of the control equipment exhaust systems are not compromised by damage, malfunction or deterioration. Repairs shall be initiated immediately to correct obvious failures and deficiencies and completed as soon as practicable.

b. The permittee shall measure the sulfur concentration of all coke oven gas used for combustion or flaring at the facility, a minimum of once per each successive twenty-four-hour time period. The sulfur concentration shall be expressed and recorded as hydrogen sulfide. Measurements of

DRAFT

hydrogen sulfide concentrations in coke oven gas shall be conducted according to Section 2107.08 of Article XXI. Under the current operating scenario coke oven gas measurements are taken at the Clairton Plant, and these measurements will satisfy this condition (V.G.3.b). If there is a change to the current operating scenario, the sulfur concentration measurements required by this condition (V.G.3.b) will be taken at the Edgar Thomson Plant. [§2103.12.h.5.B; §2103.12.i]

c. The Department reserves the right to revert the monitoring frequency in condition V.G.3.a.1) above back from monthly to weekly at any time, based on but not limited to the review of the compliance certification and semi-annual report of monitoring and recordkeeping, complaints, monitoring results, and/or Department findings. [§2103.12.h.1; §2102.04.e]

**4. Record Keeping Requirements:**

a. The permittee shall maintain records to demonstrate compliance with the requirements of this permit. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include: [§2103.12.h.1; §2103.12.j]

1) Vacuum Degasser steel production (daily, monthly, 12-month);
2) Total monthly Vacuum Degasser fuel use, per fuel type; and
3) The COG sulfur concentration, as $H_2S$, measured in accordance with condition V.G.3.b above.

b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.h.1; §2103.12.j]

c. The permittee shall keep records of visible emission notations as required by V.G.3.a.1) above. [§2103.12.h.1; §2103.12.j]

d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.h.1; §2103.12.j.2]

**5. Reporting Requirements:**

a. The permittee shall report the non-compliance information required to be recorded by V.G.4.b above semiannually to the Department in accordance with General Condition III.15above. The reports shall contain all required information for the time period of the report: [§2103.12.k.1]

b. Reporting instances of non-compliance in accordance with condition V.G.5.a above, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

**6. Work Practice Standards:**

a. The permittee shall not, at any time, operate the Vacuum Degasser and Vacuum Degasser Flare Stack unless they are properly operated and maintained according to good engineering and air pollution control practices. [§2102.04.b.5; §2105.03]

b. The permittee shall calibrate, maintain, and operate all instrumentation, process equipment, and control equipment according to good engineering practices. [§2105.03]

DRAFT

***PERMIT SHIELD IN EFFECT***

## H. Riley Boiler Nos. 1, 2 & 3

| | |
|---|---|
| **Process Description:** | Water Tube Boiler, Multi-Fuel Firing |
| **Facility ID:** | B001 - Riley Boiler No. 1; B002 - Riley Boiler No. 2; B003 - Riley Boiler No. 3 |
| **Capacity:** | 525 MMBtu/hr, each boiler |
| **Max. Design Rate:** | 525 MMBtu/hr, each boiler |
| **Fuel/Raw Material:** | BFG, COG, NG; Fuel Oil |
| **Control Device(s):** | None |
| **Stack Ids:** | S012 (#1 Boiler); S013 (#2 Boiler); S014 (#3 Boiler) are each equipped with a $NO_X$ Continuous Emission Monitoring (CEM) System |

### 1. Restrictions:

a. At no time shall the permittee allow Riley Boilers No. 1, 2 or 3 to operate unless the subject equipment is properly operated and maintained according to good engineering and air pollution control practices by performing regular maintenance with the exception of actions to mitigate emergency conditions. [RACT Order No. 235, Condition 1.1; §2102.04.b.5]

b. The permittee shall not operate Riley Boilers No. 1, 2 or 3 in such a manner that emissions of particulate matter (PM) exceed the rate determined by the following formula: [§2104.02.a.3]

$A = \Sigma x_i a_i$

Where A = allowable emissions in lbs/MMBtu actual heat input
i = fuel type (i.e., BFG, COG, NG)
$x_i$ = fraction of total actual heat input in Btus provided by fuel type i
$a_i$ = allowable emissions in lbs/MMBtu actual heat input for fuel type i, (i.e., BFG, 0.05 lb/MMBtu; COG, 0.02 lb/MMBtu; NG, 0.008 lb/MMBtu)

c. The permittee shall not operate Riley Boilers No. 1, 2 or 3 in such a manner that emissions of sulfur oxides, expressed as sulfur dioxide ($SO_2$), exceed the rate determined by the formula: (§2104.03.a.2.B)

$A = 1.7E^{-0.14}$

Where A = allowable emissions in lbs/MMBtu of actual heat input
E = actual heat input in MMBtu/hr.

d. The Riley Boilers No. 1, 2 and 3 shall comply with the COG requirements in condition IV.32.d. [§2105.21.h.4; §2103.12.a.2.D]

e. The permittee shall not exceed, at any time, with the exception of actions to mitigate emergency conditions, an annual natural gas capacity factor of 78.4% for each Riley Boiler. [RACT IP8a, Condition V.A.1.b; 25 Pa Code §129.99; §2102.04.b.5]

f. The maximum heat input rate to Riley Boilers No. 1, 2 and 3 shall not at any time exceed a combined 1,575 million British thermal units per hour (MMBtu/hr). [§2103.12.a.2.B]

DRAFT

g. Emissions from each Riley Boilers No. 1, 2 or 3 shall not exceed the limitations in Table V-H-1 below at any time: [§2103.12.a.2.b; §2102.04.b.5; §2104.02.a.3; §2104.03; §2104.03.a.2.B; $SO_2$ SIP IP 0051-I006, Condition V.A.1.c]

**TABLE V-H-1**
**Riley Boilers Emission Limitations**

| Pollutant | Hourly Emission Limit Per Boiler (lb/hr) | Annual Emission Limit (Per Boiler) (TPY)(1) |
|---|---|---|
| Particulate Matter (filterable) | 26.25 | 114.98 |
| $PM_{10}$ (filterable) | 26.25 | 114.98 |
| Sulfur Oxides[2] | 556.91 | 2,439.27 |
| Carbon Monoxide (CO) | 1.09 | 4.76 |
| Volatile Organic Compounds (VOC) | 0.42 | 1.85 |
| HCL | 1.39 | 6.08 |

(1) A year is defined as any consecutive 12-month period.
(2) $SO_2$ SIP IP 0051-I006, Condition V.A.1.c.Based on a combined stack basis

h. $NO_X$ emissions from each Riley Boilers No. 1, 2 or 3 shall not exceed the limitations in Table V-H-1 below, with the exception of actions to mitigate emergency situations such as during periods of blast furnace gas curtailment or supply interruption for reasons beyond the control of the facility: [RACT IP8a, Condition V.A.1.d; 25 Pa Code §129.99; §2102.04.b.5; §2105.06.d]

**TABLE V-H-2: $NO_X$ Emission Limitations**

| Process | Emission Limit** lbs/MMBtu | Hourly** Emission Limit (lb/hr) | Annual*** Emission Limit lbs/MMBtu | Annual*** Emission Limit Tons/yr |
|---|---|---|---|---|
| Boiler 1 | 0.07 | 36.75** | 0.05 | 114.98 |
| Boiler 2 | 0.07 | 36.75** | 0.05 | 114.98 |
| Boiler 3 | 0.07 | 36.75** | 0.05 | 114.98 |

*A year is defined as any consecutive 12-month period.
**Based on 30-day rolling average Continuous Emission Monitoring (CEM) data.
***Based on 12-month rolling average Continuous Emission Monitoring (CEM) data

i. Total combined fuel oil consumption for all three boilers shall be limited to no more than 20,500 gallons per day. [Permit No. 7035003-004-99200]

**2. Testing Requirements:**

a. The permittee shall perform particulate matter and nitrogen oxides emissions testing on Riley Boilers No. 1, 2 and 3 once every two years from the date of the prior valid test in order to demonstrate compliance with Condition V.H.1.g above. Such testing shall be conducted under maximum normal (i.e., mixed fuel) operating conditions in accordance with applicable U.S. EPA approved test methods, Article XXI §2108.02, or another Department approved test method. During this testing, the permittee shall compute the F-factor for BFG combustion. [RACT IP8a, Condition V.A.2.a; 25 Pa Code §129.99; 25 Pa Code §129.100§2103.12.h.1; §2108.02.b,

DRAFT

§2108.02.e]

b. The permittee shall have sulfur dioxide ($SO_2$) emissions stack tests performed on the boilers within 6 months of equipment installation and at least once every two years thereafter in order to demonstrate compliance with Condition V.H.1.h above. $SO_2$ emission tests shall be conducted according to Article XXI, §2108.02 and with applicable U.S. EPA approved test methods. The permittee shall submit a stack test protocol to the Department for approval at least 45 days prior to the test date(s). [$SO_2$ SIP IP 0051-I006, Condition V.A.2.a; §2108.02.b and §2108.02.e]

c. Emissions of $NO_X$ may be determined by the CEMs required in Condition V.H.3.a below in lieu of a stack test to determine compliance with the emissions limitation of Condition V.H.1.i above. [RACT IP8a, Condition V.A.2.b; 25 Pa Code §129.99; 25 Pa Code §129.100; §2103.12.i; §2103.12.h.1; §2108.02; §2108.03]

d. The permittee shall perform emissions tests for CO, VOC and HCL on Riley Boilers No. 1, 2 and 3 to demonstrate compliance with condition V.H.1.g. The CO, VOC and HCL testing shall be repeated at least once every four years from the date of the most recent valid test. Testing shall be conducted in accordance with approved EPA Methods in Appendix A of 40 CFR Part 60, Article XXI §2108.02, or another Department approved test method. [§2103.12.h.1; §2108.02.b, §2108.02.e]

e. The Department reserves the right to require any additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing, if required, shall be performed in accordance with Article XXI §2108.02 and Site Level Condition IV.14 above entitled "Emissions Testing." [§2103.12.h.1]

**3. Monitoring Requirements:**

a. The permittee shall install, calibrate, maintain, and operate a CEM for Riley Boilers No. 1, 2 and 3, and record the output of each system, for measuring nitrogen oxide emissions discharged to the atmosphere. The CEM data recorder shall convert the data to the required reporting units in compliance with 25 PA Code §§139.101-139.111 relating to requirements for continuous in-stack monitoring for stationary sources. [RACT IP8a, Condition V.A.3.a; 25 Pa Code §129.100 §2108.03.b.2, §2102.04.b.5]

b. The permittee shall submit the results of the continuous nitrogen oxides monitoring systems on a regular schedule and in a format acceptable to the PADEP and in compliance with 25 Pa. Code 139.101 – 139.111. [§2108.03.b.3]

c. Continuous nitrogen oxides monitoring systems shall meet the minimum data availability requirements in 25 Pa. Code 139, Subchapter C. [§2108.03.b.4]

d. The permittee shall measure the sulfur concentration of coke oven gas used for combustion or flaring as required in condition IV.32.c. Measurements of hydrogen sulfide concentrations in coke oven gas shall be conducted according to Section 2107.08 of Article XXI. Under the current operating scenario coke oven gas measurements are taken at the Clairton Plant. If there is a change to the current operating scenario, the sulfur concentration measurements required by condition V.F.3.d. will be taken at the Edgar Thomson Plant. [$SO_2$ SIP IP 0051-I006, Condition V.A.3.b; §2103.12.h.5.B]

DRAFT

e. The permittee shall measure the $H_2S$ content of the blast furnace gas combusted as required in condition IV.32.b [$SO_2$ SIP IP 0051-I006, Condition V.A.3.b]

f. Notations of visible emissions from the boilers No.1 - 3 operations shall be performed once per week during normal daylight operations. A trained individual shall record whether any emissions are observed and whether these emissions extend beyond the facility property line. The permittee may skip to monthly monitoring after six consecutive months of compliance with the weekly monitoring. [§2103.12.h.1; §2102.04.e]

g. The Department reserves the right to revert the monitoring frequency in condition V.H.3.f above back from monthly to weekly at any time, based on but not limited to the review of the compliance certification and semi-annual report of monitoring and recordkeeping, complaints, monitoring results, and/or Department findings. [§2103.12.h.1]

h. The failure to install and operate any continuous emissions monitoring system required by §2108.03.f within the time specified, the failure to retain any data or submit any report so required, or the knowing retention or reporting of false data shall be a violation of this permit giving rise to the remedies provided by §2109.02. [§2108.03.f]

**4. Record Keeping Requirements:**

a. The permittee shall maintain all appropriate records to demonstrate compliance with the requirements of §2105.06 and RACT Permit No. 0051-I008a. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Permit No. 0051-I008a are met. The permittee shall record and maintain such data and information required to determine compliance for the facility in a time frame consistent with the averaging period of the requirements of both §2105.06 and RACT Permit No. 0051-I008a. Such information shall include, but not be limited to, the following minimum information which shall be submitted to the Department as a written report at three-month intervals: [RACT IP8a, Condition V.A.4.a; 25 Pa Code §129.100; §2102.04.b.5; §2108.03.d, §2105.06, RACT Order No. 235]

1) All recording and reporting required by Section 2108.03 of Article XXI and entitled "Continuous Emission Monitoring."
2) An identification of each instance during the reporting period during which emissions exceeded the applicable emission limitation rates in Condition V.H.1.d above and an identification of the reasons, if known, for such exceedance. The averaging period used for making such identification shall correspond to the averaging period specified in condition V.H.1.d above.
3) An identification of each period during which the continuous emission monitoring system was inoperative, except for zero and span drift checks, the reasons therefore, and the nature of repairs or adjustments performed or to be performed.
4) An identification of calibrations, zero and span drift checks, and other quality assurance procedures.

b. The permittee shall keep and maintain the following data for Riley Boilers No. 1, 2 and 3: [§2103.12.h.1; §2103.12.j; $SO_2$ SIP IP 0051-I006, Condition V.A.4.a]

1) Amounts of fuel used, per fuel type (hourly, monthly, 12-month);
2) BTU content of the fuel use
3) Monthly average $H_2S$ contents of COG;
4) Cold starts (date, time and duration of each occurrence);

DRAFT

5) Total operating hours, (hours/day, monthly and 12-month);
6) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment as required to demonstrate compliance with condition V.H.1.a.
7) Stack test protocols and reports.

c. The permittee shall keep records of visible emission notations as required by V.H.3.f above. [§2103.12.h.1; §2103.12.j]

d. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.h.1]

e. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2; RACT IP8a, Condition V.A.4.c; 25 Pa Code §129.100; and Permit No. 7035003-004-99200]

**5. Reporting Requirements:**

a. The permittee shall report the following information to the Department in accordance with General Condition III.15 above on a semi-annual calendar basis. The reports for each of the three boilers shall contain all required information for the time period of the report: [§2103.12.k.1 $SO_2$ SIP IP 0051-I006, Condition V.A.5.a; RACT IP8a, Condition V.A.5.a]

1) Total fuel use, per fuel type (monthly, 12-month);
2) Monthly average $H_2S$ contents of COG;
3) Cold start information (date, time and duration of each occurrence);
4) Non-compliance information required to be recorded by condition V.H.4.d above.

b. $NO_X$ CEM data for each boiler shall be reported quarterly to PADEP using PADEP's quarterly report forms and in accordance with condition V.H.3.b. $NO_X$ CEMS data reports shall be made available to the Department upon inspection or request. [§2108.03.d]

c. The permittee shall report the following information quarterly to the PADEP in accordance with V.H.4.a V.A.4.a: [§2108.03.d; RACT IP8a , Condition V.A.5.b; 25 Pa Code §129.100]

1) An identification of each instance during the reporting period during which emissions exceeded the applicable emission limitation rates in Condition V.H.1.h and an identification of the reasons, if known, for such exceedance. The averaging period used for making such identification shall correspond to the averaging period specified in condition V.H.1.h above.
2) An identification of each period during which the continuous emission monitoring system was inoperative, except for zero and span drift checks, the reasons therefore, and the nature of repairs or adjustments performed or to be performed.
3) An identification of calibrations, zero and span drift checks, and other quality assurance procedures.

d. Reporting instances of non-compliance in accordance with condition V.H.4.d above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k.1]

**6. Work Practice Standards:**

DRAFT

a. All three Riley boilers shall exhaust at all times to a common stack, constructed to a minimum release height of 70 meters. [$SO_2$ SIP IP 0051-I006, Condition V.A.1.b]

b. At no time shall the permittee allow Riley Boilers No. 1, 2 or 3 to operate unless the subject equipment is properly operated and maintained according to good engineering and air pollution control practices by performing regular maintenance with the exception of actions to mitigate emergency conditions. [RACT IP8a, Condition V.A.1.c; §2102.04.b.5; 25 Pa Code §129.99]

***PERMIT SHIELD IN EFFECT***

DRAFT

## I. Blast Furnace Slag Pits

**Process Description:** Air cooled slag pit system utilizing direct pour of Blast Furnace 1 and 3 slag into troughs located in the blast furnace Casthouse floors and transferred to pits adjacent to blast furnaces
**Facility ID:** F001
**Throughput:** 581,565 TPY
**Raw Material:** Blast Furnace Slag

### 1. Restrictions:

a. The permittee shall maintain and operate the Blast Furnace Slag Pits and associated equipment in accordance with manufacturer's specifications and good engineering practices by performing regular maintenance, and as required by condition V.I.3.a. [Permit No. 7035003-002-31400, issued June 30, 1995; §2101.05.a.1; §2103.12.a.2.B]

b. The permittee shall conduct slag pit transfer and storage operations in a manner such that emissions from these operations are not visible at or beyond the facility property line at any time. [§2104.05]

c. The permittee shall comply with the following practices applicable to the Blast Furnace slag pits: [§2105.20.b]

1) Systems for distributing quench water uniformly over the slag surface at rates sufficiently high to minimize or prevent the evolution of hydrogen sulfide (§2105.20.b.3); and

2) Excavation of slag pits in such a way as to achieve the maximum practicable volume and/or surface area. [§2105.20.b.4]

d. The permittee shall take all reasonable action as may be necessary to prevent malodorous matter (including hydrogen sulfide) from becoming perceptible beyond facility boundaries. Further, the permittee shall perform such observations as may be deemed necessary along facility boundaries to ensure that malodorous matter beyond the facility boundary in accordance with Article XXI §2107.13 is not perceptible and record all findings and corrective action measures taken. [Permit No. 7035003-002-32300, issued June 30, 1995; §2101.05.a.1; §2104.04.b.14] (County-Only Enforceable.)

e. The permittee shall apply adequate water on all slag processing equipment as necessary to prevent the generation of any visible emissions from the building equal to or greater than 20% opacity. [Permit No. 7035003-002-31400, issued June 30, 1995; §2101.05.a.1; §2103.12.a.2.B]

### 2. Testing Requirements:

The Department reserves the right to require any emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing, if required, shall be performed in accordance with Article XXI §2108.02 and Site Level Condition IV.14 above ("Emissions Testing Requirements"). [§2103.12.h.1]

### 3. Monitoring Requirements:

a. Notations of visible emissions at the property line attributable to the slag pit digging and slag handling operations shall be performed once per week during normal daylight operations. A trained

DRAFT

individual shall record whether any emissions are observed and whether these emissions extend beyond the facility property line. The permittee may skip to monthly monitoring after six consecutive months of compliance with the weekly monitoring. [§2103.12.h.1]

b. The Department reserves the right to revert the monitoring frequency in condition V.I.3.a above back from monthly to weekly at any time, based on but not limited to the review of the compliance certification and semi-annual report of monitoring and recordkeeping, complaints, monitoring results, and/or Department findings. [§2103.12.h.1]

c. A trained individual is an individual who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. [§2103.12.h.1]

**4. Record Keeping Requirements:**

a. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.h.1; §2103.12.j]

b. The permittee shall keep and maintain the following data for the slag pit operations: [§2101.05.a.1, §2103.12.a.2.B]

1) Amount of slag pit material shipped from the site (tons/day);
2) Records of visible emission notations as required by V.I.3.a above.

c. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j.2]

**5. Reporting Requirements:**

a. The permittee shall report to the Department every six months, in accordance with General Condition III.15 above, all instances of non-compliance with the conditions of this permit along with corrective action taken to restore the subject equipment into compliance. If all the terms and conditions of this permit are complied with during the reporting period, then no report is necessary under this permit condition. [§2103.12.k]

b. Reporting instances of non-compliance in accordance with condition V.I.5.a above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k.1]

**6. Work Practice Standards:**

The permittee shall calibrate, maintain, and operate all instrumentation, process equipment, and control equipment according to the applicable terms and conditions of this permit. [§2105.03]

***PERMIT SHIELD IN EFFECT***

DRAFT

## J. Diesel Emergency Generators: GEN-1 and GEN-2

| | |
|---|---|
| **Facility ID:** | GEN-1 and GEN-2 |
| **Manufacturer/Model:** | Cummins |
| **Max. Design Rate:** | 2,922 HP (2179 kw) |
| **Raw Materials:** | Diesel Fuel |
| **Annual Fuel Consumption:** | 74,633 gal/yr |
| **Max. Fuel/hour:** | 149 gal/hr |
| **BTU Rating:** | 20.5 MMBtu/hr |
| **Control Device:** | None (Tier 1) |

### 1. Restrictions:

a. The permittee shall not operate emergency generators for more than 500 hours in any consecutive 12-month period, including operation for maintenance checks and readiness testing. [§2102.04.e; IP 0051-I009, Condition V.A.1.a]

b. Diesel fuel consumption shall be limited to 149 gallons/hour and 74,633 gallons per consecutive 12-month period. [§2102.04.e; IP 0051-I009, Condition V.A.1.b]

c. The permittee shall only combust or allow to be combusted diesel fuel that meets the following requirements: [§2102.04.e; §60.4207(b); §80.510(c); IP 0051-I009, Condition V.A.1.c]

1) Sulfur content no higher than 0.0015% sulfur content (by weight) (15 ppm S); and
2) A minimum cetane index of 40, or a maximum aromatic content of 35 volume percent

d. The emergency generator may be operated for the purpose of maintenance check and readiness testing, provided that the tests are recommended by the Department, the manufacturer, the vendor, or the insurance company associated with the generator. Maintenance checks and readiness testing is limited to 100 hours per year. [§2102.04.e; §60.4211(f)(2)(i); IP 0051-I009, Condition V.A.1.d]

e. The permittee may operate the emergency generator up to 50 hours per year in non-emergency situations. The 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid, or otherwise supply non-emergency power as part of a financial arrangement with another entity. [§2102.04.e; §60.4211(f)(3); IP 0051-I009, Condition V.A.1.e]

DRAFT

f. Emissions from the emergency generator shall not exceed the following at any time: [§2104.02.a, §60.4202, §60.4205(b), §89.112 Table 1; IP 0051-I009, Condition V.A.1.f]

**TABLE V-J-1**
**GEN-1 and GEN-2 Emergency Generators Emission Limitations**

| Pollutant | Hourly Emission Limit (Each Generator) (lb/hr) | Annual Emission Limit Each Generator (tons/year)* | Annual Emission Limit Total (tons/year)* |
|---|---|---|---|
| Particulate Matter | 1.4 | 0.34 | 0.7 |
| $PM_{10}$ | 1.4 | 0.34 | 0.7 |
| $PM_{2.5}$ | 1.4 | 0.34 | 0.7 |
| Sulfur Dioxide ($SO_2$) | 0.04 | 0.01 | 0.02 |
| Carbon Monoxide (CO) | 6.4 | 1.6 | 3.2 |
| Nitrogen Oxide ($NO_X$) | 45.1 | 11.3 | 22.6 |
| Volatile Organic Compound | 3.2 | 0.8 | 1.6 |

*A year is defined as any consecutive 12-month

**2. Testing Requirements:**

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.14 above entitled "Emissions Testing." [§2102.04.e].

**3. Monitoring Requirements:**

a. The permittee shall install a non-resettable hour meter. [IP 0051-I009, Condition V.A.3.a; §60.4209(a)]

b. Compliance with the fuel oil sulfur limitations in V.J.1.c above shall be determined based on a certification of analysis from the fuel supplier. [IP 0051-I009, Condition V.A.3.b; §2103.12.i]

**4. Record Keeping Requirements:**

a. The permittee shall keep and maintain the following data for the generator: [IP 0051-I009, Condition V.A.4.a; §2103.12.j; §60.4214(b)]

1) Fuel shipment records (date and amount received), type of fuel consumed and supplier's certification of sulfur content, and heating value;
2) Monthly fuel usage for the generator testing/operation process;
3) Date, time, duration, and reason for each use;
4) Operating hours (monthly and 12-month) as recorded by the non-resettable hour meters required under condition V.J.3.a above; and
5) Records of operation, maintenance, inspection, calibration, and/or replacement of combustion equipment.

b. Records of fuel supplier certifications used to demonstrate compliance with the sulfur limitations of Condition V.J.3.b above shall be maintained per shipment and include the following information: [IP 0051-I009, Condition V.A.4.b; §2103.12.j]

DRAFT

1) The name of the diesel fuel supplier, and
2) A statement from the fuel supplier that the diesel fuel complies with ASTM D975 "Standard Specifications for Diesel Fuel Oils".

c. Instances of non-compliance with the conditions of this permit shall be recorded upon occurrence. [IP 0051-I009, Condition V.A.4.c; §2103.12.j]

d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [IP 0051-I009, Condition V.A.4.d; §2103.12.j.2]

**5. Reporting Requirements:**

a. The permittee shall report the following information to the Department semiannually in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [IP 0051-I009, Condition V.A.5.a §2103.12.k]

1) Information required under conditions V.J.4.a.2), V.J.4.a.3), and V.J.4.a.4) above;
2) Non-compliance information required to be recorded by condition V.J.4.c above; and
3) Diesel fuel certifications and a statement from the permittee that the record of fuel supplier certifications represents all the diesel fuel used during the reporting period.

b. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k]

**6. Work Practice Standard:**

a. The permittee shall operate and maintain the engine according to the manufacturer's emission-related written instructions. [IP 0051-I009, Condition V.A.6.a; §60.4211(a)(1)]

b. The permittee shall change only those emission-related settings that are permitted by the manufacturer. [IP 0051-I009, Condition V.A.6.b; §60.4211(a)(2)]

c. The manufacturer's operation and maintenance manuals shall be kept on site at all times for the life of the generator. [IP 0051-I009, Condition V.A.6.c; §2105.03; §60.4206; §60.4211(a)]

**7. Additional Requirements:**

None, except as provided elsewhere.

DRAFT

## K. Circulating Water Cooling Towers

**Process Description:** Seven cooling towers (Caster Mold Water, Caster Internal Machine, Caster Spray Water, Degasser, BOP Open Hood Tower, BOP Gas Cooling Tower, Blast Furnace Recycle and Blast Furnace Closed Loop)
**Capacity:** 69,666 gallons recirculating water per minute, total
**Raw Material(s)/Fuel(s):** River make-up water
**Control Device:** Mist eliminators

### 1. Restrictions:

a. The following cooling towers shall be equipped with mist eliminator, which shall operate at all times the unit is operating: [§2103.12.a.2.B]

1) Caster Internal Machine
2) Caster Spray Water
3) BOP Gas Cleaning
4) BOP Open Hood
5) Blast Furnace Recycling
6) Degasser

b. Emissions from the Cooling Towers shall not exceed the emissions limitations in Table V-K-1 below: [§2101.05.a.1; §2103.12.a.2.B]

**Table V-K-1:**
**Cooling Towers Emission Limitations**

| Pollutant | Hourly Emission Limit (lbs/hr) | Annual Emission Limit (tons/year)* |
|---|---|---|
| Particulate Matter (filterable) | 10.31 | 45.15 |
| $PM_{10}$ (filterable) | 8.22 | 36.01 |
| $PM_{2.5}$ (filterable) | 0.03 | 0.11 |

*A year is defined as any consecutive 12-month period.

### 2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.14 (Emissions Testing Requirements). [§2103.12.h.1]

### 3. Monitoring Requirements:

The permittee shall monitor the total dissolved solids (TDS) of the recirculating water (Conductivity may be used to estimate TDS) at least once per month for the purpose of emission inventory. [§2103.12.i; §2102.04.e]

DRAFT

**4. Record Keeping Requirements:**

a. The permittee shall keep and maintain the records of TDS (required to be monitored by condition V.K.3 and present such records upon request by the Department. [§2103.12.j; §2103.12.k]

b. The permittee shall keep and maintain the records of the completed inspection and maintenance as required by conditions V.K.6.a and V.K.6.b below and present such records upon request by the Department. [§2103.12.j; §2103.12.k]

c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2103.12.j; §2103.12.k]

d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. [§2103.12.j; §2103.12.k]

**5. Reporting Requirements:**

a. The permittee shall report non-compliance information required to be recorded by the Department in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: [§2103.12.k.1]

b. Reporting instances of non-compliance in accordance with condition V.K.5.a does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k.1]

**6. Work Practice Standards:**

a. The permittee shall perform the following inspection annually, and any noted deficiencies are to be corrected as soon as possible to ensure proper operation of the cooling towers. [§2103.12.k.1]

1) Inspect drift eliminators for the following:

a) Proper installation
b) Spacing; and
c) Condition.

2) Inspect towers water flow and distribution

3) Inspect cooling towers fill for blockage.

b. The permittee shall inspect the cooling towers system for biological activity quarterly. Any noted deficiencies shall be corrected as soon as possible. [§2103.12.k.1]

c. The permittee may revise the work practice required in condition V.K.6.a and V.K.6.b above by providing notice to the Department. [§2103.12.k.1]

***PERMIT SHIELD IN EFFECT***

DRAFT

## L. Plant Roads

**Process Description**: Paved and Unpaved Plant Roads and Parking Areas
**Facility ID:** F002
**Fuel/Raw Material:** N/A
**Control Method(s):** Wet Suppression; Chemical Treatment; Paved Road Sweeping

### 1. Restrictions:

a. The permittee shall take actions to minimize the potential for fugitive dust emissions from vehicular traffic on all plant paved and unpaved roads and areas to comply with Site Level Conditions IV.19, IV.20 and IV.25 above, including but not limited to, the following: [§2105.40; §2105.42; §2105.49]

1) For paved roads and other paved areas: periodic vacuum sweeping; the use of water sprays; and/or proper maintenance.

2) For unpaved roads and other unpaved areas: the use of water sprays and/ or chemical dust suppressants.

### 2. Testing Requirements:

The Department reserves the right to require any additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing, if required, shall be performed in accordance with Article XXI §2108.02 and Site Level Condition IV.14 above ("Emissions Testing Requirements"). [§2103.12.h.1]

### 3. Monitoring Requirements:

None except as specified elsewhere.

### 4. Record Keeping Requirements:

a. The permittee shall record or have access to records that list the date, time, amount of undiluted chemical dust suppressant and the dilution ratio of each application of chemical dust suppressant [§2103.12.j]

b. The permittee shall record or have access to records of the locations swept by the vacuum sweeper(s) and/or any other dust control measures taken. [§2103.12.j]

### 5. Reporting Requirements:

a. The permittee shall prepare the dates on which chemical dust suppressant was applied, and for each date, the location(s) and the dilution ratio(s) of the application. [§2103.12.k]

b. The permittee shall report to the Department every six months, in accordance with General Condition III.15 above, all instances of non-compliance with the conditions of this permit along with corrective action taken to restore the subject equipment into compliance. If all the terms and conditions of this permit are complied with during the reporting period, then no report is necessary under this permit condition. [§2103.12.k]

DRAFT

c. Reporting instances of non-compliance in accordance with condition V.L.5.b above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. [§2103.12.k.1]

**6. Work Practice Standards:**

None except as specified elsewhere.

***PERMIT SHIELD IN EFFECT***

DRAFT

**M. Storage Piles:** **Slag Storage Piles**

**Process Description:** Slag Storage Piles
**Facility ID:** F003
**Max. Design Rate/Units:** 2 Acres
**Raw Materials:** Steel Slag
**Control Device(s):** Fugitive dust control, i.e., material moisture content >1.5%

**1. Restrictions:**

a. The permittee shall not operate or allow to be operated; steel slag storage piles unless fugitive particulate emissions control measure are properly maintained and operated at all times. [§2105.03]

b. The truck or rail unloading equipment shall be operated in such manner that no emissions are visible at or beyond the property line. [§2104.05]

**2. Testing Requirements:**

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. (§2103.12.h.1)

**3. Monitoring Requirements:**

None except as specified elsewhere.

**4. Record Keeping Requirements:**

None except as specified elsewhere.

**5. Reporting Requirements:**

None except as specified elsewhere

**6. Work Practice Standard:**

None except as specified elsewhere

DRAFT

**N. Paints/Thinners & Solvents Degreaser:**

**Process Description:** Paints, Thinners, Solvent Degreasers
**Facility ID:** F004
**Capacity:** 795 gal/yr (Paint & Thinners); 2,949 gal/yr (Solvent Degreaser)
**Control Device:** None

**1. Restrictions:**

a. The permittee shall operate the solvent degreaser in such a manner that waste solvents are transferred to another party or disposed of by means of insuring that no more than 20% by weight of the solvent evaporate into the air. [§2105.15.a.2.A]

b. The permittee shall drain the cleaned parts for at least 15 seconds or until dripping ceases. [§2105.15.a.2.D]

**2. Testing Requirements:**

The Department reserves the right to require any additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing, if required, shall be performed in accordance with Article XXI §2108.02 and Site Level Condition IV.14 above ("Emissions Testing Requirements"). [§2103.12.h.1]

**3. Monitoring Requirements:**

None except as provided elsewhere.

**4. Record Keeping Requirements:**

None except as provided elsewhere.

**5. Reporting Requirements:**

None except as provided elsewhere.

**6. Work Practice Standards:**

a. The permittee shall cover the tank to prevent evaporation of solvent during periods of non-use. [§2105.15.a]

b. The permittee shall store the waste solvent in a covered container. [§2105.15.a.2.B]

c. The permittee shall operate and maintain the volatile materials storage containers and drums in accordance with manufacturer's recommendations and good engineering practices. [§2103.12.a.2.B]

d. All containers and drums of volatile materials, paint, thinners and solvent fluid shall remain closed at all times unless filling, draining, or performing cleanup operations. [§2103.12.a.2.B]

DRAFT

## O. Pot Coat Winter Grade

**Process Description**: Pot Coat–Antifreeze
**Facility ID:** F005
**Max. Design Rate:** 911,138 Pounds/Yr
**Raw Materials:** Antifreeze
**Control Device(s):** None

### 1. Restrictions:

a. The winterized pot coat usage shall not exceed 911,138 pounds per twelve (12) month consecutive period. [§2103.12.g; §2105.10; §2103.12.a.2.B]

b. The methanol content of the pot coat shall not exceed 7% by weight, at any time. [§2103.12.g]

c. The emissions from the pot coat usage shall not exceed the limits summarized in Table V-O-1 at any time. [§2103.12.a.2.B; §2103.12.g]

**TABLE V-O-1: Pot Coat Usage Emission Limitations**

| Pollutant | Hourly Emission Limit (lbs/hr) | Annual Emission Limit (tons/year)[1] |
|---|---|---|
| VOC/HAPs (Methanol) | 7.28 | 31.89 |

[1]A year is defined as any consecutive 12-month period

### 2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.14 above ("Emissions Testing Requirements") and Article XXI §2108.02. [§2103.12.h.1; §2103.12.i; §2108.02]

### 3. Monitoring Requirements:

None except as specified elsewhere.

### 4. Record Keeping Requirements:

The permittee shall record the monthly usage of pot coat (antifreeze) containing hazardous air pollutants or VOCs. [§2103.12.j; §2104.08.c]

### 5. Reporting Requirements:

The permittee shall report the monthly usage of pot coat antifreeze used for ladle maintenance containing hazardous air pollutants of VOCs semiannually in accordance with General Condition III.15 above. [§2103.12.k.1; §2104.08.c]

### 6. Work Practice Standards:

None except as specified elsewhere.

DRAFT

# VI. MISCELLANEOUS

*No miscellaneous sources exist for this facility.*

DRAFT

# VII. ALTERNATIVE OPERATING SCENARIOS

## A. BOP Slag Handling

*The Edgar Thomson Plant presently uses an on-site contractor for the BOP Slag Processing activities. This alternative operating scenario is to allow the plant to conduct BOP Slag Processing activities in the event that the use of the on-site contractor is discontinued.*

### 1. Restrictions.

a. In the event that the use of the on-site contractor is discontinued, and the permittee conducts BOP Slag Processing activities using the existing processing equipment, the permittee shall operate such equipment in accordance with its permits. [§2103.12.a.2.B]

b. In the event that the use of the on-site contractor is discontinued, and the permittee conducts BOP Slag Processing activities using processing equipment other than the existing equipment, the permittee shall submit an application as necessary for the installation of such equipment in accordance with Article XXI. [§2103.12.a.2.B]

c. Upon request, the permittee shall provide the Department with a list of equipment (make, model, capacity etc.). [§2103.12.a.2.B]

DRAFT

## B. Waste Product Recycling and Briquetting Process

*The Edgar Thomson Plant currently uses an on-site contractor for the Briquetting of various plant sludges (furnace dust, slag and sludge, mill scale, and lime and coke fines) for recycling purposes as furnace charge. This alternative operating scenario is to allow the plant to conduct Briquetting activities in the event that the uses of the on-site contractor is discontinued.*

### 1. Restrictions

a. In the event that the use of the on-site contractor is discontinued, and the permittee conducts Waste Product Recycling and Briquetting Process activities using the existing processing equipment, the permittee shall operate such equipment in accordance with the permits. [§2103.12.a.2.B]

b. In the event that the use of the on-site contractor is discontinued, and the permittee conducts Waste Product Recycling and Briquetting Process activities using processing equipment other than the existing equipment, the permittee shall submit an application as necessary for the installation of such equipment in accordance with Article XXI. [§2103.12.a.2.B]

c. Upon request, the permittee shall provide the Department with a list of equipment (make, model, capacity etc.). [§2103.12.a.2.B]

***PERMIT SHIELD IN EFFECT***

DRAFT

# VIII. EMISSIONS LIMITATIONS SUMMARY

The annual emission limitations for the U.S. Steel Edgar Thomson plant facility are summarized in the following table:

**TABLE VIII-1: Emission Limitations Summary**

| POLLUTANT | ANNUAL EMISSION LIMIT (tons/year)* |
|---|---|
| Particulate Matter | 1,579.79 |
| $PM_{10}$ | 1,450.81 |
| $PM_{2.5}$ | 1,370.82 |
| Nitrogen Oxides ($NO_X$) | 1,436.96 |
| Sulfur Dioxide ($SO_2$) | 4,059.09 |
| Carbon Monoxide (CO) | 19,524.54 |
| Volatile Organic Compound (VOC) | 157.22 |
| Lead | 1.18 |
| Total HAP | 174.53 |
| GHGs ($CO_2e$) | 12,241,161 |

*A year is defined as any consecutive 12-month period.
All PM species shown above are total PM (filterable + condensable).

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