



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

Minor Source/Minor Modification
INSTALLATION PERMIT

Issued To: U.S. Steel Mon Valley Works
Edgar Thomson Plant
13th Street and Braddock Avenue
Braddock, PA 15104

ACHD Permit#: 0051-I007

Date of Issuance: -----

Expiration Date: (See Section III.12)

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

Prepared By: _____
Hafeez Ajenifuja
Air Quality Engineer

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AMENDMENTS:

DATE	SECTION(S)
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I. CONTACT INFORMATION

Facility Location: U.S. Steel Mon Valley Works
Edgar Thomson Plant
13th Street and Braddock Avenue
Braddock, PA 15104

Permittee/Owner: U.S. Steel Mon Valley Works
Edgar Thomson Plant
13th Street and Braddock Avenue
Braddock, PA 15104

Permittee/Operator: *same as above*
(if not Owner)

Responsible Official: Kurt Barshick
Title: General Manager
Company: U.S. Steel Corporate, Mon Valley Works
Address: P.O. Box 878
Dravosburg, PA 15043
Telephone Number: 412-675-2600
Fax Number: 412-675-5407

Facility Contact: Coleen Davis
Title: Environmental Coordinator
Telephone Number: 412-273-4730
Fax Number: 412-273-7099
E-mail Address: CDavis@uss.com

AGENCY ADDRESSES:

ACHD Contact: Chief Engineer
Allegheny County Health Department
Air Quality Program
301 39th Street, Building #7
Pittsburgh, PA 15201-1811

EPA Contact: Enforcement Programs Section (3AP12)
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029

II. FACILITY DESCRIPTION

FACILITY DESCRIPTION

The U. S. Steel Mon Valley Works 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 operated by Tube City IMS, LLC, while the Waste Product Recycling and Briquette is operated by Braddock Recovery Inc, a division of Harsco Corporation.

Both Tube City IMS, Inc. and Braddock Recovery Inc. 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, acting as support facilities to Edgar Thomson Plant, and have their own Title V operating permit.

In addition, Messer (formerly Linde) 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 supplies 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 less than 10 microns in diameter (PM₁₀), sulfur dioxide (SO₂), 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.

INSTALLATION DESCRIPTION

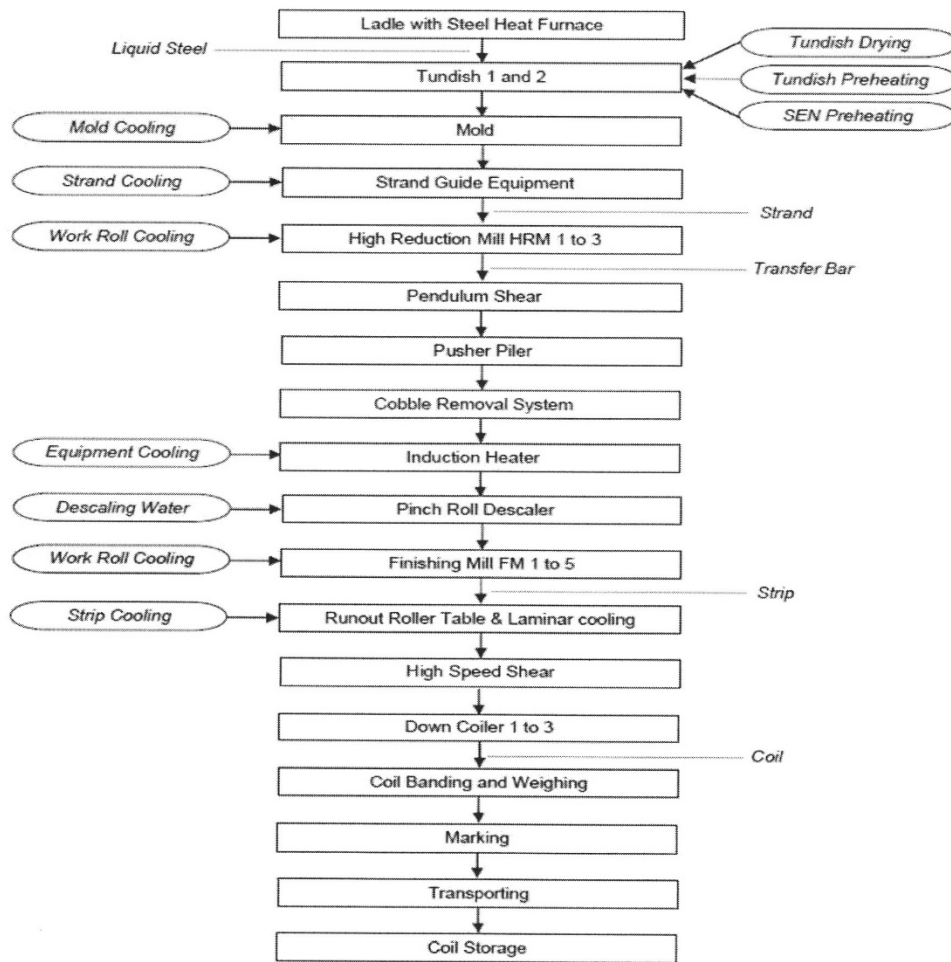
U. S. Steel is proposing to install a new Endless Casting and Rolling (ECR) facility to replace the existing dual strand continuous caster (P005) and a second LMF Vessel to support the existing LMF (S009).

TABLE II-1: Emission Unit Identification

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
P007	Endless Casting and Rolling (ECR)	Low NOx Burner	3,000,000 TPY (Steel Production)	Steel (Liquid), Fluxes	NA
	Circulating Cooling Tower	Mist Eliminator	6,393,100 gph	NA	NA
P004-2B	LMF Vessel- B	LMF Baghouse-2	3,000,000 TPY Steel		S009-B

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Flow Diagrams for Endless Casting and Rolling Facility



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.

III. GENERAL CONDITIONS

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. Nuisances (§2101.13)

Any violation of any requirement of this Permit shall constitute a nuisance.

3. 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.

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. Operation and Maintenance (§2105.03)

All air pollution control equipment required by this permit or Article XXI, and all equivalent compliance techniques that have been approved by the Department, shall be properly installed, maintained, and operated consistent with good air pollution control practice.

6. 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.

7. 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.

8. Effect (§2102.03.g)

Issuance of this permit shall not in any manner relieve any person of the duty to fully comply with the requirements of 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 Article XXI or this Permit, whether occurring before or after the issuance of such permit. Further, the issuance of this 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 Article XXI or this Permit.

9. General Requirements (§2102.04.a)

It shall be a violation of this Permit giving rise to the remedies set forth in Article XXI §2109 for any person to install, modify, replace, reconstruct, or reactivate any source or air pollution control equipment to which this Permit applies unless either:

- a. The Department has first issued an Installation Permit for such source or equipment; or
- b. Such action is solely a reactivation of a source with a current Operating Permit, which is approved under §2103.13 of Article XXI.

10. Conditions (§2102.04.e)

Further, the initiation of installation, modification, replacement, reconstruction, or reactivation under this

Installation Permit and any reactivation plan shall be deemed acceptance by the source of all terms and conditions specified by the Department in this permit and plan.

11. Revocation (§2102.04.f)

- a. The Department may, at any time, revoke this Installation Permit if it finds that:
- 1) Any statement made in the permit application is not true, or that material information has not been disclosed in the application;
 - 2) The source is not being installed, modified, replaced, reconstructed, or reactivated in the manner indicated by this permit or applicable reactivation plan;
 - 3) Air contaminants will not be controlled to the degree indicated by this permit;
 - 4) Any term or condition of this permit has not been complied with;
 - 5) The Department has been denied lawful access to the premises or records, charts, instruments and the like as authorized by this Permit; or
- b. Prior to the date on which construction of the proposed source has commenced the Department may, revoke this Installation Permit if a significantly better air pollution control technology has become available for such source, a more stringent regulation applicable to such source has been adopted, or any other change has occurred which requires a more stringent degree of control of air contaminants.

12. Term (§2102.04.g)

This Installation Permit shall expire in 18 months if construction has not commenced within such period or shall expire 18 months after such construction has been suspended, if construction is not resumed within such period. In any event, this Installation Permit shall expire upon completion of construction, except that this Installation Permit shall authorize temporary operation to facilitate shakedown of sources and air cleaning devices, to permit operations pending issuance of a related subsequent Operating Permit, or to permit the evaluation of the air contamination aspects of the source. Such temporary operation period shall be valid for a limited time, not to exceed 180 days, but may be extended for additional limited periods, each not to exceed 120 days, except that no temporary operation shall be authorized or extended which may circumvent the requirements of this Permit.

13. Annual Installation Permit Administrative Fee (§2102.10.c & e)

No later than 30 days after the date of issuance of this Installation Permit and on or before the last day of the month in which this permit was issued in each year thereafter, during the term of this permit until a subsequent corresponding Operating Permit or amended Operating Permit is properly applied for, the owner or operator of such source shall pay to the Department, in addition to all other applicable emission and administration fees, an Annual Installation Permit Administration Fee in an amount of \$750.

14. Severability Requirement (§2103.12.l)

The provisions of this permit are severable, and if any provision of this permit is determined to by a court of competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of 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 February 1 of each year for the time period beginning July 1 and ending December 31.
- e. Reports may be emailed to the Department at agreports@alleghenycounty.us in lieu of mailing a hard copy.

16. Minor Installation Permit Modifications (§2102.10.d)

Modifications to this Installation Permit may be applied for but only upon submission of an application with a fee in the amount of \$300 and where:

- a. No reassessment of any control technology determination is required; and
- b. No reassessment of any ambient air quality impact is required.

17. Violations (§2104.06)

The violation of any emission standard established by this Permit shall be a violation of this Permit giving rise to the remedies provided by Article §2109.02.

18. Other Requirements Not Affected (§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, any applicable NSPSs, NESHAPs, MACTs, or Generally Achievable Control Technology standards now or hereafter established by the EPA, and any applicable requirement of BACT or LAER as provided by Article XXI, any condition contained in this Installation Permit and/or any additional or more stringent requirements contained in an order issued to such person pursuant to Part I of Article XXI.

19. 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

20. Penalties, Fines, and Interest (§2109.07.a)

A source that fails to pay any fee required under this Permit or article XXI when due shall pay a civil penalty of 50% of the fee amount, plus interest on the fee amount computed in accordance with of Article XXI §2109.06.a.4 from the date the fee was required to be paid. In addition, the source may have its permit revoked.

21. 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 shall have the right to appeal the action to the Director in accordance with the applicable County regulations and ordinances.

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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) 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.

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.
 - 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.

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.

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 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 §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.

12. Orders (§2108.01.f)

In addition to meeting the requirements Site Level Conditions IV.7 through IV.11, 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 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:** No later than 60 days after achieving full production or 120 days after startup, whichever is earlier, the permittee shall conduct, or cause to be conducted, such emissions tests as are specified by the Department to demonstrate compliance with the applicable requirements of this permit and shall submit the results of such tests to the Department in writing. Upon written application setting forth all information necessary to evaluate the application, the Department may, for good cause shown, extend the time for conducting such tests beyond 120 days after startup but shall not extend the time beyond 60 days after achieving full production. 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 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. 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.

18. 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 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.18.a above.

19. 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.19.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.19 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.19.

20. 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.20 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 any violation of Site Level Condition IV.20.

21. 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.21 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.21.

22. 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.

23. 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.23 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.23.

24. 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;
- 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.

25. 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.

26. 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.

27. SO₂ Compliance Monitoring

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 Clairton Works, when all sulfur emissions from the Claus Sulfur Recovery Plant and the tail gas cleaning equipment thereon, expressed as equivalent H₂S are added to the measured H₂S. The concentration of sulfur compounds specified shall include the tail-gas sulfur, measured as hydrogen sulfide, emitted from sulfur removal equipment. [§2105.21.h; §2105.21.h.4].

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. Process P007: Endless Casting and Rolling (ECR) Facility

Process Description: Thin Slab Caster, High Reduction Mill and Finishing Mill
Facility ID: P007
Max Design Rate: 3,000,000 TPY Steel
Raw Materials: Steel (Liquid), Fluxes
Control Device(s): Low NO_x burners and Dust Collector.
Stack I.D.: N/A – all emission points exhaust inside buildings. See Process 7 Table below

Process P007, Endless Casting and Rolling (ECR) Facility, consists of the following equipment and activities:

I.D.	SOURCE DESCRIPTION	CAPACITY MMBtu/hr	CONTROL DEVICE(S)	STACK ID
P007-1	Tundish Preheating Station 1	7.51	Low NO _x Burners	n/a (exhausts inside the ECR Building)
P007-2	Tundish Preheating Station 2	7.51	Low NO _x Burners	n/a (exhausts inside the ECR Building)
P007-3	Submerged Entry Nozzle (SEN) Preheater 1	0.82	Low NO _x Burners	n/a (exhausts inside the ECR Building)
P007-4	Submerged Entry Nozzle (SEN) Preheater 2	0.82	Low NO _x Burners	n/a (exhausts inside the ECR Building)
P007-5	Tundish Drying Station	3.41	Low NO _x Burners	n/a (exhausts inside the ECR Building)

1. Restrictions:

- a. The ECR facility, 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: [§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.
- b. Coke oven gas or natural gas usage in each Tundish Preheater shall not exceed the maximum potential usage of 7.51 MMBtu/hr and 15,079 MMBtu/yr. [§2103.12.a.2.D; §2102.04.b.6; §2103.12.h.1]
- c. The permittee shall operate the ECR Hot Rolling Mill with lubricating oil which is an oil-water emulsion that does not exceed a maximum VOC content by weight, of 4% at any time. [§2102.04.b.6; §2105.06]

- d. Emissions from the Fuel Combustion Units shall not exceed the emissions limitations in Table V-A-1 below: [§2103.12.a.2.B]

Table V-A-1: Emission Limitations for Fuel Combustion Units

Pollutant	Tundish Preheating Stations 1 and 2 Annual Emissions Limit (tons/year)*	SEN Preheaters 1 and 2 Annual Emission Limit (tons/year)*	Tundish Drying Station Annual Emission Limit (tons/year)*
PM/PM ₁₀ (filterable)	0.22	0.02	0.13
Sulfur Oxide	2.56	0.28	1.48
Nitrogen Oxide	1.3	0.48	0.28
Carbon Monoxide	0.30	0.16	0.16
Volatile Organic Compounds	0.10	0.02	0.05

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

- e. Coke oven gas or natural gas usage in each SEN Preheater station shall not exceed the maximum potential usage of 0.82 MMBtu/hr and 1,645 MMBtu/yr. [§2103.12.a.2.D; §2102.04.b.6; §2103.12.h.1]
- f. Coke oven gas usage in the Tundish Dryer shall not exceed the maximum potential usage of 3.41 MMBtu/hr and 17,446 MMBtu/yr. [§2103.12.a.2.D; §2102.04.b.6; §2103.12.h.1]
- g. Natural gas usage in the Tundish Dryer shall not exceed the maximum potential usage of 3.07 MMBtu/hr and 15,702 MMBtu/yr. [§2103.12.a.2.D; §2102.04.b.6; §2103.12.h.1]

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 and 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 units listed in the emissions source table above. [§2103.12.h.5.B]
- b. Notations of visible emissions from the ECR Facility 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]
- c. The Department reserves the right to revert the monitoring frequency in condition V.A.3.b 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 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 ECR Facility (monthly, 12-month);
 - 2) ECR Facility production (monthly, 12-month);
 - 3) The COG sulfur concentration, as H₂S, measured at U.S. Steel Clairton Works in accordance with Site Level condition IV.27 above;
- c. The permittee shall maintain records of inspections, performance evaluations, calibration checks, adjustments, and maintenance performed on the Fuel Combustion Units. [§2103.12.j; §2103.12.h.1]
- d. The permittee shall keep records of visible emission notations as required by V.A.3.b above. [§2103.12.j; §2103.12.h.1]
- e. The permittee shall maintain sufficient documentation to demonstrate compliance with the VOC requirements for the Hot Rolling Mill (HRM) and Finishing Mill. Compliance with Condition V.A.1.d may be demonstrated by documentation from all suppliers of oils for the HRM that includes the VOC content of these oils. [§2103.12.j]
- f. 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]
- 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 Fuel Combustion Unit fuel use, per fuel type;
 - 2) The monthly average H₂S content of the COG fired; and
 - 3) Non-compliance information required to be recorded by condition V.A.4.f above.
- b. Reporting instances of non-compliance in accordance with condition V.A.5.a.3) 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]

6. Work Practice Requirements:

- a. The permittee shall not, at any time, operate the ECR Facility 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. [§2102.04.b.5; §2105.03]
- b. The permittee shall calibrate, maintain, and operate the Fuel Combustion Units according manufacturer's recommendations and good engineering practices. [§2105.03]

7. Additional Requirements

None except as specified elsewhere.

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B. ECR Facility Circulating Cooling Towers

Process Description: Three Cooling Towers (One Indirect Cooling, One Direct Cooling, and One Laminar Cooling)
Capacity: 6,393,100 gallons recirculating water per hour, 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 eliminators, which shall operate at all times the unit is operating. [§2103.12.a.2.B]
 - 1) Indirect Cooling
 - 2) Direct Cooling
 - 3) Laminar Cooling
- b. Emissions from the cooling tower units shall not exceed the emissions limitations in Table V-B-1 below: [§2103.12.a.2.B]

**TABLE V-B-1
Cooling Towers Emission Limitations**

POLLUTANT**	HOURLY EMISSIONS LIMIT (lb/hr)	ANNUAL EMISSIONS LIMIT (tons/year)*
Particulate Matter	0.80	3.50
PM-10	0.58	2.54
PM-2.5	0.002	0.01

*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 condition IV.14 and Article XXI §2108.02. [§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. [§2103.12.i §2102.04.e]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the records of TDS (required to be monitored by condition V.B.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.B.6.b and V.B.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.B.5.a does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]

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 cooling towers water flow and distribution 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 condition V.B.6.a and V.B.6.b above by providing notice to the Department [§2103.12.k.1]

7. Additional Requirements:

None except provided elsewhere

C. Process P004: Ladle Metallurgical Facility

Process Description: Ladle Metallurgical Facility (LMF)
Facility ID: P004
Max. Design Rate: 3,000,000 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:

ID	Source Description	Control Device(s)	Stack ID
P004-1	LMF Flux/Alloy Handling System	LMF Baghouse	S009
P004-2	LMF Vessel (existing)	LMF Baghouse (existing)	S009 9 (existing)
P004-2B	LMF Vessel- B	LMF Baghouse-2	S009-B
P004-3	LMF Tripper Car Conveyor System	LMF Tripper Car Dust Collector	n/a (exhausts 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 Vessels and the 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. [§2102.04.b.6]
- b. The permittee must not cause to be discharged to the atmosphere any gases that exits from the LMF Baghouses that contains particulate matter in excess of 0.0052 gr/dscf. [§2102.04.b.6; §2103.12.a.2.B; §2103.12.g; §63.7790(a), Table 1, Item 11; §63.7833(a), Table 3, item 11]
- c. The permittee shall install and operate a pressure differential gauge on each baghouse module. [§2102.04.b.6]
- 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. [§2102.04.b.6]
- 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: [§2102.04.b.6]
 - 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). [§2102.04.b.6]
- 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. [§2101.05.a.2; §2102.04.b.6]
- 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. [§§2102.04.b.6]
- i. No wire feeding shall be made at the LMF station at any time when power is being supplied to the electrodes. [§§2104.b.6]
- 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. [§2104.02.b.6; §63.7810(a)]
- k. Emissions from the outlet of LMF Emission Control Baghouses shall not exceed the emission limitations in Table V-C-1 at any time. [§2102.04.b.6; §2103.12.a.2.B]:

Table V-C-1 - LMF Baghouse Emission Limitations

POLLUTANT**	HOURLY EMISSIONS LIMIT (lb/hr) *	ANNUAL EMISSIONS LIMIT** (tons/year)***
Particulate Matter	3.74	4.50
PM ₁₀	3.74	4.50
PM _{2.5}	3.74	4.50

*The lb/hr limits are hourly limits for each (new & existing) LMF baghouse.

** The ton/year limit is the combined ton/year emissions limit for both LMF baghouses.

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

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 and S009-B in accordance with Site Level Condition IV.14 above and §2108.02 to demonstrate compliance with Conditions V.C.1.b, V.C.1.d, and V.C.1.1 above. The testing shall include condensable PM and shall be repeated at least once every two years. [§63.7821(a & c); §63.7833(a), Table 3, item 11;

§2108.02; §2103.12.h.1].

- b. The permittee must conduct each performance test that applies to the LMF Baghouses emissions according to the requirements in §63.7(e)(1) and the conditions detailed in Conditions V.C.2.c and V.C.2.d below. [§63.7822(a)]
- c. To determine compliance with the applicable emission limits for particulate matter in Conditions V.C.1.b, and V.C.1.k above, follow the test methods and procedures in paragraphs V.C.2.c.1) and V.C.2.c.2) below and Site Level Condition IV.14. [§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 baghouses applied to control emissions from LMF operations, sample only when the operation(s) is being conducted. [§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. [§2103.12.h; §63.7822(i)]
- f. The permittee shall 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.C.2.g below. [§63.7823(a)]
- g. The permittee shall 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)]
- h. Measurement of visible emissions to determine compliance with the opacity limits in Condition V.C.1.e above shall be performed according to the procedures established by §2107.11. [§2104.01.d]
- 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 Site Level Condition IV.14 and 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.C.1.b above, the permittee shall install, operate, and maintain a bag leak detection system (CPMS) according to Condition V.C.3.g below and monitor the relative change in particulate matter loadings according to the requirements in Conditions V.C.3.h and V.C.3.j below. [§2103.12.i; §63.7830(b)(1)]
- b. The permittee shall conduct inspections of the LMF Baghouses at the specified frequencies according to the following requirements: [§63.7830(b)(4); §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. [§2103.12.i; §63.7830(b)(4)(i)]
 - 2) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms. [§2103.12.i; §63.7830(b)(4)(ii)]
 - 3) Check the compressed air supply for each pulse-jet baghouses each day. [§2103.12.i; §63.7830(b)(4)(iii)]
 - 4) Monitor cleaning cycles to ensure proper operation using an appropriate methodology. [§2103.12.i; §63.7830(b)(4)(iv)]
 - 5) Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means. [§2103.12.i; §63.7830(b)(4)(v)]
 - 6) Confirm the physical integrity of the baghouses through quarterly visual inspections of the baghouse interior for air leaks. [§2103.12.i; §63.7830(b)(4)(vii)]
 - 7) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means. [§2103.12.i; §63.7830(b)(4)(viii)]
- c. The permittee must operate according to the most recently developed site specific monitoring 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 systems 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); [§2103.12.i; §63.7831(a)(1)]
 - 2) Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system; [§2103.12.i; §63.7831(a)(2)]
 - 3) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations); [§2103.12.i; §63.7831(a)(3)]
 - 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); [§2103.12.i; §63.7831(a)(4)]
 - 5) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and [§2103.12.i; §63.7831(a)(5)]
 - 6) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §§63.10(c), (e)(1), and (e)(2)(i); and [§2103.12.i; §63.7831(a)(6)]
- d. Unless otherwise specified, each CPMS shall: [§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.

- 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.C.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)]
- 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)]
- k. The permittee shall demonstrate continuous compliance with the particulate emission limit in

V.C.1.b above at the LMF Baghouse by meeting the requirements in conditions V.C.3.1.1) though V.C.3.1.3) 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.C.3.g above and recording all information needed to document conformance with these requirements. If permittee increase or decrease the sensitivity of the bag leak detection system beyond the limits specified in condition V.C.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 V.C.3.b above and maintaining all records needed to document conformance with these requirements.
 - 3) Maintaining records of the time of initiation of 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.
- l. 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.C.1.g above. [§2101.05.a.1]
 - m. 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]
 - n. 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]
 - o. 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]
 - p. The Department reserves the right to revert the monitoring frequency in condition V.C.3.p 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 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; §2104.02.b.6]

- 1) LMF liquid (molten) steel production (daily, monthly, 12-month);
 - 2) The differential pressure drop across each compartment of the LMF Baghouses as required by condition V.C.3.b.1) (recorded once per day)
 - 3) The pressure reading of the LMF Baghouses collection hood (recorded once per day)
- 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.C above of this permit. [§2103.12.j; §2103.12.h.1]
- d. 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) 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; §2103.12.h.1; §63.7842(c)]
- f. The permittee shall keep the records required in Conditions V.C.3.k and V.C.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)]
- 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]
- h. The permittee shall keep records of visible emission notations as required by V.C.3.p above. [§2103.12.j; §2103.12.h.1]
- i. 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]
- 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]
- 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]

5. Reporting Requirements:

- a. The permittee shall report the non-compliance information required to be recorded by condition V.C.4.i above semiannually to the Department in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report: [§2103.12.k.1]
- b. *Deviations.* The permittee must report each instance in which you did not meet each emission limitation in Condition V.C.1.b above. The permittee also shall report each instance in which you did not meet each operation and maintenance requirement in Condition V.C.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 Conditions V.C.5.h through V.C.5.j below. [§2103.12.k.1; §63.7835(a)]
- c. For the emission limitation in Conditions V.C.1.b above, the permittee shall submit a notification of compliance status according to V.C.5.g below. [§2103.12.k.1; §63.7825(c)]
- d. 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)]
- e. 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)]
- 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 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 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.* 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 conditions V.C.5.i.1) through V.C.5.i.3) below and, as applicable, conditions V.C.5.i.4) through V.C.5.i.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 there were no deviations from the continuous compliance requirements in conditions V.C.3.k and V.C.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.C.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.C.5.i.1) through V.C.5.i.4) above and the information in conditions V.C.5.i.7)A and V.C.5.i.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, 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.C.5.i.1) through V.C.5.i.4) above and the Information in conditions V.C.5.i.8)A through V.C.5.i.8)K below. T

- 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.
- 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. Reporting instances of non-compliance or malfunction 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; §2108.01.c]

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); §2102.04.b.5; §2105.03]

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]

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;]

The definitions in §63.7852 are incorporated by reference. [§63.7852]

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VI. ALTERNATIVE OPERATING SCENARIOS

None except as specified elsewhere.

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VII. EMISSIONS LIMITATIONS SUMMARY

The annual emission limitations for the ECR Facility are summarized in the following table:

TABLE VII-1: Emission Limitations Summary

POLLUTANT	ANNUAL EMISSIONS LIMIT (tons/year)*
Particulate Matter	8.62
Particulate Matter <10 µm (PM ₁₀)	7.49
Particulate Matter <2.5 µm (PM _{2.5})	4.83
Nitrogen Oxides (NO _x)	2.05
Sulfur Oxides (SO _x)	4.31
Carbon Monoxide (CO)	0.61
Volatile Organic Compounds (VOC)	0.99

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

