Table of Contents for Universal Stainless SIP Package
RACT 2 Case-by-Case Evaluation
Amended Title V Permit No. 0027a

Pennsylvania Department of Environmental Protection
Bureau of Air Quality

RACT SIP COMPLETENESS CHECKLIST

TO BE FILLED IN BY REGIONAL STAFF AND SUBMITTED TO CENTRAL OFFICE

Facility Name: Universal Stainless & Alloy Products, Inc.

RACT Plan Approval/Permit Number: 0027a

Plan Approval/Permit Issuance Date: February 20, 2020

TECHNICAL MATERIALS

Included	Not Included	Not Applicable	
☒	☐	☐	**Identification of all regulated (NOx and VOC) pollutants affected by the RACT plan (Review memo and RACT Permit)**
☒	☐	☐	**Quantification of the changes in plan allowable emissions from the affected sources as a result of RACT implementation. (Review Memo)**
☐	☐	☒	**Rationale as to why applicable CTG or ACT regulation is not RACT for the facility. (Review Memo)**
☐	☐	☒	**Demonstration that the NAAQS, PSD increment, reasonable further progress demonstration, and visibility, as applicable, are protected if the plan is approved and implemented. (Review Memo)**
☐	☐	☒	**In the event of actual emission increase as a result of RACT SIP revision: Modeling information to support the proposed revision, including input data, output data, model used, ambient monitoring data used, meteorological data used, justification for use of offsite data (where used), modes of models used, assumptions, and other information relevant to the determination of adequacy of the modeling analysis. (Review Memo)**
☐	☐	☒	**Include evidence, where necessary that emission limitations are based on continuous emission reduction technology. (Review Memo)**
☒	☐	☐	**State in RACT PA/OP that expiration date shown in PA or OP is for state purposes. Either use the statement below or redact the expiration date on the permit.** **(Sample: The expiration date shown in this permit is for state purposes. For federal enforcement purposes the conditions of this operating permit which pertain to the implementation of RACT regulations shall remain in effect as part of the State Implementation Plan (SIP) until replaced pursuant to 40 CFR 51 and approved by the U.S. Environmental Protection Agency (EPA). The operating permit shall become enforceable by the U.S. EPA upon its approval of the above as a revision to the SIP.) (RACT Permit)**
☐	☐	☒	**Include evidence that the State has the necessary legal authority under State law to adopt and implement the RACT plan. (Reference of PA's Air Pollution Control Act (January 8, 1960, P.L. 2119, as amended and 25 PA Code Chapter 127 (NSR), and 25 PA Code Chapter 129 §§129.91 – 95 in RACT PA/OP). (Review memo or more likely operating permit)**

☒	☐	☐	**State that independent technical and economic justification for RACT determination by the Department was performed. As long as you reviewed the companies proposal you may agree with it but that must be stated. (Review memo)**
☐	☐	☒	**Confidential Business Information excluded, highlighted or marked. Please also redact all checks from the application. (Review Memo, RACT Permit, RACT Plan by the company)**
☒	☐	☐	**Adequate compliance demonstration, monitoring, recordkeeping, work practice standards, and reporting requirements. (Review memo and RACT Permit)**

ADMINISTRATIVE DOCUMENTS

Attached	Not Attached	Not Applicable	
☒	☐	☐	**Signed copy of final RACT Plan Approval/Operating Permit.**
☒	☐	☐	**Redacted copy of the RACT Plan Approval/Operating Permit. Reviewer should be able to read the redacted text. (We can do electronically if the PA/OP is uploaded in AIMS or available in pdf format). Make sure that the expiration date of the operating permit is redacted. SIPs do not expire.**
☒	☐	☐	**Signed Technical Support Document or Review Memorandum. The review memo should contain a discussion about previous case by case RACT determinations so that requirements can be compared**
☒	☐	☐	**Public Notice evidence: Include a copy of the actual published notice of the public hearing as it appeared in the local newspaper(s). The newspaper page must be included to show the date of publication. The notice must specifically identify by title and number each RACT regulation adopted or amended. A signed affidavit showing the dates of publication and the newspaper clipping is best. Next best is a copy of the newspaper clippings from all days the article was published. An email showing that the newspaper article was purchased is acceptable unless the EPA receives comments during their comment period stating that there is no proof of publication. The newspaper notice must say that the case by case requirements will be submitted to the EPA as an amendment to the SIP**
☒	☐	☐	**A separate formal certification duly signed indicating that public hearings were held. If no public hearings were held the review memo should state that.**
☒	☐	☐	**Public hearing minutes: This document must include certification that the hearing was held in accordance with the information in the public notice. It must also list the RACT regulations that were adopted, the date and place of the public hearing, and name and affiliation of each commenter. If there were no comments made during the notice period or at the hearing, please indicate that in the review memo.**
☒	☐	☐	**Comment and Response Document: A compilation of EPA, company, and public comments and Department's responses to these comments.**
☒	☐	☐	**Copy of RACT proposal, amendments, and other written correspondence between the Department and the facility.**

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

Title V Operating Permit
& Federally Enforceable State Operating Permit

Issued To: Universal Stainless & Alloy Products, Inc.

Facility: Universal Stainless & Alloy Products, Inc.
600 Mayer Street
Bridgeville, PA 15017

ACHD Permit #: 0027a

Date of Issuance: November 21, 2017
Amended Date: February 20, 2020
Expiration Date: ~~November 21, 2022~~
Renewal Date: ~~May 21, 2022~~

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

Prepared By:
David D. Good
Air Quality Engineer

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. Electric Arc Furnace

Pages 2 through 23 have been redacted

Process Description: Electric Arc Furnace (EAF)
Facility ID: P001
Max. Design Rate: 23.14 tons steel/hr
Capacity: 56 tons/heat
Fuel/Raw Material: Steel Scrap, Limestone, Alloying Elements
Control Device(s): Melt Shop Baghouse
Stack I.D.: S001

1. ~~Restrictions:~~

~~a. The permittee shall not cause to be discharged into the atmosphere from the EAF any gases which (§60.272a(a), §63.10686(b)(1), §63.10686(b)(2)):~~

~~1) Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf);~~
~~2) Exit from a control device and exhibit 3 percent opacity or greater; and~~
~~3) Exit from a shop and, due solely to the operations of the EAF(s), exhibit 6 percent opacity or greater.~~

~~b. The permittee shall not cause to be discharged into the atmosphere from the dust-handling system any gases that exhibit 10 percent opacity or greater. (§60.272a(b)):~~

~~c. The permittee shall at no time conduct Melt Shop process operations unless the Melt Shop pollution control equipment is properly maintained and operated according to the following conditions: (§2103.12.a.2.B and Operating Permit Nos. 7037009-000-16400 and 7037009-000-16401)~~

~~1) The fugitive emissions capture equipment shall consist of a canopy hood system ducted to the Melt Shop Baghouse, and closed-roof scavenger points ducted to the Melt Shop Baghouse.~~
~~2) The EAF shall be equipped with a canopy hood for collection of process emissions, and such hood shall be properly maintained and operated at all times with all captured emissions ducted to the Melt Shop Baghouse.~~
~~3) The particulate control efficiency of the baghouse shall be a minimum of 98.3 percent at all times while the subject process equipment is producing particulate emissions.~~
~~4) The differential pressure drop across each baghouse compartment shall be between 3" and 12" w.c., inclusive, or as established during the most recent test required by condition V.A.2.a below, measured to the nearest ½" w.c.~~

~~d. The production of steel at the EAF shall not exceed 175,200 tons of steel in any consecutive twelve-month period. The production in any one heat shall not exceed 56 tons. (Permit No. 7037009-000-16400, issued August 1, 1978, §2103.12.a.2.B)~~

~~e. Emissions from the Melt Shop Baghouse shall not exceed the emissions limitations in Table V-A-1 below. The Melt Shop emission limitations include emissions from the Electric Arc Furnace, AOD, and Teeming. (§2103.12.a.2.B)~~

~~TABLE V-A-1 – Melt Shop Emission Limitations (Baghouse)~~

~~POLLUTANT~~	~~HOURLY EMISSION LIMIT (lb/hr)~~	~~ANNUAL EMISSION LIMIT (tons/year)*~~
~~Particulate Matter~~	~~10.98~~	~~39.64~~
~~PM-10~~	~~7.82~~	~~28.07~~
~~PM-2.5~~	~~0.78~~	~~2.80~~
~~Sulfur Oxides~~	~~2.99~~	~~11.01~~
~~Nitrogen Oxides~~	~~7.56~~	~~27.75~~
~~Carbon Monoxide~~	~~88.03~~	~~312.21~~
~~Volatile Organic Compounds~~	~~8.04~~	~~30.53~~
~~Chromium~~	~~0.086~~	~~0.326~~
~~Nickel~~	~~0.050~~	~~0.190~~
~~Lead~~	~~0.016~~	~~0.062~~
~~Manganese~~	~~0.113~~	~~0.428~~

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

~~f.~~ ~~(a) *Chlorinated plastics, lead, and free organic liquids*. For metallic scrap utilized in the EAF at the facility, the permittee shall comply with the requirements in either Condition V.A.1.f.1) or V.A.1.f.2) below. The permittee may have certain scrap at the facility subject to Condition V.A.1.f.1) and other scrap subject to Condition V.A.1.f.2) below provided the scrap remains segregated until charge make-up. (§ 63.10685(a))~~

~~1) *Pollution prevention plan* . For the production of steel other than leaded steel, the permittee shall prepare and implement a pollution prevention plan for metallic scrap selection and inspection to minimize the amount of chlorinated plastics, lead, and free organic liquids that is charged to the furnace. For the production of leaded steel, the permittee shall prepare and implement a pollution prevention plan for scrap selection and inspection to minimize the amount of chlorinated plastics and free organic liquids in the scrap that is charged to the furnace. The permittee shall submit the scrap pollution prevention plan to the permitting authority for approval. The permittee shall operate according to the plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. The permittee may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. The permittee shall keep a copy of the plan onsite, and the permittee shall provide training on the plan's requirements to all plant personnel with materials acquisition or inspection duties. Each plan shall include the information in Condition V.A.1.f.1)a) through V.A.1.f.1)c) below: (§ 63.10685(a)(1))~~

~~a) Specifications that scrap materials shall be depleted (to the extent practicable) of undrained used oil filters, chlorinated plastics, and free organic liquids at the time of charging to the furnace. (§ 63.10685(a)(1)(i))~~

~~b) A requirement in the permittee's scrap specifications for removal (to the extent practicable) of lead-containing components (such as batteries, battery cables, and wheel weights) from the scrap, except for scrap used to produce leaded steel. (§ 63.10685(a)(1)(ii))~~

~~c) Procedures for determining if the requirements and specifications in Condition V.A.1.f.1) above are met (such as visual inspection or periodic audits of scrap providers) and procedures for taking corrective actions with vendors whose shipments are not within~~

specifications. (§ 63.10685(a)(1)(iii))

d) The requirements of Condition V.A.1.f.1) above do not apply to the routine recycling of baghouse bags or other internal process or maintenance materials in the furnace. These exempted materials shall be identified in the pollution prevention plan. (§ 63.10685(a)(1)(iv))

2) *Restricted metallic scrap* . For the production of steel other than leaded steel, the permittee shall not charge to a furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, lead-containing components, chlorinated plastics, or free organic liquids. For the production of leaded steel, the permittee shall not charge to the furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, chlorinated plastics, or free organic liquids. This restriction does not apply to any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed or cleaned to the extent practicable such that the materials do not include lead components, chlorinated plastics, or free organic liquids. This restriction does not apply to motor vehicle scrap that is charged to recover the chromium or nickel content if the permittee meets the requirements in Condition V.A.1.g.3) below. (§ 63.10685(a)(2))

g. *Mercury requirements* . For scrap containing motor vehicle scrap, the permittee shall procure the scrap pursuant to one of the compliance options in Condition V.A.1.g.1), V.A.1.g.2), or V.A.1.g.3) below for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, the permittee shall procure the scrap pursuant to the requirements in Condition V.A.1.g.4) below for each scrap provider, contract, or shipment. The permittee may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision. (§ 63.10685(b))

1) *Site-specific plan for mercury switches* . The permittee shall comply with the requirements in Conditions V.A.1.g.1)a) through V.A.1.g.1)c) below. (§ 63.10685(b)(1))

a) The permittee shall include a requirement in the permittee's scrap specifications for removal of mercury switches from vehicle bodies used to make the scrap. (§ 63.10685(b)(1)(i))

b) The permittee shall prepare and operate according to a plan demonstrating how the permittee's facility will implement the scrap specification in Condition V.A.1.g.1)a) above for removal of mercury switches. The permittee shall submit the plan to the permitting authority for approval. The permittee shall operate according to this plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. The permittee may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. The permitting authority may change the approval status of the plan upon 90 days written notice based upon the semiannual compliance report or other information. The plan shall include: (§ 63.10685(b)(1)(ii))

i) A means of communicating to scrap purchasers and scrap providers the need to obtain or provide motor vehicle scrap from which mercury switches have been removed and the need to ensure the proper management of the mercury switches removed from that scrap as required under the rules implementing subtitle C of the Resource Conservation and Recovery Act (RCRA) (40 CFR parts 261 through 265 and 268). The plan shall include documentation of direction to appropriate staff to communicate to suppliers

throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the permitting authority, the permittee shall provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols; (§ 63.10685(b)(1)(ii)(A))

ii) Provisions for obtaining assurance from scrap providers that motor vehicle scrap provided to the facility meet the scrap specification; (§ 63.10685(b)(1)(ii)(B))

iii) Provisions for periodic inspections or other means of corroboration to ensure that scrap providers and dismantlers are implementing appropriate steps to minimize the presence of mercury switches in motor vehicle scrap and that the mercury switches removed are being properly managed, including the minimum frequency such means of corroboration will be implemented; and (§ 63.10685(b)(1)(ii)(C))

iv) Provisions for taking corrective actions (i.e., actions resulting in scrap providers removing a higher percentage of mercury switches or other mercury-containing components) if needed, based on the results of procedures implemented in Condition V.A.1.g.1)b)iii) above. (§ 63.10685(b)(1)(ii)(D))

c) The permittee shall require each motor vehicle scrap provider to provide an estimate of the number of mercury switches removed from motor vehicle scrap sent to the permittee's facility during the previous year and the basis for the estimate. The permitting authority may request documentation or additional information at any time. (§ 63.10685(b)(1)(iii))

d) The permittee shall establish a goal for each scrap provider to remove at least 80 percent of the mercury switches. Although a site-specific plan approved under Condition V.A.1.g.1) above may require only the removal of convenience light switch mechanisms, the permitting authority will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal. (§ 63.10685(b)(1)(iv))

e) For each scrap provider, the permittee shall submit semiannual progress reports to the permitting authority that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in Condition V.A.1.g.1)b)i) above. This information can be submitted in aggregated form and does not have to be submitted for each scrap provider, contract, or shipment. The permitting authority may change the approval status of a site-specific plan following 90-days notice based on the progress reports or other information. (§ 63.10685(b)(1)(v))

2) *Option for approved mercury programs.* The permittee shall certify in the permittee's notification of compliance status that the permittee participates in and purchases motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator or the Department based on the criteria in Conditions V.A.1.g.2)a) through V.A.1.g.2)c) below. If the permittee purchases motor vehicle scrap from a broker, the permittee shall certify that all scrap received from that broker was obtained from other scrap providers who participate in a program for the removal of mercury switches that has been approved by the Administrator or the Department based on the criteria in Conditions V.A.1.g.2)a) through V.A.1.g.2)c) below. The National Vehicle Mercury Switch Recovery Program and the Vehicle Switch Recovery Program mandated by Maine State law are EPA-approved programs under Condition V.A.1.g.2) unless and until the Administrator or the Department disapproves the program (in part or in whole) under Condition V.A.1.g.2)c) below. (§ 63.10685(b)(2))

a) The program includes outreach that informs the dismantlers of the need for removal of mercury switches and provides training and guidance for removing mercury switches; (§ 63.10685(b)(2)(i))

b) The program has a goal to remove at least 80 percent of mercury switches from the motor vehicle scrap the scrap provider processes. Although a program approved under Condition V.A.1.g.2) above may require only the removal of convenience light switch mechanisms, the Administrator or the Department will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal; and (§ 63.10685(b)(2)(ii))

c) The program sponsor agrees to submit progress reports to the Administrator or the Department no less frequently than once every year that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and certification that the recovered mercury switches were recycled at facilities with permits as required under the rules implementing subtitle C of RCRA (40 CFR parts 261 through 265 and 268). The progress reports shall be based on a database that includes data for each program participant; however, data may be aggregated at the State level for progress reports that will be publicly available. The Administrator or the Department may change the approval status of a program or portion of a program (e.g., at the State level) following 90-days notice based on the progress reports or on other information. (§ 63.10685(b)(2)(iii))

d) The permittee shall develop and maintain onsite a plan demonstrating the manner through which the permittee's facility is participating in the EPA-approved program. (§ 63.10685(b)(2)(iv))

i) The plan shall include facility-specific implementation elements, corporate-wide policies, and/or efforts coordinated by a trade association as appropriate for each facility. (§ 63.10685(b)(2)(iv)(A))

ii) The permittee shall provide in the plan documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the permitting authority, the permittee shall provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols. (§ 63.10685(b)(2)(iv)(B))

iii) The permittee shall conduct periodic inspections or provide other means of corroboration to ensure that scrap providers are aware of the need for and are implementing appropriate steps to minimize the presence of mercury in scrap from end-of-life vehicles. (§ 63.10685(b)(2)(iv)(C))

3) *Option for specialty metal scrap.* The permittee shall certify in the permittee's notification of compliance status that the only materials from motor vehicles in the scrap are materials recovered for their specialty alloy (including, but not limited to, chromium, nickel, molybdenum, or other alloys) content (such as certain exhaust systems) and, based on the nature of the scrap and purchase specifications, that the type of scrap is not reasonably expected to contain mercury switches. (§ 63.10685(b)(3))

4) *Scrap that does not contain motor vehicle scrap.* For scrap not subject to the requirements in Condition V.A.1.g.1) through V.A.1.g.3) above, the permittee shall certify in the permittee's notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap. (§ 63.10685(b)(4))

2. Testing Requirements:

a. ~~The permittee shall perform emission tests for exhaust gas PM/PM-10 concentrations (gr/dscf) and equivalent mass emission rates (lb/hr), and CO and VOC emission rates (lb/hr) at the Melt Shop Baghouse to demonstrate compliance with condition V.A.1.e above. During the test the damper positions, the differential pressure drop across each compartment and the amperage for each fan motor shall be monitored and recorded on a continuous basis. In addition, the time of each charge, melt and tap shall be recorded and reported during the test. (§2103.12.a.2.B)~~

~~b.~~ ~~The permittee shall perform the emission testing required in V.A.2.a above in accordance with Methods Nos. 1 through 5, 9, 10, and 25A or 25B of Appendix A of 40 CFR Part 60, or other methods approved by the Department, and in accordance with Site Level Condition IV.13 above and §2108.02. (§2103.12.a.2.B, § 63.10686(d)(1))~~

~~c.~~ ~~During any performance test required under §60.8, and this permit and for any report thereof required by V.A.5.e below, or to determine compliance V.A.1.a.3) above, the permittee shall monitor the following information for all heats covered by the test: (§60.274a(h))~~

~~1) Charge weights and materials, and tap weights and materials~~
~~2) Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF when direct-shell evacuation control systems are used;~~
~~3) Control device operation log; and~~
~~4) Continuous opacity monitor or Method 9 data.~~

~~d.~~ ~~During performance tests, the permittee shall not add gaseous diluents to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions. (§60.275a (a))~~

~~e.~~ ~~When emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of 40 CFR Part 60 Subpart AAa but controlled by a common capture system and control device, the permittee shall use either or both of the following procedures during a performance test (see also § 60.276a(e)): (§60.275a (b))~~

~~1) Determine compliance using the combined emissions.~~
~~2) Use a method that is acceptable to the Department and the Administrator and that compensates for the emissions from the facilities not subject to 40 CFR Part 60 Subpart AAa.~~

~~f.~~ ~~When emission from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60 Subpart AAa, the permittee shall demonstrate compliance with V.A.1.a.3) above based on emissions from only the EAF. (§60.275a (c))~~

~~g.~~ ~~In conducting the performance tests, the permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60 Appendix A or other methods and procedures as specified in §60.275a, except as provided in § 60.8(b). (§60.275a (d))~~

~~h.~~ ~~The permittee shall determine compliance with the particulate matter and opacity standards in V.A.1.a and V.A.1.b above as follows: (§60.275a (e))~~

~~1) Method 5 shall be used for negative-pressure fabric filters to determine the particulate matter~~

concentration and volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.50 dscm (160 dscf) and, when a single EAF or AOD vessel is sampled, the sampling time shall include an integral number of heats.

2) Method 9 and the procedures of §60.11 shall be used to determine opacity.

3) To demonstrate compliance with V.A.1.a.1), V.A.1.a.2), and V.A.1.a.3) above, the Method 9 test runs shall be conducted concurrently with the particulate matter test runs, unless inclement weather interferes.

i. To comply with V.A.3.j. and V.A.2.c.1) through V.A.2.c.4) above, the permittee shall obtain the information required in these conditions during the particulate matter runs. (§60.275a (f))

j. Any control device subject to the provisions of 40 CFR Part 60 Subpart AAa shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures. (§60.275a (g))

k. Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60 Subpart AAa but controlled by a common capture system and control device, the permittee may use any of the following procedures during a performance test: (§60.275a (h))

1) Base compliance on control of the combined emissions;

2) Utilize a method acceptable to the Department and the Administrator that compensates for the emissions from the facilities not subject to to 40 CFR Part 60 Subpart AAa, or;

3) Any combination of the criteria of V.A.2.k.1) and V.A.2.k.2) above.

l. Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60 Subpart AAa, determinations of compliance with V.A.1.a.3) above will only be based upon emissions originating from the EAF. (§60.275a (i))

m. Unless the presence of inclement weather makes concurrent testing infeasible, the permittee shall conduct concurrently the performance tests required under § 60.8 and this permit to demonstrate compliance with V.A.1.a.1), V.A.1.a.2), and V.A.1.a.3) above. (§60.275a (j))

n. The testing required by V.A.2.a above shall be repeated at least once every five years from the date of the prior valid test. (§2103.12.h.1; 25 PA Code §129.100)

o. 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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.1)

3. Monitoring Requirements:

a. Except as provided under Conditions V.A.3.c and V.A.3.d below, a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the permittee. (§60.273a(a))

b. All continuous monitoring systems required by Condition V.A.3.a above shall be approved by the Department prior to being installed in accordance with the requirements of §2108.03. (§2108.03)

c. No continuous monitoring system shall be required on any control device serving the dust-

handling system. (§60.273a (b))

d. A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) is not required on any modular, multi-stack, negative-pressure or positive-pressure fabric filter if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer; or on any single-stack fabric filter if visible emissions from the control device are performed by a certified visible emission observer and the permittee installs and continuously operates a bag leak detection system according to paragraph (e) of this section. Visible emission observations shall be conducted at least once per day for at least three 6-minute periods when the furnace is operating in the melting and refining period. All visible emissions observations shall be conducted in accordance with Method 9. If visible emissions occur from more than one point, the opacity shall be recorded for any points where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In that case, the Method 9 observations shall be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in V.A.1.a above. (§60.273a (e))

e. A furnace static pressure monitoring device is not required on any EAF equipped with a DEC system if observations of shop opacity are performed by a certified visible emission observer as follows: Shop opacity observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period. Shop opacity shall be determined as the arithmetic average of 24 consecutive 15-second opacity observations of emissions from the shop taken in accordance with Method 9. Shop opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity observations shall be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. (§60.273a (d))

f. A bag leak detection system shall be installed and continuously operated on all single-stack fabric filters if the permittee elects not to install and operate a continuous opacity monitoring system as provided for under Condition V.A.3.c above. In addition, the permittee shall meet the visible emissions observation requirements in Condition V.A.3.c above. The bag leak detection system shall meet the specifications and requirements of Conditions V.A.3.f.1) throughV.A.3.f.8) below: (§60.273a (e))

1) The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less. (§60.273a (e)(1))
2) The bag leak detection system sensor shall provide output of relative particulate matter loadings and the permittee shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.*, using a strip chart recorder or a data logger.) (§60.273a (e)(2))
3) The bag leak detection system shall be equipped with an alarm system that will sound when an increase in relative particulate loading is detected over the alarm set point established according to Condition V.A.3.f.4) below, and the alarm shall be located such that it can be heard by the appropriate plant personnel. (§60.273a (e)(3))
4) For each bag leak detection system required by Condition V.A.3.f above, the permittee shall develop and submit to the Administrator or the Department or delegated authority, for approval, a site-specific monitoring plan that addresses the items identified in Conditions

V.A.3.f.4)a) through V.A.3.f.4)e) below. For each bag leak detection system that operates based on the triboelectric effect, the monitoring plan shall be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015). The permittee shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan shall describe the following: (§60.273a (e)(4))

a) Installation of the bag leak detection system;
b) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established;
c) Operation of the bag leak detection system including quality assurance procedures;
d) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list; and
e) How the bag leak detection system output shall be recorded and stored.

5) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time (if applicable). (§60.273a (e)(5))
6) Following initial adjustment, the permittee shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or the Department or delegated authority except as provided for in Conditions V.A.3.f.6)a) and V.A.3.f.6)b) below. (§60.273a (e)(6))
   a) Once per quarter, the permittee may adjust the sensitivity of the bag leak detection system to account for seasonal effects including temperature and humidity according to the procedures identified in the site-specific monitoring plan required under Condition V.A.3.f.4) above.
   b) If opacities greater than zero percent are observed over four consecutive 15-second observations during the daily opacity observations required under Condition V.A.3.c above and the alarm on the bag leak detection system does not sound, the permittee shall lower the alarm set point on the bag leak detection system to a point where the alarm would have sounded during the period when the opacity observations were made.
7) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detection sensor shall be installed downstream of the baghouse and upstream of any wet scrubber. (§60.273a (e)(7))
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. (§60.273a (e)(8))

g. For each bag leak detection system installed according to Condition V.A.3.f above, the permittee shall initiate procedures to determine the cause of all alarms within 1 hour of an alarm. Except as provided for under Condition V.A.3.h below, the cause of the alarm shall be alleviated within 3 hours of the time the alarm occurred by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to, the following: (§60.273a (f))

1) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate emissions; (§60.273a (f)(1))
2) Sealing off defective bags or filter media; (§60.273a (f)(2))
3) Replacing defective bags or filter media or otherwise repairing the control device; (§60.273a (f)(3))
4) Sealing off a defective baghouse compartment; (§60.273a (f)(4))
5) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and (§60.273a (f)(5))
6) Shutting down the process producing the particulate emissions. (§60.273a (f)(6))

h. ~~In approving the site-specific monitoring plan required in Condition V.A.3.f.4) above, the Administrator or Department or delegated authority may allow the permittee more than 3 hours to alleviate specific conditions that cause an alarm if the permittee identifies the condition that could lead to an alarm in the monitoring plan, adequately explains why it is not feasible to alleviate the condition within 3 hours of the time the alarm occurred, and demonstrates that the requested additional time will ensure alleviation of the condition as expeditiously as practicable. (§60.273a (g))~~

i. ~~Except as provided under paragraph V.A.3.l below, the permittee shall either: check and record the control system fan motor amperes on a once per shift basis; install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet on a once-per-shift basis. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of ±10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Department may require the permittee to demonstrate the accuracy of the monitoring device(s) relative to 40 CFR Part 60 Appendix A Methods 1 and 2. (§60.274a(b))~~

j. ~~When the permittee is required to demonstrate compliance with V.A.1.a.3) above, and at any other time that the Department or the Administrator may require (under section 114 of the Act, as amended), either: the control system fan motor amperes, the volumetric flow rate through each separately ducted hood, or the volumetric flow rate at the control device inlet shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the EAF. The permittee may petition the Department and/or the Administrator for reestablishment of these parameters whenever the permittee can demonstrate to the Department's and the Administrator's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of § 60.276a(c). (§60.274a(c))~~

k. ~~Except as provided under V.A.3.l below, the permittee shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (*i.e.*, pressure sensors). This inspection shall 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 ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed. (§60.274a(d))~~

l. ~~The permittee may petition the Department and the Administrator to approve any alternative to either the monitoring requirements specified in V.A.3.i above or the monthly operational status inspections specified in V.A.3.k above if the alternative will provide a continuous record of operation of each emission capture system. (§60.274a(e))~~

m. ~~Except as provided for under Condition V.A.3.e above, if emissions during any phase of the heat time are controlled by the use of a DEC system, the permittee shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF or DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an~~

~~accuracy of ±5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions. (§60.274a(f))~~

~~n. Except as provided for under Condition V.A.3.e above, when the permittee of an EAF controlled by a DEC is required to demonstrate compliance with the standard under §60.272a(a)(3), and at any other time the Department may require (under section 114 of the Clean Air Act, as amended), the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device required under Condition V.A.3.g above. The permittee may petition the Administrator or the Department for reestablishment of the pressure whenever the permittee can demonstrate to the Administrator's or the Department's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Administrator or the Department to be unacceptable operation and maintenance of the affected facility. (§60.274a(g))~~

~~o. The permittee shall conduct an inspection on the Melt Shop Baghouse once per week to demonstrate compliance with conditions V.A.1.d.1) and V.A.1.d.2) above. (§2103.12.h.1)~~

~~p. The permittee shall check and record the fan motor amperes for the emission control system, i.e., Melt Shop Baghouse, on a once-per-shift basis. (§2103.12.h.1)~~

~~q. The permittee shall, at all times, have instrumentation to continuously monitor the differential pressure drop across each compartment of the Melt Shop Baghouse during operation of the EAF. Such instrumentation shall measure the pressure drop to within ½" w.c. and be properly~~ operated, ~~calibrated, and maintained according to manufacturer's specifications. (§2103.12.h.1)~~

4. Record Keeping Requirements:

a. ~~The permittee shall maintain records of the following information (§60.274a(a)):~~

~~1) All data obtained under V.A.3.e above, and~~
~~2) All monthly operational status inspections performed under V.A.3.g above.~~

b. The permittee shall maintain records to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to the following (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

1) Number of heats and production for the EAF (daily, monthly, 12-month);
2) Time and duration of each furnace charge and tap (per charge/tap, monthly average, 12-month);
3) Differential pressure drop across each compartment of the Melt Shop Baghouse; and
4) Stack test protocols and reports.

c. ~~The permittee shall maintain a copy of the manufacturer's specifications for the Melt Shop Baghouse and records of control system inspections and performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment that is subject to this permit. (§2103.12.j.1)~~

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; §60.276a(a); 25 PA Code §129.100)

f. *Recordkeeping and reporting requirements.* In addition to the records required by §63.10, the permittee shall keep records to demonstrate compliance with the requirements for the permittee's pollution prevention plan in Condition V.A.1.g.1) above and/or for the use of only restricted scrap in Condition V.A.1.g.2) above and for mercury in Conditions V.A.1.h.1) through V.A.1.h.3) above as applicable. The permittee shall keep records documenting compliance with Condition V.A.1.h.4) above for scrap that does not contain motor vehicle scrap. (§ 63.10685(c))

1) If the permittee is subject to the requirements for a site-specific plan for mercury under Condition V.A.1.h.1) above, the permittee shall: (§ 63.10685(c)(1))
   a) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and (§ 63.10685(c)(1)(i))
   b) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports shall include a certification that the permittee has conducted inspections or taken other means of corroboration as required under Condition V.A.1.h.1)b)iii) above. The permittee may include this information in the semiannual compliance reports required under Condition V.A.4.f.3) below. (§ 63.10685(c)(1)(ii))
2) If the permittee is subject to the option for approved mercury programs under Condition V.A.1.h.2) above, the permittee shall maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If the permittee purchases motor vehicle scrap from a broker, the permittee shall maintain records identifying each broker and documentation that all scrap provided by the broker was obtained from other scrap providers who participate in an approved mercury switch removal program. (§ 63.10685(c)(2))
3) The permittee shall submit semiannual compliance reports to the Administrator or the Department for the control of contaminants from scrap according to the requirements in §63.10(c). The report shall clearly identify any deviation from the requirements in Conditions V.A.1.g and V.A.1.h above and the corrective action taken. The permittee shall identify which compliance option in Condition V.A.1.h above applies to each scrap provider, contract, or shipment. (§ 63.10685(c)(3))

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) Monthly and 12-month data required to be reported by condition V.A.4.a above; and

2) Non-compliance information required to be recorded by V.A.4.d above.

b. The permittee shall submit a written report of exceedances of the control device opacity to the Department and the Administrator semi-annually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater. (§60.276a(b))

c. Either operation of control system fan motor amperes at values exceeding ±15 percent of the value established under V.A.3.f above or operation at flow rates lower than those established under V.A.3.f above may be considered by the Department or the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Department and the Administrator semiannually. (§60.276a(c))

d. When the permittee is required to demonstrate compliance with the standard under V.A.2.c.2) above or a combination of V.A.2.c.1) and V.A.2.c.2) above, the permittee shall obtain approval from the Department and the Administrator of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used shall be postmarked at least 30 days prior to the performance test. Notification procedures of §2108.02 shall also apply. (§60.276a(e); §2108.02)

e. The permittee shall conduct the demonstration of compliance with V.A.1.a above and furnish the Department and the Administrator a written report of the results of the test. This report shall include the following information: (§60.276a(f))

1) Facility name and address;
2) Plant representative;
3) Make and model of process, control device, and continuous monitoring equipment;
4) Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
5) Rated (design) capacity of process equipment;
6) Those data required under V.A.2.c above;
   a) List of charge and tap weights and materials;
   b) Heat times and process log;
   c) Control device operation log; and
   d) Continuous opacity monitor or Method 9 data.
7) Test dates and test times;
8) Test company;
9) Test company representative;
10) Test observers from outside agency;
11) Description of test methodology used, including any deviation from standard reference methods;
12) Schematic of sampling location;
13) Number of sampling points;
14) Description of sampling equipment;
15) Listing of sampling equipment calibrations and procedures;
16) Field and laboratory data sheets;
17) Description of sample recovery procedures;
18) Sampling equipment leak check results;
19) Description of quality assurance procedures;
20) Description of analytical procedures;

~~21) Notation of sample blank corrections; and~~
~~22) Sample emission calculations.~~

~~f. All shop opacity observations in excess of the emission limits specified in V.A.1.a.2) and V.A.1.a.3) above shall indicate a period of excess emission, and shall be reported to the Department semi-annually, according to § 60.7(c). (§60.276a(g); §2103.12.k.1)~~

~~g. Reporting instances of non-compliance in accordance with condition V.A.5.a.2) 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 Electric Arc Furnace and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. Such practices shall include, but are not limited to, minimizing the input of outside air and minimizing the opening of the slag door. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.99)

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)~~

B. Argon-Oxygen Decarburization Vessel

Process Description: Argon-Oxygen Decarburization (AOD) Vessel
Facility ID: P002
Max. Design Rate: 35.5 TPH
Capacity: 25.1 TPH; 175,000 TPY (Based on EAF Steel Production)
Fuel/Raw Material: Molten Steel, Scrap Steel, Alloy Elements, Flux
Control Device(s): Melt Shop Baghouse
Stack I.D.: S001

1. Restrictions:

a. At no time shall the permittee allow the AOD Vessel to operate unless it is being maintained and operated in accordance with good engineering practice and within the manufacturer's specifications. (RACT Order No. 241, Condition 1.1; 25 PA Code §129.99).

b. ~~The permittee shall at no time conduct AOD process operations unless the Melt Shop pollution control equipment is properly maintained and operated according to the following conditions: (§2103.12.a.2.B; ACHD Operating Permit No. 7037009-000-16401, issued August 1, 1978)~~

1) ~~The fugitive emissions capture equipment shall consist of a canopy hood system ducted to the Melt Shop Baghouse, and closed roof scavenger points ducted to the Melt Shop Baghouse.~~
2) ~~The AOD shall be equipped with a canopy hood for collection of process emissions, and such hood shall be properly maintained and operated at all times with all captured emissions ducted to the Melt Shop Baghouse.~~

c. ~~The production of steel at the AOD shall be limited by EAF steel production to not exceed 175,200 tons of steel in any consecutive twelve-month period. (§2103.12.a.2.B)~~

2. ~~Testing Requirements:~~

a. ~~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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.1)~~

3. ~~Monitoring Requirements:~~

~~None except as provided in V.A.3 above.~~

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

1) Number of heats and production for the AOD (daily, monthly, 12-month);
2) Time and duration of each vessel charge and tap (per charge/tap, monthly average, 12-month);
3) Differential pressure drop across each compartment of the EAF Melt Shop Baghouse; and

4) Stack test protocols and reports.

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)~~

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; 25 PA Code §129.100)

5. Reporting Requirements:

a. ~~The permittee shall report the following information 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)~~

~~1) Monthly and 12-month data required to be reported by condition V.B.4.a; and~~
~~2) Non-compliance information required to be recorded by V.B.4.b above.~~

~~b.~~ ~~Reporting instances of non-compliance in accordance with condition V.B.5.a.2) 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 AOD Vessel and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.100)

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)~~

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ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM

February 20, 2020

SUBJECT: **Reasonable Available Control Technology (RACT II) Determination**
Universal Stainless & Alloy Products, Inc.
600 Mayer Street
Bridgeville, PA 15017
Allegheny County

Title V Operating Permit No. 0027a

TO: JoAnn Truchan, P.E.
Section Chief, Engineering

FROM: David D. Good
Air Quality Engineer

I. Executive Summary

Universal Stainless & Alloy Products, Inc. (Universal Stainless) is defined as a major source of NO_X emissions and was subjected to a Reasonable Available Control Technology II (RACT II) review by the Allegheny County Health Department (ACHD) required for the 1997 and 2008 Ozone National Ambient Air Quality Standard (NAAQS). The findings of the review established that technically and financially feasible RACT would result in the following emissions changes, summarized below.

Table 1 Technically and Financially Feasible Control Options Summary for NO_X

There are no technically feasible control options that are reasonably achievable for any processes at this facility.

These findings are based on the following documents:

- RACT analysis performed by ERG/ACHD (2-2-2018)
- RACT analysis performed by Universal Stainless (0027c2014-02-5ract.pdf)

II. Regulatory Basis

ACHD requested all major sources of NO_X (potential emissions of 100 tons per year or greater) and all major sources of VOC (potential emissions of 50 tons per year or greater) to reevaluate NO_X and/or VOC RACT for incorporation into Allegheny County's portion of the PA SIP. Universal Stainless requested a case by case RACT II determination under 25 Pa Code 129.99 for two of its emission units, the Electric Arc Furnace (Source ID P001) and the Argon-Oxygen Decarburization Vessel (Source ID P002). This document is the result of ACHD's determination of RACT for these two emission sources at Universal Stainless based on the materials submitted by the subject source and other relevant information.

III. Facility Description, Existing RACT I and Sources of NO_X

The Universal Stainless plant is a specialty steel manufacturing plant that uses an Electric Arc Furnace (EAF) to produce high-speed steels, tool and die steels, and high temperature metals. Universal Stainless is a major source of NO_X emissions.

The facility is composed of one electric arc furnace, one argon-oxygen decarburization vessel, three electro-slag reduction furnaces, one hot rolling mill, and associated reheat and annealing furnaces. On December 19th, 1996 the facility entered into a consent decree with the Department to meet RACT I obligations under RACT Order No. 241. RACT Order 241 was approved as RACT by EPA in 2001 (66 FR 52511). The RACT I requirements are to operate the following units in accordance with good engineering practice and manufacturer's specifications: 1) The Electric Arc Furnace (now P001), 2) The Argon-Oxygen Decarburization (AOD) Vessel (now P002), 3) The Ladle Reheat Furnace (now P003), 4) The Vessel Reheat Furnace (since eliminated), 5) The Ingot Reheat Furnace (since eliminated), 6) The Teeming Process (now P005), 7) The Hot Rolling Process (now P010), 8) Annealing Furnaces no. 3 through 11 (now P011), 9) Reheat Furnaces no. 3 through 20 (now P010), and 10) Space Heaters (now B001). Additional requirements are to maintain records of production and fuel usage demonstrating compliance.

Table 2 Facility Sources Subject to Case-by-Case RACT II and Their Existing RACT I Limits

Source ID	Description	Rating	NO_X PTE (TPY)	NO_X Presumptive Limit (RACT II)	NO_X Limit (RACT I)
P001	Electric Arc Furnace	23.1 tons/hr	17.52	NA	RACT Order No. 241 (12/19/1996)
P002	Argon-Oxygen Decarburization Vessel	25.1 tons/hr	10.51	NA	RACT Order No. 241 (12/19/1996)

Table 3 Facility Sources Subject to the Presumptive RACT II per PA Code 129.97

Source ID	Description	Rating	NO_X PTE (TPY)	Basis for Presumptive	Presumptive RACT Requirement (25 Pa Code Section 129.97(c)(3))
P003	Ladle Reheater #1 Ladle Reheater #2	8.9 MMBtu/hr (each)	5.34 (each)	< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P006	Electro-Slag Reheat Holding Furnace	4 MMBtu/hr	1.72	< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Car Bottom Furnace #11	11.0 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Clamshell Furnace #CLM1	6.0 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Clamshell Furnace #CLM2	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #01	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #02	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #03	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #04	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices

Source ID	Description	Rating	NO_X PTE (TPY)	Basis for Presumptive	Presumptive RACT Requirement (25 Pa Code Section 129.97(c)(3))
P011 – Annealing Furnaces	Hood Furnace #05	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #06	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #07	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #08	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #09	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #10	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #11	7.44 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #12	7.44 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #13	7.44 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #14	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-1	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-2	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-3	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-4	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-5	3.72 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-6	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-7	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Bar Hood Furnace #01	3.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P018	Plate Warming Furnace	6.96 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
Total	**P011 & P018**		**67.73**		
P012 – Reheat Furnaces	12" Bar Mill Reheat Furnace #01	5.3 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	12" Bar Mill Reheat Furnace #02	5.3 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices

Source ID	Description	Rating	NO_X PTE (TPY)	Basis for Presumptive	Presumptive RACT Requirement (25 Pa Code Section 129.97(c)(3))
P012 – Reheat Furnaces	12" Bar Mill Reheat Furnace #03	5.3 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	12" Bar Mill Reheat Furnace #04	5.3 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #07	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #08	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #09	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #10	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #11	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #12	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #13	16.6 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #14	16.6 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #15	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #16	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #17	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #18	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #19	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #20	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #21	16.6 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
Total	**P012**		**80.39**		
P023	AOD Reline Heater	8.9 MMBtu/hr	2.67	< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P024	Transfer Ladle Heater	8.9 MMBtu/hr	2.67	< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices

Table 4 Facility Sources Exempt from RACT II per PA Code 129.96(c) {< 1 TPY NO_X}

Source ID	Description	Rating	NO_X PTE (TPY)	VOC PTE (TPY)
B001	Space Heaters (112 units)	0.03 x 1, 0.05 x 5, 0.09 x 14, 0.1 x 40, 0.12 x 22, 0.125 x 9, 0.15 x 5, 0.16 x 5, 0.17 x 1, 0.2 x 6, 0.25 x 2, 0.4 x 2 [MMBtu/hr x Quantity]	< 0.25 (largest unit)	NA
Process Heater	Process Heater	3.0 MMBtu/hr	0.9	NA
Quench Tank Heater	Quench Tank Heater	2.5 MMBtu/hr	0.66	NA

IV. RACT Determination

ACHD has determined that cbc RACT II for Source IDs P001 and P002 is to operate the sources in accordance with the manufacturer's specifications and with good operating practice. NOx emissions at Electric Arc Furnaces can be reduced to some degree through operational practices such as controlling the exhaust flows to reduce the input of outside air and minimizing the opening of the slag door.

The potential Technically Feasible Control Options for Universal Stainless that were evaluated are detailed in Table 5 below.

Table 5 Technically Feasible NO_X Control Cost Comparisons

Control Option		P001	P002
Combustion Optimization	tpy NO_X Removed		
	Cost		
	$/ton		
Low Nox Burners	tpy NO_X Removed		
	Cost		
	$/ton		
Flue Gas Recirculation	tpy NO_X Removed		
	Cost		
	$/ton		
Low Excess Air	tpy NO_X Removed		
	Cost		
	$/ton		
Staged Combustion	tpy NO_X Removed		
	Cost		
	$/ton		
Selective Catalytic Reduction	tpy NO_X Removed		
	Cost		
	$/ton		
Selective Non-Catalytic Reduction	tpy NO_X Removed		
	Cost		
	$/ton		
Combustion / Performance Optimization	tpy NO_X Removed		
	Cost		
	$/ton		
Abide by Manufacturer Maintenance Schedule	tpy NO_X Removed		0
	Cost		$0
	$/ton		NA

There are no Technically Feasible Control Options for EAF and AOD processes at Universal Stainless. Since only electricity is used to melt the steel, the combustion NO_X emissions are already minimized to the greatest extent possible (there is no pre-heating of scrap steel or concurrent firing of oxy-fuel burners employed at this unit). Post-combustion controls such as Selective Catalytic Reduction (SCR) and Non-Selective Catalytic Reduction (NSCR) have technical constraints such that they have never been applied to EAF or AOD operations. These constraints include unstable gas flow rates, NO_X concentrations and temperature. Additionally, the metals such as nickel, zinc and chromium can react with the platinum catalyst to cause catalytic poisoning, as well as the high PM concentration in the exhaust gas stream likely binding to the catalyst.

V. RACT Emissions Summary

Based on the findings in this RACT analysis, the Universal Stainless facility emissions can be summarized as follows:

Table 6 RACT II Emission Reduction Summary

NO_X Potential Emissions (tpy)		
Current PTE	**RACT Reduction**	**Revised PTE**
195.92	0	195.92

As shown in Table 6, the new RACT II conditions will not result in any additional reductions of NO_X from the Universal Stainless facility.

VI. New and Revised RACT II Permit Conditions

1. Retain RACT I language (RACT Order 241).

2. TVOP 0027 Condition V.A.2.n - The testing required by V.A.2.a above shall be repeated at least once every five years from the date of the prior valid test. (§2103.12.h.1; 25 PA Code §129.100)

3. TVOP 0027 Condition V.A.4.b - The permittee shall maintain records to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to the following (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

   V.A.4.b.1 - Number of heats and production for the EAF (daily, monthly, 12-month);
   V.A.4.b.2 - Time and duration of each furnace charge and tap (per charge/tap, monthly average, 12-month);
   V.A.4.b.3 - Differential pressure drop across each compartment of the Melt Shop Baghouse; and
   V.A.4.b.4 - Stack test protocols and reports.

4. TVOP 0027 Condition V.A.4.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; §60.276a(a); 25 PA Code §129.100)

5. TVOP 0027 Condition V.A.6.a - The permittee shall not, at any time, operate the Electric Arc Furnace and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. Such practices shall include, but not limited to, minimizing the input of

outside air and minimizing the opening of the slag door. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.99)

6. TVOP 0027 Condition V.B.1.a - At no time shall the permittee allow the AOD Vessel to operate unless it is being maintained and operated in accordance with good engineering practice and within the manufacturer's specifications. (RACT Order No. 241, Condition 1.1; 25 PA Code §129.99).

7. TVOP 0027 Condition V.B.4.a - Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

   V.B.4.a.1 - Number of heats and production for the AOD (daily, monthly, 12-month);
   V.B.4.a.2 - Time and duration of each vessel charge and tap (per charge/tap, monthly average, 12-month);
   V.B.4.a.3 - Differential pressure drop across each compartment of the EAF Melt Shop Baghouse; and
   V.B.4.a.4 - Stack test protocols and reports.

8. TVOP 0027 Condition V.B.4.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; 25 PA Code §129.100)

9. TVOP 0027 Condition V.B.6.a - The permittee shall not, at any time, operate the AOD Vessel and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.100)

ALLEGHENY COUNTY HEALTH DEPARTMENT
Air Quality Program

SUMMARY OF PUBLIC COMMENTS AND DEPARTMENT RESPONSES ON THE PROPOSED ISSUANCE OF UNIVERSAL STAINLESS AND ALLOY PRODUCTS, INC. TITLE V OPERATING PERMIT NO. 0027A

[Notice of the opportunity for public comment appeared in the legal section of the Pittsburgh Post-Gazette on December 19, 2019. The public comment period ended on January 22, 2020.]

COMMENT/RESPONSE: The Department received no comments on this draft permit and the permit was issued as advertised.

David D. Good, Air Quality Engineer
February 20, 2020

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

Title V Operating Permit
& Federally Enforceable State Operating Permit

Issued To: Universal Stainless & Alloy Products, Inc.

Facility: Universal Stainless & Alloy Products, Inc.
600 Mayer Street
Bridgeville, PA 15017

ACHD Permit #: 0027a

Date of Issuance: November 21, 2017

Amended Date:

Expiration Date: November 21, 2022

Renewal Date: May 21, 2022

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

Prepared By: _____
David D. Good
Air Quality Engineer

TABLE OF CONTENTS

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AMENDMENTS:

DATE	*SECTION*
Xx/xx/2019	Condition V.A.2.n – Added RACT II citation.
Xx/xx/2019	Condition V.A.4.b – Added RACT II citation.
Xx/xx/2019	Condition V.A.4.e – Added RACT II citation.
Xx/xx/2019	Condition V.A.6.a – Added RACT II citation.
Xx/xx/2019	Condition V.B.1.a – Added RACT II citation.
Xx/xx/2019	Condition V.B.4.a – Added RACT II citation.
Xx/xx/2019	Condition V.B.4.c – Added RACT II citation.
Xx/xx/2019	Condition V.B.6.a – Added RACT II citation.

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I. CONTACT INFORMATION

Facility Location:	**Universal Stainless & Alloy Products, Inc.** 600 Mayer Street Bridgeville, PA 15017
Permittee/Owner:	**Universal Stainless & Alloy Products, Inc.** 600 Mayer Street Bridgeville, PA 15017
Responsible Official:	**Michael Alderson**
Title:	Director of EH&S
Company:	Universal Stainless & Alloy Products, Inc.
Address:	2058 South Bailey Road North Jackson, Ohio
Telephone Number:	330-599-7044
Fax Number:	330-538-9792
Facility Contact:	**Steven Schaum**
Title:	EHS Specialist
Telephone Number:	412-257-7015
E-Mail Address:	s.schaum@univstainless.com

AGENCY ADDRESSES:

ACHD Engineer:	**David Good**
Title:	Air Quality Engineer
Telephone Number:	412-578-8366
Fax Number:	412-578-8144
E-mail Address:	David.Good@AlleghenyCounty.US
ACHD Contact:	**Chief Engineer** **Allegheny County Health Department** Air Quality Program 301 39th Street, Building #7 Pittsburgh, PA 15201-1891
EPA Contact:	**Enforcement Programs Section (3AP12)** **USEPA Region III** 1650 Arch Street Philadelphia, PA 19103-2029

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II. FACILITY DESCRIPTION

[This section is provided for informational purposes only and is not intended to be an applicable requirement.]

The Universal Stainless & Alloy Products, Inc. plant is a specialty steel manufacturing plant that produces high-speed steels, tool and die steels, and high temperature metals. The facility, which is located in Bridgeville, Allegheny County, Pennsylvania, is composed of one electric arc furnace, one argon-oxygen decarburization vessel, three electro-slag reduction furnaces, one hot rolling mill, and associated reheat and annealing furnaces. The facility is a major source of carbon monoxide (CO) and nitrogen oxides (NOx) and is a minor source of particulate matter < 10 microns (PM10), particulate matter < 2.5 microns (PM2.5), sulfur oxides (SO_X), volatile organic compounds (VOCs), and hazardous air pollutants (HAPs), as defined in Section 2101.20 of Article XXI.

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.
P001	Electric Arc Furnace	Baghouse	56 Tons/Heat & 23.14 TPH	Scrap Steel/Alloys	S001
P002	Argon-Oxygen Decarburization Vessel	Baghouse	60 Tons/Heat & 25.1 TPH	Molten Steel	S001
P003	Teeming Ladle Heaters	N/A	17.8 MMBtu/hr	Natural Gas	N/A
P005	Teeming	Baghouse	60 TPH	Molten Steel	S001
P006	Electro-Slag Remelt Holding Furnace	N/A	4.0 MMBtu/hr	Natural Gas	N/A
P007	Electro-Slag Remelt (4 Furnaces, A-left, A-right, B & C)	Baghouse	7 TPH (total for all ESRs)	N/A (electric)	S002
P010	Hot Rolling/Blooming Mill	N/A	34.31 TPH	Specialty Steel	N/A
P011	Annealing Furnaces	Low NO_x Burners	24 units (178.8 MMBtu/hr total rated capacity)	Natural Gas	N/A
P012	Reheat Furnaces	Low NO_x Burners	19 units (177.8 MMBtu/hr total rated capacity)	Natural Gas	N/A
P013	2 Gantry Grinders	Integral Dust Collector	8 TPH	Specialty Steel	N/A
P015	4 Midwest Grinders plus one spare	Baghouse	10 TPH	Specialty Steel	S004

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I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
	5-Circulating Water Cooling Towers	Mist Eliminators	Melt Shop - 2,800 gpm; 3-ESR towers - 834 gpm, each; VAR tower – 500 gpm	Cooling water	N/A
P018	Plate Warming Furnace	N/A	7.0 MMBtu/hr	Natural Gas	N/A
P019	Western Gear Billet Grinder	Baghouse	6.8 TPH	Specialty Steel	S003
P023	AOD Relining Heater	N/A	8.9 MMBtu/hr	Natural Gas	N/A
P024	Transfer Ladle Heater	N/A	8.9 MMBtu/hr	Natural Gas	N/A
B001	Miscellaneous Space Heating Units	N/A	112 units (13.53 MMBtu/hr total rated capacity)	Natural Gas	N/A
F001	Dry Bulk Materials Storage and Handling	Wet Suppression	35,000 TPY	Steel Slag	N/A
F002	Plant Roads	Wet Suppression; Chemical Treatment; Paved Road Sweeping	1.0 mi. Paved Roads; 0.8 mi. Unpaved Roads; 70,000 sq. ft. Parking Lots	N/A	N/A

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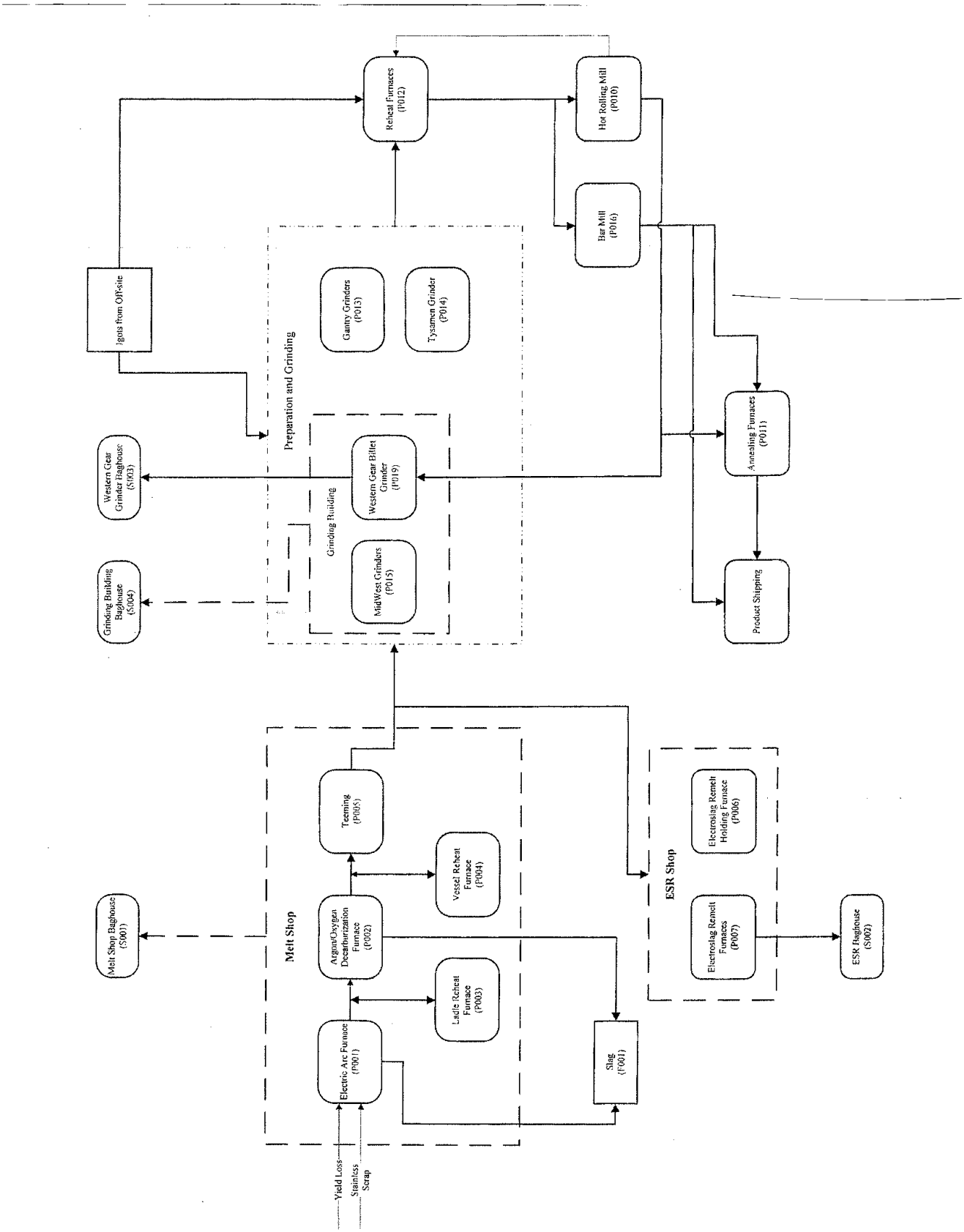
Reheat Furnaces (P012)
Hot Rolling Mill (P010)
Bar Mill (P016)
Ingots from Off-Site
Preparation and Grinding
Gantry Grinders (P013)
Tysaman Grinder (P014)
Grinding Building
Western Gear Billet Grinder (P019)
MidWest Grinders (P015)
Western Gear Grinder Baghouse (S003)
Grinding Building Baghouse (S004)
Annealing Furnaces (P011)
Product Shipping
Melt Shop
Teeming (P005)
Vessel Reheat Furnace (P004)
Argon/Oxygen Decarburization Furnace (P002)
Ladle Reheat Furnace (P003)
Electric Arc Furnace (P001)
Slag (F001)
Melt Shop Baghouse (S001)
ESR Shop
Electroslag Remelt Holding Furnace (P006)
Electroslag Remelt Furnaces (P007)
ESR Baghouse (S002)
Yield Loss
Stainless Scrap

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 - 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.

c. "RACT Order No. 241" shall be defined as Plan Approval Order and Agreement No. 241 Upon Consent, dated December 20, 1996.

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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 transferrable 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.

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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 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, §2103.22.i.1)

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 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 compliance 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 certifications of compliance must be submitted to the Administrator as well as the Department by March 2 of each year for the time period beginning January 1 and ending December 31 of the previous year. Compliance certifications may be emailed to the Administrator at

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R3_APD_Permits@epa.gov in lieu of mailing a hard copy.

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 4 above.

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

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

e. Reports may be submitted electronically to AQReports@AlleghenyCounty.us. Certification by the responsible official in accordance with General Condition 4 above shall be provided separately via hard copy.

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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, §2103.24.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 thereunder.

19. Revisions and Minor Permit Modification Procedures (§2103.14.c, §2103.24.a)

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, §2103.22.g)

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.b., §2103.23.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.

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23. Reopenings for Cause (§2103.15, §2103.25.a, §2103.12.f.3)

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 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.

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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. 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.

30. 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.

31. 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.

32. 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.

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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.

33. 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 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.

34. 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.

35. 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.

36. 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.

37. Duty to Supplement and Correct Relevant Facts (§2103.12.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.

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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.

38. Effect (§2102.03.g.)

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.

39. 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.

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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)

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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

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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 insure 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. Orders (§2108.01.f)

In addition to meeting the requirements of General Condition III.28 and Site Level Conditions IV.7 through IV.10 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.

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12. 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.11 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.

13. Emissions Testing (§2108.02)

a. On or before December 31, 1981, and at two-year intervals thereafter, any person who operates, or allows to be operated, any piece of equipment or process which has an allowable emission rate, of 100 or more tons per year of particulate matter, sulfur oxides or volatile organic compounds shall conduct, or cause to be conducted, for such equipment or process such emissions tests as are necessary to demonstrate compliance with the applicable emission limitation(s) of this permit and shall submit the results of such tests to the Department in writing. Emissions testing conducted pursuant to this section shall comply with all applicable requirements of Article XXI §2108.02.e.

b. **Orders.** In addition to meeting the requirements of Site Level Condition IV.13.a above, 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.

c. **Tests by the Department.** Notwithstanding any tests conducted pursuant to Site Level Conditions IV.13.a and IV.13.b above, 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.

d. **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.

e. 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.

f. **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,

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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.

14. 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.

15. 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.

16. 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;
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;

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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.

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. 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.

19. 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

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§2106.02.

20. 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.

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V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. Electric Arc Furnace

Process Description: Electric Arc Furnace (EAF)
Facility ID: P001
Max. Design Rate: 23.14 tons steel/hr
Capacity: 56 tons/heat
Fuel/Raw Material: Steel Scrap, Limestone, Alloying Elements
Control Device(s): Melt Shop Baghouse
Stack I.D.: S001

1. Restrictions:

a. The permittee shall not cause to be discharged into the atmosphere from the EAF any gases which (§60.272a(a), §63.10686(b)(1), §63.10686(b)(2)):

1) Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf);
2) Exit from a control device and exhibit 3 percent opacity or greater; and
3) Exit from a shop and, due solely to the operations of the EAF(s), exhibit 6 percent opacity or greater.

b. The permittee shall not cause to be discharged into the atmosphere from the dust-handling system any gases that exhibit 10 percent opacity or greater. (§60.272a(b)):

c. The permittee shall at no time conduct Melt Shop process operations unless the Melt Shop pollution control equipment is properly maintained and operated according to the following conditions: (§2103.12.a.2.B and Operating Permit Nos. 7037009-000-16400 and 7037009-000-16401)

1) The fugitive emissions capture equipment shall consist of a canopy hood system ducted to the Melt Shop Baghouse, and closed-roof scavenger points ducted to the Melt Shop Baghouse.
2) The EAF shall be equipped with a canopy hood for collection of process emissions, and such hood shall be properly maintained and operated at all times with all captured emissions ducted to the Melt Shop Baghouse.
3) The particulate control efficiency of the baghouse shall be a minimum of 98.3 percent at all times while the subject process equipment is producing particulate emissions.
4) The differential pressure drop across each baghouse compartment shall be between 3" and 12" w.c., inclusive, or as established during the most recent test required by condition V.A.2.a below, measured to the nearest ½" w.c.

d. The production of steel at the EAF shall not exceed 175,200 tons of steel in any consecutive twelve-month period. The production in any one heat shall not exceed 56 tons. (Permit No. 7037009-000-16400, issued August 1, 1978, §2103.12.a.2.B)

e. Emissions from the Melt Shop Baghouse shall not exceed the emissions limitations in Table V-A-1 below. The Melt Shop emission limitations include emissions from the Electric Arc Furnace, AOD, and Teeming. (§2103.12.a.2.B)

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TABLE V-A-1 – Melt Shop Emission Limitations (Baghouse)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	10.98	39.64
PM-10	7.82	28.07
PM-2.5	0.78	2.80
Sulfur Oxides	2.99	11.01
Nitrogen Oxides	7.56	27.75
Carbon Monoxide	88.03	312.21
Volatile Organic Compounds	8.04	30.53
Chromium	0.086	0.326
Nickel	0.050	0.190
Lead	0.016	0.062
Manganese	0.113	0.428

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

f. (a) *Chlorinated plastics, lead, and free organic liquids.* For metallic scrap utilized in the EAF at the facility, the permittee shall comply with the requirements in either Condition V.A.1.f.1) or V.A.1.f.2) below. The permittee may have certain scrap at the facility subject to Condition V.A.1.f.1) and other scrap subject to Condition V.A.1.f.2) below provided the scrap remains segregated until charge make-up. (§ 63.10685(a))

1) *Pollution prevention plan* . For the production of steel other than leaded steel, the permittee shall prepare and implement a pollution prevention plan for metallic scrap selection and inspection to minimize the amount of chlorinated plastics, lead, and free organic liquids that is charged to the furnace. For the production of leaded steel, the permittee shall prepare and implement a pollution prevention plan for scrap selection and inspection to minimize the amount of chlorinated plastics and free organic liquids in the scrap that is charged to the furnace. The permittee shall submit the scrap pollution prevention plan to the permitting authority for approval. The permittee shall operate according to the plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. The permittee may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. The permittee shall keep a copy of the plan onsite, and the permittee shall provide training on the plan's requirements to all plant personnel with materials acquisition or inspection duties. Each plan shall include the information in Condition V.A.1.f.1)a) through V.A.1.f.1)c) below: (§ 63.10685(a)(1))

a) Specifications that scrap materials shall be depleted (to the extent practicable) of undrained used oil filters, chlorinated plastics, and free organic liquids at the time of charging to the furnace. (§ 63.10685(a)(1)(i))

b) A requirement in the permittee's scrap specifications for removal (to the extent practicable) of lead-containing components (such as batteries, battery cables, and wheel weights) from the scrap, except for scrap used to produce leaded steel. (§ 63.10685(a)(1)(ii))

c) Procedures for determining if the requirements and specifications in Condition V.A.1.f.1) above are met (such as visual inspection or periodic audits of scrap providers) and procedures for taking corrective actions with vendors whose shipments are not within

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specifications. (§ 63.10685(a)(1)(iii))

d) The requirements of Condition V.A.1.f.1) above do not apply to the routine recycling of baghouse bags or other internal process or maintenance materials in the furnace. These exempted materials shall be identified in the pollution prevention plan. (§ 63.10685(a)(1)(iv))

2) *Restricted metallic scrap* . For the production of steel other than leaded steel, the permittee shall not charge to a furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, lead-containing components, chlorinated plastics, or free organic liquids. For the production of leaded steel, the permittee shall not charge to the furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, chlorinated plastics, or free organic liquids. This restriction does not apply to any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed or cleaned to the extent practicable such that the materials do not include lead components, chlorinated plastics, or free organic liquids. This restriction does not apply to motor vehicle scrap that is charged to recover the chromium or nickel content if the permittee meets the requirements in Condition V.A.1.g.3) below. (§ 63.10685(a)(2))

g. *Mercury requirements* . For scrap containing motor vehicle scrap, the permittee shall procure the scrap pursuant to one of the compliance options in Condition V.A.1.g.1), V.A.1.g.2), or V.A.1.g.3) below for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, the permittee shall procure the scrap pursuant to the requirements in Condition V.A.1.g.4) below for each scrap provider, contract, or shipment. The permittee may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision. (§ 63.10685(b))

1) *Site-specific plan for mercury switches* . The permittee shall comply with the requirements in Conditions V.A.1.g.1)a) through V.A.1.g.1)e) below. (§ 63.10685(b)(1))

a) The permittee shall include a requirement in the permittee's scrap specifications for removal of mercury switches from vehicle bodies used to make the scrap. (§ 63.10685(b)(1)(i))

b) The permittee shall prepare and operate according to a plan demonstrating how the permittee's facility will implement the scrap specification in Condition V.A.1.g.1)a) above for removal of mercury switches. The permittee shall submit the plan to the permitting authority for approval. The permittee shall operate according to this plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. The permittee may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. The permitting authority may change the approval status of the plan upon 90-days written notice based upon the semiannual compliance report or other information. The plan shall include: (§ 63.10685(b)(1)(ii))

i) A means of communicating to scrap purchasers and scrap providers the need to obtain or provide motor vehicle scrap from which mercury switches have been removed and the need to ensure the proper management of the mercury switches removed from that scrap as required under the rules implementing subtitle C of the Resource Conservation and Recovery Act (RCRA) (40 CFR parts 261 through 265 and 268). The plan shall include documentation of direction to appropriate staff to communicate to suppliers

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throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the permitting authority, the permittee shall provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols; (§ 63.10685(b)(1)(ii)(A))

ii) Provisions for obtaining assurance from scrap providers that motor vehicle scrap provided to the facility meet the scrap specification; (§ 63.10685(b)(1)(ii)(B))

iii) Provisions for periodic inspections or other means of corroboration to ensure that scrap providers and dismantlers are implementing appropriate steps to minimize the presence of mercury switches in motor vehicle scrap and that the mercury switches removed are being properly managed, including the minimum frequency such means of corroboration will be implemented; and (§ 63.10685(b)(1)(ii)(C))

iv) Provisions for taking corrective actions (i.e., actions resulting in scrap providers removing a higher percentage of mercury switches or other mercury-containing components) if needed, based on the results of procedures implemented in Condition V.A.1.g.1)b)iii) above. (§ 63.10685(b)(1)(ii)(D))

c) The permittee shall require each motor vehicle scrap provider to provide an estimate of the number of mercury switches removed from motor vehicle scrap sent to the permittee's facility during the previous year and the basis for the estimate. The permitting authority may request documentation or additional information at any time. (§ 63.10685(b)(1)(iii))

d) The permittee shall establish a goal for each scrap provider to remove at least 80 percent of the mercury switches. Although a site-specific plan approved under Condition V.A.1.g.1) above may require only the removal of convenience light switch mechanisms, the permitting authority will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal. (§ 63.10685(b)(1)(iv))

e) For each scrap provider, the permittee shall submit semiannual progress reports to the permitting authority that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in Condition V.A.1.g.1)b)i) above. This information can be submitted in aggregated form and does not have to be submitted for each scrap provider, contract, or shipment. The permitting authority may change the approval status of a site-specific plan following 90-days notice based on the progress reports or other information. (§ 63.10685(b)(1)(v))

2) *Option for approved mercury programs.* The permittee shall certify in the permittee's notification of compliance status that the permittee participates in and purchases motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator or the Department based on the criteria in Conditions V.A.1.g.2)a) through V.A.1.g.2)c) below. If the permittee purchases motor vehicle scrap from a broker, the permittee shall certify that all scrap received from that broker was obtained from other scrap providers who participate in a program for the removal of mercury switches that has been approved by the Administrator or the Department based on the criteria in Conditions V.A.1.g.2)a) through V.A.1.g.2)c) below. The National Vehicle Mercury Switch Recovery Program and the Vehicle Switch Recovery Program mandated by Maine State law are EPA-approved programs under Condition V.A.1.g.2) unless and until the Administrator or the Department disapproves the program (in part or in whole) under Condition V.A.1.g.2)c) below. (§ 63.10685(b)(2))

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a) The program includes outreach that informs the dismantlers of the need for removal of mercury switches and provides training and guidance for removing mercury switches; (§ 63.10685(b)(2)(i))

b) The program has a goal to remove at least 80 percent of mercury switches from the motor vehicle scrap the scrap provider processes. Although a program approved under Condition V.A.1.g.2) above may require only the removal of convenience light switch mechanisms, the Administrator or the Department will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal; and (§ 63.10685(b)(2)(ii))

c) The program sponsor agrees to submit progress reports to the Administrator or the Department no less frequently than once every year that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and certification that the recovered mercury switches were recycled at facilities with permits as required under the rules implementing subtitle C of RCRA (40 CFR parts 261 through 265 and 268). The progress reports shall be based on a database that includes data for each program participant; however, data may be aggregated at the State level for progress reports that will be publicly available. The Administrator or the Department may change the approval status of a program or portion of a program (e.g., at the State level) following 90-days notice based on the progress reports or on other information. (§ 63.10685(b)(2)(iii))

d) The permittee shall develop and maintain onsite a plan demonstrating the manner through which the permittee's facility is participating in the EPA-approved program. (§ 63.10685(b)(2)(iv))

i) The plan shall include facility-specific implementation elements, corporate-wide policies, and/or efforts coordinated by a trade association as appropriate for each facility. (§ 63.10685(b)(2)(iv)(A))

ii) The permittee shall provide in the plan documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the permitting authority, the permittee shall provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols. (§ 63.10685(b)(2)(iv)(B))

iii) The permittee shall conduct periodic inspections or provide other means of corroboration to ensure that scrap providers are aware of the need for and are implementing appropriate steps to minimize the presence of mercury in scrap from end-of-life vehicles. (§ 63.10685(b)(2)(iv)(C))

3) *Option for specialty metal scrap.* The permittee shall certify in the permittee's notification of compliance status that the only materials from motor vehicles in the scrap are materials recovered for their specialty alloy (including, but not limited to, chromium, nickel, molybdenum, or other alloys) content (such as certain exhaust systems) and, based on the nature of the scrap and purchase specifications, that the type of scrap is not reasonably expected to contain mercury switches. (§ 63.10685(b)(3))

4) *Scrap that does not contain motor vehicle scrap.* For scrap not subject to the requirements in Condition V.A.1.g.1) through V.A.1.g.3) above, the permittee shall certify in the permittee's notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap. (§ 63.10685(b)(4))

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2. Testing Requirements:

a. The permittee shall perform emission tests for exhaust gas PM/PM-10 concentrations (gr/dscf) and equivalent mass emission rates (lb/hr), and CO and VOC emission rates (lb/hr) at the Melt Shop Baghouse to demonstrate compliance with condition V.A.1.e above. During the test the damper positions, the differential pressure drop across each compartment and the amperage for each fan motor shall be monitored and recorded on a continuous basis. In addition, the time of each charge, melt and tap shall be recorded and reported during the test. (§2103.12.a.2.B)

b. The permittee shall perform the emission testing required in V.A.2.a above in accordance with Methods Nos. 1 through 5, 9, 10, and 25A or 25B of Appendix A of 40 CFR Part 60, or other methods approved by the Department, and in accordance with Site Level Condition IV.13 above and §2108.02. (§2103.12.a.2.B, § 63.10686(d)(1))

c. During any performance test required under §60.8, and this permit and for any report thereof required by V.A.5.e below, or to determine compliance V.A.1.a.3) above, the permittee shall monitor the following information for all heats covered by the test: (§60.274a(h))

1) Charge weights and materials, and tap weights and materials
2) Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF when direct-shell evacuation control systems are used;
3) Control device operation log; and
4) Continuous opacity monitor or Method 9 data.

d. During performance tests, the permittee shall not add gaseous diluents to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions. (§60.275a (a))

e. When emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of 40 CFR Part 60 Subpart AAa but controlled by a common capture system and control device, the permittee shall use either or both of the following procedures during a performance test (see also § 60.276a(e)): (§60.275a (b))

1) Determine compliance using the combined emissions.
2) Use a method that is acceptable to the Department and the Administrator and that compensates for the emissions from the facilities not subject to 40 CFR Part 60 Subpart AAa.

f. When emission from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60 Subpart AAa, the permittee shall demonstrate compliance with V.A.1.a.3) above based on emissions from only the EAF. (§60.275a (c))

g. In conducting the performance tests, the permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60 Appendix A or other methods and procedures as specified in §60.275a, except as provided in § 60.8(b). (§60.275a (d))

h. The permittee shall determine compliance with the particulate matter and opacity standards in V.A.1.a and V.A.1.b above as follows: (§60.275a (e))

1) Method 5 shall be used for negative-pressure fabric filters to determine the particulate matter

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concentration and volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.50 dscm (160 dscf) and, when a single EAF or AOD vessel is sampled, the sampling time shall include an integral number of heats.

2) Method 9 and the procedures of §60.11 shall be used to determine opacity.
3) To demonstrate compliance with V.A.1.a.1), V.A.1.a.2), and V.A.1.a.3) above, the Method 9 test runs shall be conducted concurrently with the particulate matter test runs, unless inclement weather interferes.

i. To comply with V.A.3.j. and V.A.2.c.1) through V.A.2.c.4) above, the permittee shall obtain the information required in these conditions during the particulate matter runs. (§60.275a (f))

j. Any control device subject to the provisions of 40 CFR Part 60 Subpart AAa shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures. (§60.275a (g))

k. Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60 Subpart AAa but controlled by a common capture system and control device, the permittee may use any of the following procedures during a performance test: (§60.275a (h))

1) Base compliance on control of the combined emissions;
2) Utilize a method acceptable to the Department and the Administrator that compensates for the emissions from the facilities not subject to to 40 CFR Part 60 Subpart AAa, or;
3) Any combination of the criteria of V.A.2.k.1) and V.A.2.k.2) above.

l. Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60 Subpart AAa, determinations of compliance with V.A.1.a.3) above will only be based upon emissions originating from the EAF. (§60.275a (i))

m. Unless the presence of inclement weather makes concurrent testing infeasible, the permittee shall conduct concurrently the performance tests required under § 60.8 and this permit to demonstrate compliance with V.A.1.a.1), V.A.1.a.2), and V.A.1.a.3) above. (§60.275a (j))

n. The testing required by V.A.2.a above shall be repeated at least once every five years from the date of the prior valid test. (§2103.12.h.1; 25 PA Code §129.100)

o. 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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.1)

3. Monitoring Requirements:

a. Except as provided under Conditions V.A.3.c and V.A.3.d below, a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the permittee. (§60.273a(a))

b. All continuous monitoring systems required by Condition V.A.3.a above shall be approved by the Department prior to being installed in accordance with the requirements of §2108.03. (§2108.03)

c. No continuous monitoring system shall be required on any control device serving the dust-

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handling system. (§60.273a (b))

d. A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) is not required on any modular, multi-stack, negative-pressure or positive-pressure fabric filter if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer; or on any single-stack fabric filter if visible emissions from the control device are performed by a certified visible emission observer and the permittee installs and continuously operates a bag leak detection system according to paragraph (e) of this section. Visible emission observations shall be conducted at least once per day for at least three 6-minute periods when the furnace is operating in the melting and refining period. All visible emissions observations shall be conducted in accordance with Method 9. If visible emissions occur from more than one point, the opacity shall be recorded for any points where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In that case, the Method 9 observations shall be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in V.A.1.a above. (§60.273a (c))

e. A furnace static pressure monitoring device is not required on any EAF equipped with a DEC system if observations of shop opacity are performed by a certified visible emission observer as follows: Shop opacity observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period. Shop opacity shall be determined as the arithmetic average of 24 consecutive 15-second opacity observations of emissions from the shop taken in accordance with Method 9. Shop opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity observations shall be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. (§60.273a (d))

f. A bag leak detection system shall be installed and continuously operated on all single-stack fabric filters if the permittee elects not to install and operate a continuous opacity monitoring system as provided for under Condition V.A.3.c above. In addition, the permittee shall meet the visible emissions observation requirements in Condition V.A.3.c above. The bag leak detection system shall meet the specifications and requirements of Conditions V.A.3.f.1) throughV.A.3.f.8) below: (§60.273a (e))

1) The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less. (§60.273a (e)(1))
2) The bag leak detection system sensor shall provide output of relative particulate matter loadings and the permittee shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.,* using a strip chart recorder or a data logger.) (§60.273a (e)(2))
3) The bag leak detection system shall be equipped with an alarm system that will sound when an increase in relative particulate loading is detected over the alarm set point established according to Condition V.A.3.f.4) below, and the alarm shall be located such that it can be heard by the appropriate plant personnel. (§60.273a (e)(3))
4) For each bag leak detection system required by Condition V.A.3.f above, the permittee shall develop and submit to the Administrator or the Department or delegated authority, for approval, a site-specific monitoring plan that addresses the items identified in Conditions

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V.A.3.f.4)a) through V.A.3.f.4)e) below. For each bag leak detection system that operates based on the triboelectric effect, the monitoring plan shall be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA–454/R–98–015). The permittee shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan shall describe the following: (§60.273a (e)(4))

a) Installation of the bag leak detection system;
b) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established;
c) Operation of the bag leak detection system including quality assurance procedures;
d) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list; and
e) How the bag leak detection system output shall be recorded and stored.

5) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time (if applicable). (§60.273a (e)(5))
6) Following initial adjustment, the permittee shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or the Department or delegated authority except as provided for in Conditions V.A.3.f.6)a) and V.A.3.f.6)b) below. (§60.273a (e)(6))
   a) Once per quarter, the permittee may adjust the sensitivity of the bag leak detection system to account for seasonal effects including temperature and humidity according to the procedures identified in the site-specific monitoring plan required under Condition V.A.3.f.4) above.
   b) If opacities greater than zero percent are observed over four consecutive 15-second observations during the daily opacity observations required under Condition V.A.3.c above and the alarm on the bag leak detection system does not sound, the permittee shall lower the alarm set point on the bag leak detection system to a point where the alarm would have sounded during the period when the opacity observations were made.
7) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detection sensor shall be installed downstream of the baghouse and upstream of any wet scrubber. (§60.273a (e)(7))
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. (§60.273a (e)(8))

g. For each bag leak detection system installed according to Condition V.A.3.f above, the permittee shall initiate procedures to determine the cause of all alarms within 1 hour of an alarm. Except as provided for under Condition V.A.3.h below, the cause of the alarm shall be alleviated within 3 hours of the time the alarm occurred by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to, the following: (§60.273a (f))

1) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate emissions; (§60.273a (f)(1))
2) Sealing off defective bags or filter media; (§60.273a (f)(2))
3) Replacing defective bags or filter media or otherwise repairing the control device; (§60.273a (f)(3))
4) Sealing off a defective baghouse compartment; (§60.273a (f)(4))
5) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and (§60.273a (f)(5))
6) Shutting down the process producing the particulate emissions. (§60.273a (f)(6))

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h. In approving the site-specific monitoring plan required in Condition V.A.3.f.4) above, the Administrator or Department or delegated authority may allow the permittee more than 3 hours to alleviate specific conditions that cause an alarm if the permittee identifies the condition that could lead to an alarm in the monitoring plan, adequately explains why it is not feasible to alleviate the condition within 3 hours of the time the alarm occurred, and demonstrates that the requested additional time will ensure alleviation of the condition as expeditiously as practicable. (§60.273a (g))

i. Except as provided under paragraph V.A.3.l below, the permittee shall either: check and record the control system fan motor amperes on a once per shift basis; install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet on a once-per-shift basis. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of ±10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Department may require the permittee to demonstrate the accuracy of the monitoring device(s) relative to 40 CFR Part 60 Appendix A Methods 1 and 2. (§60.274a(b))

j. When the permittee is required to demonstrate compliance with V.A.1.a.3) above, and at any other time that the Department or the Administrator may require (under section 114 of the Act, as amended), either: the control system fan motor amperes, the volumetric flow rate through each separately ducted hood, or the volumetric flow rate at the control device inlet shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the EAF. The permittee may petition the Department and/or the Administrator for reestablishment of these parameters whenever the permittee can demonstrate to the Department's and the Administrator's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of § 60.276a(c). (§60.274a(c))

k. Except as provided under V.A.3.l below, the permittee shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (*i.e.*, pressure sensors). This inspection shall 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 ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed. (§60.274a(d))

l. The permittee may petition the Department and the Administrator to approve any alternative to either the monitoring requirements specified in V.A.3.i above or the monthly operational status inspections specified in V.A.3.k above if the alternative will provide a continuous record of operation of each emission capture system. (§60.274a(e))

m. Except as provided for under Condition V.A.3.e above, if emissions during any phase of the heat time are controlled by the use of a DEC system, the permittee shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF or DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an

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accuracy of ±5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions. (§60.274a(f))

n. Except as provided for under Condition V.A.3.e above, when the permittee of an EAF controlled by a DEC is required to demonstrate compliance with the standard under §60.272a(a)(3), and at any other time the Department may require (under section 114 of the Clean Air Act, as amended), the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device required under Condition V.A.3.g above. The permittee may petition the Administrator or the Department for reestablishment of the pressure whenever the permittee can demonstrate to the Administrator's or the Department's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Administrator or the Department to be unacceptable operation and maintenance of the affected facility. (§60.274a(g))

o. The permittee shall conduct an inspection on the Melt Shop Baghouse once per week to demonstrate compliance with conditions V.A.1.d.1) and V.A.1.d.2) above. (§2103.12.h.1)

p. The permittee shall check and record the fan motor amperes for the emission control system, i.e., Melt Shop Baghouse, on a once-per-shift basis. (§2103.12.h.1)

q. The permittee shall, at all times, have instrumentation to continuously monitor the differential pressure drop across each compartment of the Melt Shop Baghouse during operation of the EAF. Such instrumentation shall measure the pressure drop to within ½" w.c. and be properly operated, calibrated, and maintained according to manufacturer's specifications. (§2103.12.h.1)

4. Record Keeping Requirements:

a. The permittee shall maintain records of the following information (§60.274a(a)):

1) All data obtained under V.A.3.e above, and
2) All monthly operational status inspections performed under V.A.3.g above.

b. The permittee shall maintain records to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to the following (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

1) Number of heats and production for the EAF (daily, monthly, 12-month);
2) Time and duration of each furnace charge and tap (per charge/tap, monthly average, 12-month);
3) Differential pressure drop across each compartment of the Melt Shop Baghouse; and
4) Stack test protocols and reports.

c. The permittee shall maintain a copy of the manufacturer's specifications for the Melt Shop Baghouse and records of control system inspections and performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment that is subject to this permit. (§2103.12.j.1)

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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; §60.276a(a); 25 PA Code §129.100)

f. *Recordkeeping and reporting requirements.* In addition to the records required by §63.10, the permittee shall keep records to demonstrate compliance with the requirements for the permittee's pollution prevention plan in Condition V.A.1.g.1) above and/or for the use of only restricted scrap in Condition V.A.1.g.2) above and for mercury in Conditions V.A.1.h.1) through V.A.1.h.3) above as applicable. The permittee shall keep records documenting compliance with Condition V.A.1.h.4) above for scrap that does not contain motor vehicle scrap. (§ 63.10685(c))

1) If the permittee is subject to the requirements for a site-specific plan for mercury under Condition V.A.1.h.1) above, the permittee shall: (§ 63.10685(c)(1))
   a) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and (§ 63.10685(c)(1)(i))
   b) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports shall include a certification that the permittee has conducted inspections or taken other means of corroboration as required under Condition V.A.1.h.1)b)iii) above. The permittee may include this information in the semiannual compliance reports required under Condition V.A.4.f.3) below. (§ 63.10685(c)(1)(ii))
2) If the permittee is subject to the option for approved mercury programs under Condition V.A.1.h.2) above, the permittee shall maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If the permittee purchases motor vehicle scrap from a broker, the permittee shall maintain records identifying each broker and documentation that all scrap provided by the broker was obtained from other scrap providers who participate in an approved mercury switch removal program. (§ 63.10685(c)(2))
3) The permittee shall submit semiannual compliance reports to the Administrator or the Department for the control of contaminants from scrap according to the requirements in §63.10(e). The report shall clearly identify any deviation from the requirements in Conditions V.A.1.g and V.A.1.h above and the corrective action taken. The permittee shall identify which compliance option in Condition V.A.1.h above applies to each scrap provider, contract, or shipment. (§ 63.10685(c)(3))

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) Monthly and 12-month data required to be reported by condition V.A.4.a above; and

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2) Non-compliance information required to be recorded by V.A.4.d above.

b. The permittee shall submit a written report of exceedances of the control device opacity to the Department and the Administrator semi-annually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater. (§60.276a(b))

c. Either operation of control system fan motor amperes at values exceeding ±15 percent of the value established under V.A.3.f above or operation at flow rates lower than those established under V.A.3.f above may be considered by the Department or the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Department and the Administrator semiannually. (§60.276a(c))

d. When the permittee is required to demonstrate compliance with the standard under V.A.2.e.2) above or a combination of V.A.2.e.1) and V.A.2.e.2) above, the permittee shall obtain approval from the Department and the Administrator of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used shall be postmarked at least 30 days prior to the performance test. Notification procedures of §2108.02 shall also apply. (§60.276a(e); §2108.02)

e. The permittee shall conduct the demonstration of compliance with V.A.1.a above and furnish the Department and the Administrator a written report of the results of the test. This report shall include the following information: (§60.276a(f))

1) Facility name and address;
2) Plant representative;
3) Make and model of process, control device, and continuous monitoring equipment;
4) Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
5) Rated (design) capacity of process equipment;
6) Those data required under V.A.2.c above;
   a) List of charge and tap weights and materials;
   b) Heat times and process log;
   c) Control device operation log; and
   d) Continuous opacity monitor or Method 9 data.
7) Test dates and test times;
8) Test company;
9) Test company representative;
10) Test observers from outside agency;
11) Description of test methodology used, including any deviation from standard reference methods;
12) Schematic of sampling location;
13) Number of sampling points;
14) Description of sampling equipment;
15) Listing of sampling equipment calibrations and procedures;
16) Field and laboratory data sheets;
17) Description of sample recovery procedures;
18) Sampling equipment leak check results;
19) Description of quality assurance procedures;
20) Description of analytical procedures;

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21) Notation of sample blank corrections; and
22) Sample emission calculations.

f. All shop opacity observations in excess of the emission limits specified in V.A.1.a.2) and V.A.1.a.3) above shall indicate a period of excess emission, and shall be reported to the Department semi-annually, according to § 60.7(c). (§60.276a(g); §2103.12.k.1)

g. Reporting instances of non-compliance in accordance with condition V.A.5.a.2) 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 Electric Arc Furnace and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. Such practices shall include, but not limited to, minimizing the input of outside air and minimizing the opening of the slag door. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.99)

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)

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B. Argon-Oxygen Decarburization Vessel

Process Description: Argon-Oxygen Decarburization (AOD) Vessel
Facility ID: P002
Max. Design Rate: 35.5 TPH
Capacity: 25.1 TPH; 175,000 TPY (Based on EAF Steel Production)
Fuel/Raw Material: Molten Steel, Scrap Steel, Alloy Elements, Flux
Control Device(s): Melt Shop Baghouse
Stack I.D.: S001

1. Restrictions:

a. At no time shall the permittee allow the AOD Vessel to operate unless it is being maintained and operated in accordance with good engineering practice and within the manufacturer's specifications. (RACT Order No. 241, Condition 1.1; 25 PA Code §129.99).

b. The permittee shall at no time conduct AOD process operations unless the Melt Shop pollution control equipment is properly maintained and operated according to the following conditions: (§2103.12.a.2.B; ACHD Operating Permit No. 7037009-000-16401, issued August 1, 1978)

1) The fugitive emissions capture equipment shall consist of a canopy hood system ducted to the Melt Shop Baghouse, and closed roof scavenger points ducted to the Melt Shop Baghouse.
2) The AOD shall be equipped with a canopy hood for collection of process emissions, and such hood shall be properly maintained and operated at all times with all captured emissions ducted to the Melt Shop Baghouse.

c. The production of steel at the AOD shall be limited by EAF steel production to not exceed 175,200 tons of steel in any consecutive twelve-month period. (§2103.12.a.2.B)

2. Testing Requirements:

a. 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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.1)

3. Monitoring Requirements:

None except as provided in V.A.3 above.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

1) Number of heats and production for the AOD (daily, monthly, 12-month);
2) Time and duration of each vessel charge and tap (per charge/tap, monthly average, 12-month);
3) Differential pressure drop across each compartment of the EAF Melt Shop Baghouse; and

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4) Stack test protocols and reports.

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)

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; 25 PA Code §129.100)

5. Reporting Requirements:

a. The permittee shall report the following information 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)

1) Monthly and 12-month data required to be reported by condition V.B.4.a; and
2) Non-compliance information required to be recorded by V.B.4.b above.

b. Reporting instances of non-compliance in accordance with condition V.B.5.a.2) 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 AOD Vessel and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.100)

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)

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C. Teeming Ladle Heaters

Process Description: Teeming Ladle Heaters
Facility ID: P003
Capacity: Two 8.9 MMBTU/hr burners totaling 17.8 MMBTU/Hr
Fuel: Natural Gas
Control Device(s): North American 4575-9 HiRAM Burners

The permittee is also subject to the following conditions:

1. Restrictions

a. Only commercial quality natural gas shall be combusted in the Teeming Ladle Heaters. (ACHD Installation Permit No. 0027-I008, condition V.A.1.a, issued on April 24, 2009; §2102.04.b.6)

b. Natural gas usage in the Teeming Ladle Heaters shall not exceed a total of 152.9 million cubic feet in any 12 consecutive months. (ACHD Installation Permit No. 0027-I008, condition V.A.1.b, issued on April 24, 2009; §2102.04.b.6; 25 PA Code §129.100)

c. The permittee shall not operate, or allow to be operated the Teeming Ladle Heaters unless the low-NO_X burners are properly installed, maintained and operated consistent with good air pollution control practice. (ACHD Installation Permit No. 0027-I008, condition V.A.1.c, issued on April 24, 2009; §2102.04.b.6; §2105.03; 25 PA Code §129.97(c))

d. Emissions of nitrogen oxides (NO_X) shall not exceed 0.068 lbs/mmBtu of heat input. (ACHD Installation Permit No. 0027-I008, condition V.A.1.d, issued on April 24, 2009; §2102.04.b.6)

e. Emissions from the teeming ladle heaters shall not exceed the following at any time (ACHD Installation Permit No. 0027-I008, condition V.A.1.e, issued on April 24, 2009; §2102.04.b.6):

POLLUTANT	LBS/HR	TPY [1]
PARTICULATE MATTER	0.033	0.145
PM-10	0.033	0.145
PM-2.5	0.033	0.145
NITROGEN OXIDES	1.22	5.33
SULFUR OXIDES	0.010	0.05
CARBON MONOXIDE	1.47	6.42
VOLATILE ORGANIC COMPOUNDS	0.096	0.42

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

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

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Level Condition IV.13 above and Article XXI §2108.02. (ACHD Installation Permit No. 0027-I008, condition V.A.2, issued on April 24, 2009; §2103.12.h)

3. Monitoring Requirements

The permittee shall monitor the monthly quantity of natural gas usage of the Teeming Ladle Heaters. Natural gas usage may be proportioned using the existing metering system. (ACHD Installation Permit No. 0027-I008, condition V.A.3, issued on April 24, 2009; §2102.12.i)

4. Record Keeping Requirements

a. The permittee shall maintain records of the amount of natural gas usage (monthly and 12-month) for the Teeming Ladle Heaters. (ACHD Installation Permit No. 0027-I008, condition V.A.4.a, issued on April 24, 2009; §2102.04.b.6; 25 PA Code §129.100)

b. The permittee shall maintain records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (ACHD Installation Permit No. 0027-I008, condition V.A.4.b, issued on April 24, 2009; §2103.12.j; 25 PA Code §129.100)

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. (ACHD Installation Permit No. 0027-I008, condition V.A.4.c, issued on April 24, 2009; §2103.12.j.2; 25 PA Code §129.97.100)

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. (ACHD Installation Permit No. 0027-I008, condition V.A.4.d, issued on April 24, 2009; §2103.12.h.1)

5. Reporting Requirements

a. The permittee shall report non-compliance information required to be recorded by condition V.C.4.d above 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. (ACHD Installation Permit No. 0027-I008, condition V.A.5.a, issued on April 24, 2009; §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 above, if appropriate. (ACHD Installation Permit No. 0027-I008, condition V.A.5.b, issued on April 24, 2009; §2103.12.k.1)

6. Work Practice Standard

The permittee shall not, at any time, operate the Teeming Ladle Heaters unless they are properly operated and maintained according to good engineering and air pollution control practices. (§2105.06; §2105.03; 25 PA Code §129.97(c))

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D. Teeming

Process Description: Teeming
Facility ID: P005
Capacity: 60 TPH
Fuel/Raw Material: Molten Steel
Control Device(s): Melt Shop Baghouse
Stack I.D.: S001

1. Restrictions:

The throughput of molten steel at the Teeming process shall not exceed 175,200 tons of steel in any consecutive twelve-month period. (§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 Site Level Condition III.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified in Condition V.A.3 above for the Melt Shop Baghouse.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include the total amount of molten metal teemed on a daily, monthly, and 12-month basis. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

b. 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; 25 PA Code §129.100)

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)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.D.4.c above 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.D.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)

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6. Work Practice Standards

a. The permittee shall not, at any time, operate the Teeming process and Melt Shop Baghouse unless the equipment is properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

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E. Electro-Slag Remelt Holding Furnace

Process Description: Electro-Slag Remelt Holding Furnace
Facility ID: P006
Capacity: 4.0 MMBtu/hr
Fuel/Raw Material: Natural Gas
Control Device(s): None
Stack I.D.: N/A

1. Restrictions:

a. Only commercial quality natural gas shall be combusted in the Electro-Slag Remelt Holding Furnace (§2103.12.h.1).

b. Natural gas usage in the Electro-Slag Remelt Holding Furnace shall not exceed a total of 34.4 million cubic feet in any 12 consecutive months. (§2103.12.a.2.B; 25 PA Code §129.100)

c. Emissions from the Electro-Slag Remelt Holding Furnace shall not exceed the emissions limitations in Table V-E-1 below: (§2104.02.b; §2104.03.c; §2103.12.a.2.B)

TABLE V-E-1
Electro-Slag Remelt Holding Furnace Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.03	0.13
PM-10	0.03	0.13
PM-2.5	0.03	0.13
Sulfur Oxides	0.002	0.01
Nitrogen Oxides	0.39	1.712
Carbon Monoxide	0.33	1.44
Volatile Organic Compounds	0.011	0.05

* 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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified elsewhere.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee

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and shall include, but not be limited to, production and operating records. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

b. The permittee shall maintain records of the hours of operation and amount of natural gas usage (monthly and 12-month) for the Electro-Slag Remelt Holding Furnace. (RACT Order No. 241, Condition 1.3; 25 PA Code §129.100))

c. The permittee shall maintain records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (§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.j.2; 25 PA Code §129.100))

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.h.1)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.E.4.e above 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.8 above, if appropriate. (§2103.12.k.1)

6. Work Practice Standards

a. The permittee shall not, at any time, operate the Electro-Slag Remelt Holding Furnace unless it is properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

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F. Electro-Slag Remelt Furnaces

Process Description:	**Electro-Slag Remelt Furnaces (ESR Remelt Furnaces A-left, A-right, B & C)**
Facility ID:	P007
Capacity:	7 TPH, total for all four furnaces
Fuel/Raw Material:	N/A (electric)/Alloy Steel Ingots, Slag
Control Device(s):	Remelt Shop Baghouse
Stack I.D.:	S002

1. Restrictions:

a. Particulate Matter (PM) emissions from the Electro-Slag Remelt Furnaces shall not exceed 0.2 lb/hr or 0.88 TPY. (ACHD Operating Permit No. 7037033-0000-92300, issued on September 16, 1994)

b. The permittee shall at no time conduct Electro-Slag Remelt operations unless the Remelt Furnaces pollution control equipment are properly maintained and operated according to the following conditions: (§2103.12.a.2.B)

1) All exhaust from the Electro-Slag Remelt Furnaces shall be vented to the Remelt Furnaces Baghouse. The Baghouse shall be equipped with automatic cleaning controls and instrumentation that shall continuously measure the differential pressure drop across the Baghouse to within 2% of the measuring span of the device while treating particulate emissions from the Remelt Shop.
2) The Remelt Furnaces Baghouse shall have a minimum exhaust flow rate of 18,000 dscfm. The particulate control efficiency of the Remelt Furnaces Baghouse shall be a minimum of 98 percent.
3) The differential pressure drop across each Remelt Furnaces Baghouse compartment shall be established by condition V.F.3 below, measured to the nearest ½" w.c.

c. The production of steel at the Electro-Slag Remelt Furnaces shall not exceed 61,320 tons of steel in any consecutive twelve-month period. (§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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

a. The permittee shall inspect the Remelt Furnaces Baghouse, weekly, during operation to insure compliance with the operating specifications of condition V.F.1.b.1) above. Any excursions from the subject specifications shall be corrected as soon as possible. (§2103.12.h.1)

b. The permittee shall check and record the fan motor amperes for the Electro-Slag Remelt Furnaces emission control system on a once-per-shift basis. (§2103.12.h.1)

c. The differential pressure drop across each compartment in the Remelt Furnaces Baghouse shall

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be recorded once per day and the differential pressure drop across each compartment of the Remelt Furnaces Baghouse shall not exceed the minimum and maximum values as established during the 120 day shakedown period. (§2103.12.a.2.B)

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to, the following (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

1) Number of heats and production for each furnace (daily, monthly, 12-month);
2) Time and duration of each furnace charge and tap (per charge/tap, monthly average, 12-month); and
3) Differential pressure drop across each compartment of the Remelt Furnaces Baghouse.

b. The results of the inspections required by condition V.F.3.a above and the differential pressure drop across the Remelt Furnaces Baghouse shall be recorded at the time of each inspection. Episodes of non-compliance with condition V.F.1.b above and corrective actions taken shall be recorded upon occurrence. (§2103.12.h.1)

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. 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; 25 PA Code §129.100)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.F.4.c above 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.F.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

a. The permittee shall not, at any time, operate the Electro-Slag Remelt Furnaces and Remelt Furnaces Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

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G. Hot Rolling/Blooming Mill

Process Description: Hot Rolling/Blooming Mill
Facility ID: P010
Maximum Design Rate: 34.31 tons/hr
Capacity: 250,000 TPY
Fuel/Raw Material: Alloy Steel Ingots
Control Device(s): None
Stack I.D.: N/A

1. Restrictions:

a. Particulate Matter (PM) emissions from the Hot Rolling/Blooming Mill shall not exceed 7 pounds in any 60-minute period, or 100 pounds in any 24-hour period, or 18.25 tons/year. (§2104.02.b, §2103.12.a.2.B)

b. The permittee shall not operate, or allow to be operated, the Hot Rolling/Blooming Mill in such a manner that the production during any 12 consecutive months exceeds 250,000 tons of steel. (§2103.12.a.2.B)

c. VOC emissions from the Hot Rolling/Blooming Mill shall not exceed 0.30 lb/hr and 1.30 tons/year. (§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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified elsewhere.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to, production and operating records. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

b. The permittee shall at all times maintain records of the amounts and types of lubrication oils used (monthly and 12-month) and the VOC contents of these oils. (§2103.12.j.2)

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; 25 PA Code §129.100)

d. The permittee shall record all instances of non-compliance with the conditions of this permit upon

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occurrence along with corrective action taken to restore compliance.(§2103.12.h.1)

5. Reporting Requirements

a. The permittee shall report non-compliance information required to be recorded by V.G.4.d above 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.G.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

a. The permittee shall not, at any time, operate the Hot Rolling/Blooming Mill unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

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H. Annealing Furnaces and Plate-Warming Furnace

Process Description: Annealing Furnaces (P011) and Plate Warming Furnace (P018)
Facility ID: P011
Capacity: 24 Annealing Furnaces (178.7 MMBtu/hr total rated capacity) and the Plate-Warming Furnace (7.0 MMBtu/hr)
Fuel/Raw Material: Natural Gas/Alloy Steel Billets and Slabs
Control Device(s): See table below
Stack I.D.: N/A

The Annealing Furnaces and Plate-Warming Furnace are listed in the following table:

Furnace ID	Rating (MMBtu/hr)	Control Device	Location
Car Bottom Furnace No. 11	11.04	Low NO_x Burners	80 Foot Bldg.
Clamshell Furnace No. CLM1	6.0	Low NO_x Burners	400 Foot Bldg.
Clamshell Furnace No. CLM2	8.8	Low NO_x Burners	400 Foot Bldg.
Hood Furnace No. 01	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 02	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 03	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 04	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 05	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 06	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 07	8.8	Low NO_x Burners	80 Foot Bldg.
Hood F.urnace No. 08	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 09	8.8	Low NO_x Burners	400 Foot Bldg.
Hood Furnace No. 10	8.8	Low NO_x Burners	400 Foot Bldg.
Hood Furnace No. 11	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 12	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 13	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 14	8.8	Low NO_x Burners	400 Foot Bldg.
Ingot Hood Furnace No. CP-1	4.4	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-2	4.4	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-3	4.4	Low NO_x Burners	Creek Bldg.
Ingot Hood Furnace No. CP-4	4.4	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-5	3.72	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-6	4.4	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-7	4.4	Low NO_x Burners	Creek Bldg.
Bar Hood Furnace No. 1	4.5	Low NO_x Burners	400 Foot Bldg.
Plate-Warming Furnace	6.96	Low NO_x Burners	80 Foot Bldg.
TOTAL	**191.3**		

1. Restrictions:

a. The permittee shall not operate, or allow to be operated Car Bottom Furnace No. 11, Clamshell Furnaces CLM1 and CLM2, Hood Furnaces No. 1 through No. 10 and No. 14, Ingot Hood Furnaces CP-1 through CP-4, CP-6 & CP-7 and the Plate-Warming Furnace unless the low-NO_X

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burners are properly installed, maintained and operated consistent with good air pollution control practice. [§2105.03, Installation Permit #0027-I007 V.A.1.c; 25 PA Code §129.97(c)]

b. Emissions of nitrogen oxides (NO_X) from Car Bottom Furnace No. 11, Clamshell Furnace CLM1, Hood Furnaces No. 1 through No. 10, Ingot Hood Furnaces CP-1 through CP-4 and the Plate-Warming Furnace, shall not exceed 0.065 lbs/mmBtu of heat input. (§2103.12.a.2.B)

c. Emissions of carbon monoxide (CO) from Car Bottom Furnace No. 11, Clamshell Furnace CLM1, Hood Furnaces No. 1 through No. 10, Ingot Hood Furnaces CP-1 through CP-4 and the Plate-Warming Furnace, shall not exceed 0.037 lbs/mmBtu of heat input. (§2103.12.a.2.B)

d. Only commercial quality natural gas shall be combusted in the Annealing Furnaces and Plate-Warming Furnace. (§2103.12.h.1, Installation Permit #0027-I007 V.A.1.a, Installation Permit #0027-I006 V.A.1.a)

e. Natural gas usage in the Annealing Furnaces and Plate-Warming Furnace shall not exceed a total of 1,596 million cubic feet in any 12 consecutive months. (§2103.12.a.2.B; 25 PA Code §129.100)

f. Combined emissions from the Annealing Furnaces and Plate-Warming Furnace shall not at any time exceed the total emissions limitations in Table V-H-1 below: (§2103.12.a.2.B, §2104.03.c, §2102.04.b.6, Installation Permit No. 0027-I006 V.A.1.f, Installation Permit No. 0027-I005 V.A.1.g, Installation Permit No. 0027-I005 V.A.1.h, Installation Permit No. 0027-I007 V.A.1.e)

TABLE V-H-1 - Emission Limitations for Car Bottom Furnace No. 11, Clamshell Furnace CLM1 and CLM2, Hood Furnaces No. 1 through No. 14, Ingot Hood Furnaces CP-1 through CP-7, Bar Furnace No. 1 and the Plate-Warming Furnace

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	1.42	6.24
PM-10	1.42	6.24
PM-2.5	1.42	6.24
Sulfur Oxides	0.11	0.49
Nitrogen Oxides	15.73	68.90
Carbon Monoxide	15.75	69.00
Volatile Organic Compounds	1.03	4.52

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

g. Ingot Hood Annealing Furnace CP-5, Hood Annealing Furnace Nos. 11, 12 & 13, and Bar Product Annealing Furnace BAR-1 each shall be equipped with low-NO_X burners that will limit the concentration of nitrogen oxides in the exhaust gases of each furnace to no more than 53 parts per million (ppm), dry basis, at 3 % oxygen. [§2102.04.b.6, Installation Permit #0027-I006 V.A.1.c]

h. Emissions of nitrogen oxides from Ingot Hood Annealing Furnace CP-5, Hood Annealing Furnace Nos. 11, 12 & 13, and Bar Product Annealing Furnace BAR-1 each shall not exceed 0.064 lbs/mmBtu of heat input. [§2102.04.b.6, Installation Permit #0027-I006 V.A.1.d]

i. Emissions of nitrogen oxides (NO_X) from Clamshell Furnace CLM2 and Hood Furnace No. 14 shall not exceed 0.068 lbs/mmBTU of heat input. (§2102.04.b.6, Installation Permit #0027-I007 V.A.1.d)

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j. Emissions of nitrogen oxides (NO_X) from Ingot Hood Furnaces CP-6 and CP-7 shall not exceed 0.0456 lbs/mmBtu of heat input. (§2103.12.a.2.B)

k. Emissions of carbon monoxide (CO) from Ingot Hood Annealing Furnace CP-5, Hood Annealing Furnace Nos. 11, 12 & 13, and Bar Product Annealing Furnace BAR-1 each shall not exceed 0.043 lbs/mmBtu of heat input. [§2102.04.b.6, Installation Permit #0027-I006 V.A.1.e]

l. Emissions of carbon monoxide (CO) Ingot Hood Annealing Furnaces CP-6 and CP-7 shall not exceed 84 lbs/mmcf of fuel input. [§2102.04.b.6]

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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified elsewhere.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to, production and operating records. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

b. The permittee shall record the usage of natural gas by the Annealing Furnaces and Plate-Warming Furnace. The permittee shall maintain records of the hours of operation and amount of natural gas usage (monthly and 12-month) for the Annealing Furnace and Plate-Warming Furnace. (RACT Order No. 241, Condition 1.3; 25 PA Code §129.100)

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. 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; 25 PA Code §129.100)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.H.4.c above 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.H.5.a above, does not

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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 not, at any time, operate the Annealing Furnaces and Plate-Warming Furnace unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Condition 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

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I. Reheat Furnaces

Process Description: Reheat Furnaces
Facility ID: P012
Capacity: 19 units (177.8 MMBtu/hr total rated capacity)
Fuel/Raw Material: Natural Gas/Alloy Steel Ingots
Control Device(s): N/A
Stack I.D.: N/A

The Reheat Furnaces consist of the following units:

Reheat Furnace ID	Rating (MMBtu/hr)	Control Device	Location
12" Bar Mill Reheat Furnace No. 01	5.3	Low NO_x Burners	Bar Mill
12" Bar Mill Reheat Furnace No. 02	5.3	Low NO_x Burners	Bar Mill
12" Bar Mill Reheat Furnace No. 03	5.3	Low NO_x Burners	Bar Mill
12" Bar Mill Reheat Furnace No. 04	5.3	Low NO_x Burners	Bar Mill
Bloomer Reheat Furnace No. 7	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 8	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 9	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 10	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 11	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 12	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 13	16.6	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 14	16.6	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 15	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 16	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 17	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 18	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 19	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 20	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 21	16.6	Low NO_x Burners	Bloomer Mill
TOTAL	**187.2**		

1. Restrictions:

a. The permittee shall not operate, or allow to be operated the Bar Mill and Bloomer Reheat Furnaces, unless the low-NO_X burners are properly installed, maintained and operated consistent with good air pollution control practice. [§2105.03]

b. At no time shall the permittee allow the Bar Mill and Bloomer Reheat Furnaces to operate unless they are being maintained and operated in accordance with good engineering practice and within the manufacturer's specifications. (RACT Order No. 241, Condition 1.1; 25 PA Code §129.97(c)).

c. Emissions of nitrogen oxides (NO_X) from the Bar Mill and Bloomer Reheat Furnaces Nos. 7 through 12 and 14 through 20 shall not exceed 0.075 lbs/mmBtu of heat input. (§2103.12.a.2.B)

d. Emissions of carbon monoxide (CO) from the Bar Mill and Bloomer Reheat Furnaces shall not exceed 0.037 lbs/mmBtu of heat input. (§2103.12.a.2.B, §2102.04.b.6, Installation Permit No.

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0027-I005 V.A.1.e)

e. Only commercial quality natural gas shall be combusted by the permittee in the Reheat Furnaces (§2103.12.h.1, §2102.04.b.6, Installation Permit No. 0027-I005 V.A.1.a)

f. Combined natural gas usage in the Bar Mill and Bloomer Reheat Furnaces shall not exceed a total of 1,608 million cubic feet in any 12 consecutive months. (§2103.12.a.2.B, (§2102.04.b.6, §2102.04.b.6, Installation Permit No. 0027-I005 V.A.1.b; 25 PA Code §129.100)

g. Combined emissions from the Bar Mill and Bloomer Reheat Furnaces shall not at any time exceed the total emissions limitations in Table V-I-1 below: (§2103.12.a.2.B, §2104.03.c, §2102.04.b.6, Installation Permit No. 0027-I005 V.A.1.f)

TABLE V-I-1 - Emission Limitations for the 12" Bar Mill Reheat Furnaces No. 1 through No. 4 and Bloomer Reheat Furnace Nos. 7 through 21

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.35	1.53
PM-10	0.35	1.53
PM-10	0.35	1.53
Sulfur Oxides	0.11	0.48
Nitrogen Oxides	14.04	61.50
Carbon Monoxide	6.93	30.34
Volatile Organic Compounds	1.01	4.42

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

h. Bloomer Reheat Furnaces No. 13 & 21 shall be equipped with low-NOx burners that will limit the concentration of nitrogen oxides in the exhaust gases of each furnace to no more than 60 parts per million, dry basis, at 3 % oxygen. [Installation Permit #0027-I005 V.A.1.c, §2102.04.b.6]

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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

The permittee shall monitor the monthly quantity of natural gas usage in each of the reheat furnaces. Natural gas usage may be monitored with the existing metering system. [§2102.12.i]

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to, production and operating records. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

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b. The permittee shall record the usage of natural gas by the reheat Furnaces. The permittee shall maintain records of the hours of operation and amount of natural gas usage (monthly and 12-month) for the Reheat Furnaces (RACT Order No. 241, Condition 1.3; 25 PA Code §129.100)

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. 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; 25 PA Code §129.100)

e. The permittee shall keep records for each reheat furnace of all maintenance, inspections, repairs, replacements or other corrective actions. All such records shall be kept on a monthly basis. [Installation Permit #0027-I005 V.A.4.a §2102.12.j]

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.I.4.c above 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.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

a. The permittee shall not, at any time, operate the Reheat Furnaces unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.97(c))

b. The permittee shall not operate, or allow to be operated each reheat furnace unless the low-NO_x burners specified in Condition V.I.1.c above are properly installed, maintained and operated consistent with good air pollution control practice. [Installation Permit #0027-I005 V.A.6, §2105.03]

c. 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)

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J. Gantry Grinders

Process Description: Gantry Grinders (2 Units)
Facility ID: P013
Capacity: 8 TPH (Total)
Fuel/Raw Material: Alloy Steel Billets and Ingots
Control Device(s): Integral Dust Collectors
Stack I.D.: N/A

1. Restrictions:

a. The permittee shall not, at any time, operate the Gantry Grinders and the Integral Dust Collectors unless they are properly operated and maintained according to good engineering and air pollution control practices. (§2105.03)

b. Particulate matter (PM) emissions from the Gantry Grinders shall not exceed 0.61 lbs/hr and 1.8 TPY. (ACHD Operating Permit No. 7037009-000-65301, issued on December 7, 1992)

c. **Emissions Limitations:** Emissions from the Gantry Grinders shall not exceed the emissions limitations in Table V-J-1 below: (ACHD Operating Permit No. 7037009-000-65301, issued on December 7, 1992; §2104.02.b, §2103.12.a.2.B)

TABLE V-J-1 - Gantry Grinders Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.05	0.10
PM-10	0.005	0.01
PM-2.5	0.0005	0.001

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

d. The permittee shall not operate the Gantry Grinders unless the Integral Dust Collectors are properly maintained and operated according to the following conditions: (§2103.12.a.2.B)

1) All emissions from the related equipment are being filtered by the Dust Collectors and
2) The Dust Collectors shall operate at a minimum total particulate control efficiency of 99% at all times while the subject process equipment is producing particulate emissions.

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.13 above and Article XXI §2108.02. (§2103.12.h)

3. Monitoring Requirements:

a. The permittee shall conduct weekly visual inspections of the exhaust systems and control device to insure the equipment appears to be operating properly and that the integrity of the control equipment exhaust systems are not compromised by damage, malfunction or deterioration.

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(§2103.12.h.1)

b. Immediate repairs shall be made to correct obvious equipment failures or deficiencies.

c. The Permittee shall monitor at the start of the first daylight turn the velocity through each duct adjacent to the grinding wheel and shall keep records as specified in condition V.J.4.b below. (ACHD Operating Permit No. 7037009-000-65301, issued on December 7, 1992)

4. Record Keeping Requirements:

a. The permittee shall at all times maintain records of steel billets/ingots tonnage throughput through each grinder (monthly, 12-month) and records of all control equipment inspections and any repairs/maintenance required in Condition V.J.3.b above(§2103.12.J)

b. The permittee shall keep weekly records at the start of the first daylight turn, of the velocity through each duct adjacent to the grinding wheel and the date in a log book. The data shall be made available to the Department for inspection and copying on request. (ACHD Operating Permit No. 7037009-000-65301, issued on December 7, 1992)

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. 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 non-compliance information required to be recorded by Condition V.J.4.c 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.J.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 manufacturer's recommendations and good engineering practices. (§2105.03)

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K. Midwest Grinders

Process Description: Midwest Grinders [Four (4) Units plus one (1) Spare Unit]
Facility ID: P015
Capacity: 10 TPH, each grinder
Fuel/Raw Material: Alloy Steel Billets and Ingots
Control Device(s): Grinding Building Baghouse
Stack I.D.: S004

1. Restrictions:

a. The permittee shall only operate four Midwest Grinders at one time. (§2102.04.b.6)

b. The permittee shall at no time operate the four Midwest Grinders unless the Grinding Building Baghouse is properly maintained and operated according to the following conditions: (§2103.12.a.2.B)

1) All exhaust from the four operating Midwest Grinders shall be vented to the Grinding Building Baghouse. The Grinding Building Baghouse shall be equipped with automatic cleaning controls and instrumentation that shall continuously measure the differential pressure drop across the Grinding Building Baghouse while treating particulate emissions from the four Midwest Grinders.
2) The Grinding Building Baghouse shall have a design exhaust flow rate of 90,000 dscfm. The particulate capture efficiency of the baghouse shall be a minimum of 95 percent when grinding is taking place.
3) The differential pressure drop across each baghouse compartment shall be between 2” and 6” w.c., inclusive, measured to the nearest ½" w.c.
4) The outlet grain loading from the Grinding Building Baghouse shall not exceed at any time 0.02 grains per dry standard cubic foot of exhaust air.

c. Combined emissions from the four operating Midwest Grinders shall not exceed the emissions limitations in Table V-K-1 below: (§2103.12.a.2.B; §2104.02.b)

TABLE V-K-1 - Midwest Grinders Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.14	0.65
PM-10	0.014	0.06
PM-2.5	0.001	0.006

* 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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

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a. The permittee shall conduct an inspection on the Grinding Building Baghouse weekly, for compliance with condition V.K.1.b above. (§2103.12.a.2.B)

b. The permittee shall check and record the fan motor amperes for the Grinding Building emission control system on a once-per-shift basis. (§2103.12.a.2.B)

c. The permittee shall, at all times, have instrumentation to continuously monitor the differential pressure drop across each compartment of the Grinding Building Baghouse during operation of the shop. Such instrumentation shall measure the pressure drop to within ½" w.c. and be properly operated, calibrated, and maintained according to manufacturer's specifications. (§2102.04.b.6)

4. Record Keeping Requirements:

a. The permittee shall at all times maintain records of billet and ingot tonnage throughput to each of the four operating grinders (monthly, 12-month). (§2103.12.J)

b. The permittee shall maintain a copy of the manufacturer's specifications for the Grinding Building Baghouse and records of control system performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment that is subject to this permit. (§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)

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.2)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.K.4.c above 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.K.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

a. The permittee shall not, at any time, operate the Midwest Grinders and Grinding Building Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. (§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)

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L. Western Gear Billet Grinder

Process Description: Western Gear Billet Grinder
Facility ID: P019
Capacity: 6.8 TPH
Fuel/Raw Material: Conditioned Alloy Steel Billets
Control Device(s): Western Gear Billet Grinder Baghouse
Stack I.D.: S003

1. Restrictions:

a. The permittee shall at no time operate the Western Gear Billet Grinder unless the Western Gear Billet Grinder Baghouse is properly maintained and operated according to the following conditions. (ACHD Installation Permit No. 0027-I002, condition V.A.1.a, issued on April 17, 2001; §2102.04.b.6)

1) All exhaust from the Western Gear Billet Grinder shall be vented to the Western Gear Billet Grinder Baghouse dust collector. The Western Gear Billet Grinder Baghouse shall be equipped with automatic cleaning controls and instrumentation that shall continuously measure the differential pressure drop across the baghouse to within 2% of the measuring span of the device while treating particulate emissions from the grinder.
2) The differential pressure drop across each baghouse compartment shall be between 8.5" w.c. to 12" w.c., inclusive, at all times while treating particulate emissions from the grinder.
3) The outlet grain loading from the Western Gear Billet Grinder Baghouse shall not exceed at any time 0.002 grains per dry standard cubic foot of exhaust air.
4) The Western Gear Billet Grinder Baghouse shall have a design exhaust flow rate of 10,000 dscfm.

b. **Emissions Limitations:** Emissions from the Western Gear Billet Grinder Baghouse shall not exceed the emissions limitations in Table V-L-1 below: (ACHD Installation Permit No. 0027-I002, condition V.A.1.b, issued on April 17, 2001; §2104.02.b)

TABLE V-L-1 - Western Gear Billet Grinder Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.03	0.14
PM-10	0.003	0.014
PM-2.5	0.0003	0.0014

* 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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

a. The permittee shall inspect the Western Gear Billet Grinder and Western Gear Billet Grinder

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Baghouse weekly, during operation to insure compliance with conditions V.L.1.a and V.L.1.b above. (§2103.12.a.2.B)

b. The permittee shall monitor and record the parameters indicated below for the Western Gear Billet Grinder Baghouse to insure compliance with conditions V.L.1.a and V.L.1.b above: (§2103.12.h.1)

1) Once-per-day recording of the differential pressure drops across the baghouse; and
2) Recording of the baghouse fan motor amperage once per shift to insure proper fan operation.

4. Record Keeping Requirements:

a. The permittee shall at all times maintain monthly records of billet tonnage throughput for the Western Gear Billet Grinder and hours of operation. (ACHD Installation Permit No. 0027-I002, condition V.A.4.b, issued on April 17, 2001)

b. The permittee shall keep and maintain the following data for the Western Gear Billet Grinder Baghouse: (ACHD Installation Permit No. 0027-I002, conditions V.A.4.a and 4.c, issued on April 17, 2001, §2103.12.h.1)

1) Baghouse fan motor amperage (once per shift);
2) Once-per-day recording of the differential pressure drops across the baghouse;
3) Records of all control equipment inspections and any maintenance required in condition V.L.3.a above.

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. 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 non-compliance information required to be recorded by V.L.4.c above 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.L.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 manufacturer's recommendations and good engineering practices. (§2105.03)

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M. Miscellaneous Space Heating Units

Process Description: Miscellaneous Space Heating Units
Facility ID: B001
Capacity: 112 units (13.53 MMBtu/hr total rated capacity)
Fuel/Raw Material: Natural Gas
Control Device(s): None
Stack I.D.: N/A

1. Restrictions:

a. Only commercial quality natural gas shall be combusted in the Miscellaneous Space Heating Units (§2103.12.h.1).

b. Natural gas usage in the Miscellaneous Space Heating Units shall not exceed a total of 116.2 million cubic feet in any 12 consecutive months. (§2103.12.a.2.B)

c. **Emissions Limitations:** Combined emissions from the Miscellaneous Space Heating Units shall not exceed the emissions limitations in Table V-M-1 below: (§2103.12.a.2.B, §2104.03.c)

TABLE V-M-1 – Miscellaneous Space Heating Units Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.12	0.51
PM-10	0.12	0.51
PM-2.5	0.12	0.51
Sulfur Oxides	0.01	0.03
Nitrogen Oxides	1.33	5.81
Carbon Monoxide	0.27	1.16
Volatile Organic Compounds	0.07	0.31

* 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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified elsewhere.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include the total estimated natural gas usage. (RACT Order No. 241, Condition 1.2; 25

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PA Code §129.100)

b. The permittee shall at all times maintain records of the estimated amount of natural gas usage for the Miscellaneous Space Heating Units. (RACT Order No. 241, Condition 1.3; 25 PA Code §129.100)

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; 25 PA Code §129.100)

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)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by condition V.M.4.d above 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.M.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

a. The permittee shall not, at any time, operate the Miscellaneous Space Heating Units unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

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N. Process P023: (AOD Relining Heater)

Process Description: AOD Relining Heater
Facility ID: P0023
Capacity: 8.9 MMBTU/hr burner
Fuel: Natural Gas
Control Device(s): North American 4575-9 HiRAM Burners

The permittee is also subject to the following conditions:

1. Restrictions

a. Only commercial quality natural gas shall be combusted in the AOD Relining Heater. (ACHD Installation Permit No. 0027-I009, condition V.A.1.a, issued on April 24, 2009; §2102.04.b.6)

b. Natural gas usage in the AOD Relining Heater shall not exceed a total of 76.44 million cubic feet in any 12 consecutive months. (ACHD Installation Permit No. 0027-I009, condition V.A.1.b, issued on April 24, 2009; §2102.04.b.6; 25 PA Code §129.100)

c. The permittee shall not operate, or allow to be operated the AOD Relining Heater unless the low-NO_X burners are properly installed, maintained and operated consistent with good air pollution control practice. (ACHD Installation Permit No. 0027-I009, condition V.A.1.c, issued on April 24, 2009; §2102.04.b.6; §2105.03)

d. Emissions of nitrogen oxides (NO_X) shall not exceed 0.068 lbs/mmBtu of heat input. (ACHD Installation Permit No. 0027-I009, condition V.A.1.d, issued on April 24, 2009; §2102.04.b.6)

e. Emissions from the AOD Relining Heater shall not exceed the following at any time (ACHD Installation Permit No. 0027-I009, condition V.A.1.e, issued on April 24, 2009; §2102.04.b.6):

POLLUTANT	LBS/HR	TPY [1]
PARTICULATE MATTER	0.017	0.073
PM-10	0.017	0.073
PM-2.5	0.017	0.073
NITROGEN OXIDES	0.609	2.668
SULFUR OXIDES	0.005	0.023
CARBON MONOXIDE	0.733	3.210
VOLATILE ORGANIC COMPOUNDS	0.048	0.21

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

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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.13 above and Article XXI §2108.02. (ACHD Installation Permit No. 0027-I009, condition V.A.2, issued on April 24, 2009; §2103.12.h)

3. Monitoring Requirements

The permittee shall monitor the monthly quantity of natural gas usage of the AOD Relining Heater. Natural gas usage may be proportioned using the existing metering system. (ACHD Installation Permit No. 0027-I009, condition V.A.3, issued on April 24, 2009; §2102.12.i)

4. Record Keeping Requirements

a. The permittee shall maintain records of the amount of natural gas usage (monthly and 12-month) for the AOD Relining Heater. (ACHD Installation Permit No. 0027-I009, condition V.A.4.a, issued on April 24, 2009; §2102.04.b.6; 25 PA Code §129.100)

b. The permittee shall maintain records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (ACHD Installation Permit No. 0027-I009, condition V.A.4.b, issued on April 24, 2009; §2103.12.j; 25 PA Code §129.100)

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. (ACHD Installation Permit No. 0027-I009, condition V.A.4.c, issued on April 24, 2009; §2103.12.j.2; 25 PA Code §129.100)

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.(ACHD Installation Permit No. 0027-I009, condition V.A.4.d, issued on April 24, 2009; §2103.12.h.1)

5. Reporting Requirements

a. The permittee shall report non-compliance information required to be recorded by condition V.N.4.d above 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. (ACHD Installation Permit No. 0027-I009, condition V.A.5.a, issued on April 24, 2009; §2103.12.k.1)

b. Reporting instances of non-compliance in accordance with condition V.N.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. (ACHD Installation Permit No. 0027-I009, condition V.A.5.b, issued on April 24, 2009; §2103.12.k.1)

6. Work Practice Standard

The permittee shall not, at any time, operate the AOD Relining Heater unless it is properly operated and maintained according to good engineering and air pollution control practices. (§2105.06; §2105.03; 25 PA Code §129.97(c))

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O. Process P0024: (Transfer Ladle Heater)

Process Description: Transfer Ladle Heater
Facility ID: P0024
Capacity: 8.9 MMBTU/hr burner
Fuel: Natural Gas
Control Device(s): North American 4575-9 HiRAM Burners

The permittee is also subject to the following conditions:

1. Restrictions

a. Only commercial quality natural gas shall be combusted in the Transfer Ladle Heater (ACHD Installation Permit No. 0027-I009, condition V.B.1.a, issued on April 24, 2009; §2102.04.b.6).

b. Natural gas usage in the Transfer Ladle Heater shall not exceed a total of 76.44 million cubic feet in any 12 consecutive months. (ACHD Installation Permit No. 0027-I009, condition V.B.1.b, issued on April 24, 2009; §2102.04.b.6)

c. The permittee shall not operate, or allow to be operated the Transfer Ladle Heater unless the low-NO_X burners are properly installed, maintained and operated consistent with good air pollution control practice. (ACHD Installation Permit No. 0027-I009, condition V.B.1.c, issued on April 24, 2009; §2102.04.b.6; §2105.03; 25 PA Code §129.97(c))

d. Emissions of nitrogen oxides (NO_X) shall not exceed 0.068 lbs/mmBtu of heat input. (ACHD Installation Permit No. 0027-I009, condition V.B.1.d, issued on April 24, 2009; §2102.04.b.6)

e. Emissions from the Transfer Ladle Heater shall not exceed the following at any time (ACHD Installation Permit No. 0027-I009, condition V.B.1.e, issued on April 24, 2009; §2102.04.b.6):

POLLUTANT	LBS/HR	TPY [1]
PARTICULATE MATTER	0.017	0.073
PM-10	0.017	0.073
PM-2.5	0.017	0.073
NITROGEN OXIDES	0.609	2.668
SULFUR OXIDES	0.005	0.023
CARBON MONOXIDE	0.733	3.210
VOLATILE ORGANIC COMPOUNDS	0.048	0.21

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

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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.13 above and Article XXI §2108.02. (§2103.12.h)

3. Monitoring Requirements

The permittee shall monitor the monthly quantity of natural gas usage of the Transfer Ladle Heater. Natural gas usage may be proportioned using the existing metering system. [§2102.12.i]

4. Record Keeping Requirements

a. The permittee shall maintain records of the amount of natural gas usage (monthly and 12-month) for the Transfer Ladle Heater. (§2102.04.b.6; 25 PA Code §129.100)

b. The permittee shall maintain records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (§2103.12.j)

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; 25 PA Code §129.100)

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)

5. Reporting Requirements

a. The permittee shall report non-compliance information required to be recorded by condition V.O.4.d above 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.O.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 Standard

The permittee shall not, at any time, operate the Transfer Ladle Heater unless it is properly operated and maintained according to good engineering and air pollution control practices. (§2105.06; §2105.03; 25 PA Code §129.97(c))

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P. Circulating Water Cooling Towers

Process Description: Five cooling towers [Melt Shop Cooling Tower, three Electro-Slag Remelt (ESR) Furnace Cooling Towers and the VAR Furnace Cooling Tower]

Capacity: Recirculation rates: Melt Shop Cooling Tower is 2,800 gallons per minute (gpm), each ESR Furnace Cooling Tower is 834 gpm and the VAR Furnace is 500 gpm

Raw Material(s)/Fuel(s): Public drinking water for make-up water

Control Device: Mist eliminators

1. Restrictions:

a. The permittee shall properly maintain and operate the subject cooling towers at all times according to the following conditions: (§2103.12.a.2.B)

1) At all times, the make-up water for the subject units shall be from the public drinking water supply.
2) The cooling towers shall be equipped with mist eliminators which shall operate at all times of unit operation.
3) The cooling towers shall be operated and maintained in accordance with the manufacturer's specifications and instructions.

b. The total particulate emission rate from the five cooling towers shall not exceed an average of 1.85 pounds per hour and 8.1 tons in any consecutive 12-month period. (§2103.12)

c. Compliance with the emission limitation in Condition Condition V.P.1.b above shall be determined by calculating the monthly average particulate emission rate for each cooling tower from the biweekly values of TDS or conductivity and the recirculation rate determined in ConditionV.P.3 below. The sum of the calculated particulate emission rates shall be compared to the hourly and consecutive 12-month emission limitation in Condition V.P.1.b above.

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.13 above entitled "Emissions Testing." (§2103.12.h.1)

3. Monitoring Requirements:

The permittee shall monitor the total dissolved solids (TDS) or conductivity of the recirculating cooling water and the pump motor amperage at least biweekly. The permittee shall provde an estimate of the recirculation rate based on the pump motor amperage. (§2103.12.i)

4. Record Keeping Requirements:

a. The permittee shall keep and maintain the records of TDS and pump motor amperage required to

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be monitored by Condition V.P.3 above and present such records upon request by the Department. (§2103.12.j)

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.j)

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)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by the Department in Condition V.P.4.b above, 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.P.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:

None unless provided elsewhere.

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Q. Plant Roads

Process Description: Plant Roads
Facility ID: F002
Capacity: 1.0 mi. Paved Roads; 0.8 mi. Unpaved Roads; 70,000 sq. ft. Parking Lots
Fuel/Raw Material: N/A
Control Method(s): Wet Suppression; Chemical Treatment; Paved Road Sweeping
Stack I.D.: N/A

1. Restrictions:

a. The permittee shall take actions to minimize the potential for fugitive emissions from vehicular traffic, including but not limited to, the following: (§2105.49)

1) The periodic sweeping of paved roads and
2) The use of water sprays and chemical dust suppressants.

2. Testing Requirements:

None except as specified elsewhere.

3. Monitoring 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.13 above entitled "Emissions Testing." (§2103.12.h.1)

4. Record Keeping Requirements:

a. The permittee shall keep and maintain monthly records of the dust control measures taken to control fugitive dust emissions from plant roadways. (§2103.12.a.2.B)

b. 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:

None except as specified elsewhere.

6. Work Practice Standards

None except as specified elsewhere.

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VI. MISCELLANEOUS

The following table summarizes processes that were determined to be of minor significance:

TABLE VIII-1
Processes of Minor Significance

I.D.	SOURCE DESCRIPTION	BASIS FOR MINOR SIGNIFICANCE DETERMINATION
P020	**Pangborn ES-1850 Crucible Cleaning System with PC02-4 Pangborn Cartridge Collector**	**Emissions are insignificant**
P021	**CONSARC Vacuum Arc Remelt (VAR) Furnace**	**Electric furnace where steel is melted under vacuum. Emissions are insignificant.**
P022	**Vulcan Ingot-End Grinder equipped with a Pangborn Cartridge Type Dust Collector Model PC03-24.**	**Emissions are insignificant.**

The following table summarizes the processes and/or activities conducted at the Universal Stainless & Alloy Products, Inc. plant that were determined to be insignificant and/or trivial.

TABLE VIII-2
Insignificant and/or Trivial Processes/Activities

I.D.	SOURCE DESCRIPTION	BASIS
ACHD No. 5	Three (3) electrically-heated laboratory ovens in sample preparation area	No emissions of air contaminants
ACHD Nos. 17, 18, and 21	Plant maintenance and vehicle repair facilities (general repairs, welding, non-solvent cleaning, and metal cutting)	Plant maintenance and upkeep activities (listed trivial activity); insignificant emissions of air contaminants
ACHD No. 20	Hand-held equipment for occasional surface grinding or surface finishing of steel products to remove surface imperfections	Hand-held equipment for grinding of metal (listed trivial activity); insignificant emissions of air contaminants
ACHD Nos. 39, 40, and 41	Bench-scale laboratory equipment for chemical analysis of steels (4 electrically operated element analyzers)	Bench-scale laboratory equipment (listed trivial activity); insignificant emissions of air contaminants
ACHD No. 42	Sampling equipment to withdraw and prepare specimens for analysis (5 sample saws, 2 sample drill presses, 7 belt sanders, 1 grinder wheel unit, 2 wet surface grinders, 3 metallographic wet sample polishers, and 2 sample-machining lathes)	Bench-scale laboratory equipment (listed trivial activity); insignificant emissions of air contaminants
D002	Diesel Storage Tank (1,000 gallons capacity)	Insignificant emissions of air contaminants
D003	Diesel Storage Tank (300 gallons capacity)	Insignificant emissions of air contaminants
D004	Waste Oil Tank	Insignificant emissions of air contaminants
D005	Quench Tank for Clam Shell Furnace	Insignificant emissions of air contaminants

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I.D.	SOURCE DESCRIPTION	BASIS
DG001	Cold Degreaser Tub	Insignificant emissions of air contaminants
	Quench Tank for Clam Shell Furnace Bar or Plate	Insignificant emissions of air contaminants
	ESR Stub Welding	Insignificant emissions of air contaminants
	Transfer Ladle/Vessel Warming Torches	Insignificant emissions of air contaminants
	Long Product Abrasive Saw	Insignificant emissions of air contaminants
	Acid Etching of Laboratory Samples	Insignificant emissions of air contaminants
E001	Lime Storage Silo	Insignificant emissions of air contaminants
F001	Melt Shop Slag Pile	Insignificant emissions of air contaminants

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VII. ALTERNATIVE OPERATING SCENARIOS

A. Melt Shop Slag Processing, Storage, and Handling

USAP's Bridgeville Plant presently uses an on-site contractor for the processing of slag produced in the Melt Shop. This alternative operating scenario is to allow the plant to conduct the Melt Shop Slag Processing activities in the event that the use of the on-site contractor is discontinued.

Process Description:	**Melt Shop Slag Processing**
Facility ID:	F001
Capacity:	27,500 TPY
Fuel/Raw Material:	Steel Slag
Control Method(s):	Wet Suppression
Stack I.D.:	N/A

1. Restrictions:

a. The permittee must insure that the terms and conditions of each reasonably anticipated alternative operating scenario meet all applicable requirements under Article XXI. (§2103.12.n.2)

b. The permittee shall conduct the Melt Shop Slag Processing, Storage and Handling operations inside the slag processing building to minimize fugitive emissions 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 take reasonable actions to prevent fugitive air contaminants from becoming air-borne. Such actions may include, but are not limited to: (§2105.49)

1) the use of asphalt, oil, water, or suitable chemicals for dust control;
2) the paving and maintenance of roadways, parking lots and the like;
3) the prompt removal of earth and other material which has been deposited by leaks from transport, erosion or other means; and
4) the adoption of work or other practices to minimize emissions.

d. The emissions of PM-10 from all slag processing operations shall not exceed 1.5 tons in any consecutive 12-month period. (§2103.12.a.2.B; §2104.02.b)

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 Site Level Condition IV.13 above entitled "Emissions Testing." (§2103.12.h.1)

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3. Monitoring Requirements:

a. Notations of visible emissions from the Melt Shop Slag Processing, Storage and Handling operations shall be performed once per week during normal daylight operations. A trained employee shall record whether any emissions are observed and whether these emissions extend beyond the facility property line. (§2103.12.h.1, §2103.12.i)

b. A trained employee is an employee 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, §2103.12.i)

4. Record Keeping Requirements:

a. The permittee shall keep and maintain the following monthly data for the Melt Shop Slag Processing, Storage and Handling operations: (§2103.12.h.1, §2103.12.j)

1) Dry bulk material throughput (tons/day);
2) Records of visible emission notations as required by VII.A.3.a above; and
3) Records of all dust control measures taken and dates of occurrence.

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. 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 non-compliance information required to be recorded by VII.A.4.b above 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 VII.A.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

a. The permittee shall not, at any time, conduct Melt Shop Slag Processing, Storage and Handling operations unless all equipment is properly operated and maintained according to good engineering and air pollution control practices. (§2105.03; 25 PA Code §129.97(c))

b. If any visible emissions from Melt Shop Slag Processing, Storage and Handling operations are observed to extend beyond the facility property line, the permittee shall take reasonable response steps to control fugitive PM emissions. Failure to take corrective steps shall be considered a deviation from this permit. (§2105.03)

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VIII. EMISSIONS LIMITATIONS SUMMARY

[This section is provided for informational purposes only and is not intended to be an applicable requirement.]

The tons/year emission limitations for the Universal Stainless & Alloy Products, Inc. plant are summarized in the following table:

TABLE VIII-1
Emission Limitations (Stack & Fugitive)

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	98.6
PM10	64.0
PM2.5	18.2
Nitrogen Oxides	197.8
Sulfur Oxides	17.0
Carbon Monoxide	434.7
Volatile Organic Compounds	44.05
Chromium	0.52
Nickel	0.31
Lead	0.10
Manganese	0.69

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

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ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM

December 17, 2019

SUBJECT: **Reasonable Available Control Technology (RACT II) Determination**
Universal Stainless & Alloy Products, Inc.
600 Mayer Street
Bridgeville, PA 15017
Allegheny County

Title V Operating Permit No. 0027a

TO: JoAnn Truchan, P.E.
Section Chief, Engineering

FROM: David D. Good
Air Quality Engineer

DRAFT

I. Executive Summary

Universal Stainless & Alloy Products, Inc. (Universal Stainless) is defined as a major source of NO_X emissions and was subjected to a Reasonable Available Control Technology II (RACT II) review by the Allegheny County Health Department (ACHD) required for the 1997 and 2008 Ozone National Ambient Air Quality Standard (NAAQS). The findings of the review established that technically and financially feasible RACT would result in the following emissions changes, summarized below.

Table 1 Technically and Financially Feasible Control Options Summary for NO_X

There are no technically feasible control options that are reasonably achievable for any processes at this facility.

These findings are based on the following documents:

- RACT analysis performed by ERG/ACHD (2-2-2018)
- RACT analysis performed by Universal Stainless (0027c2014-02-5ract.pdf)

II. Regulatory Basis

ACHD requested all major sources of NO_X (potential emissions of 100 tons per year or greater) and all major sources of VOC (potential emissions of 50 tons per year or greater) to reevaluate NO_X and/or VOC RACT for incorporation into Allegheny County's portion of the PA SIP. Universal Stainless requested a case by case RACT II determination under 25 Pa Code 129.99 for two of its emission units, the Electric Arc Furnace (Source ID P001) and the Argon-Oxygen Decarburization Vessel (Source ID P002). This document is the result of ACHD's determination of RACT for these two emission sources at Universal Stainless based on the materials submitted by the subject source and other relevant information.

III. Facility Description, Existing RACT I and Sources of NO_X

The Universal Stainless plant is a specialty steel manufacturing plant that uses an Electric Arc Furnace (EAF) to produce high-speed steels, tool and die steels, and high temperature metals. Universal Stainless is a major source of NO_X emissions.

The facility is composed of one electric arc furnace, one argon-oxygen decarburization vessel, three electro-slag reduction furnaces, one hot rolling mill, and associated reheat and annealing furnaces. On December 19th, 1996 the facility entered into a consent decree with the Department to meet RACT I obligations under RACT Order No. 241. RACT Order 241 was approved as RACT by EPA in 2001 (66 FR 52511). The RACT I requirements are to operate the following units in accordance with good engineering practice and manufacturer's specifications: 1) The Electric Arc Furnace (now P001), 2) The Argon-Oxygen Decarburization (AOD) Vessel (now P002), 3) The Ladle Reheat Furnace (now P003), 4) The Vessel Reheat Furnace (since eliminated), 5) The Ingot Reheat Furnace (since eliminated), 6) The Teeming Process (now P005), 7) The Hot Rolling Process (now P010), 8) Annealing Furnaces no. 3 through 11 (now P011), 9) Reheat Furnaces no. 3 through 20 (now P010), and 10) Space Heaters (now B001). Additional requirements are to maintain records of production and fuel usage demonstrating compliance.

Table 2 Facility Sources Subject to Case-by-Case RACT II and Their Existing RACT I Limits

Source ID	Description	Rating	NO_X PTE (TPY)	NO_X Presumptive Limit (RACT II)	NO_X Limit (RACT I)
P001	Electric Arc Furnace	23.1 tons/hr	17.52	NA	RACT Order No. 241 (12/19/1996)
P002	Argon-Oxygen Decarburization Vessel	25.1 tons/hr	10.51	NA	RACT Order No. 241 (12/19/1996)

Table 3 Facility Sources Subject to the Presumptive RACT II per PA Code 129.97

Source ID	Description	Rating	NO_X PTE (TPY)	Basis for Presumptive	Presumptive RACT Requirement (25 Pa Code Section 129.97(c)(3))
P003	Ladle Reheater #1 Ladle Reheater #2	8.9 MMBtu/hr (each)	5.34 (each)	< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P006	Electro-Slag Reheat Holding Furnace	4 MMBtu/hr	1.72	< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Car Bottom Furnace #11	11.0 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Clamshell Furnace #CLM1	6.0 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Clamshell Furnace #CLM2	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #01	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #02	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #03	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #04	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices

Source ID	Description	Rating	NO_X PTE (TPY)	Basis for Presumptive	Presumptive RACT Requirement (25 Pa Code Section 129.97(c)(3))
P011 – Annealing Furnaces	Hood Furnace #05	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #06	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #07	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #08	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #09	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #10	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #11	7.44 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #12	7.44 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #13	7.44 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Hood Furnace #14	8.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-1	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-2	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-3	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-4	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-5	3.72 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-6	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Ingot Hood Furnace #CP-7	4.4 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P011 – Annealing Furnaces	Bar Hood Furnace #01	3.8 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P018	Plate Warming Furnace	6.96 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
Total	**P011 & P018**		**67.73**		
P012 – Reheat Furnaces	12" Bar Mill Reheat Furnace #01	5.3 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	12" Bar Mill Reheat Furnace #02	5.3 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices

Source ID	Description	Rating	NO_X PTE (TPY)	Basis for Presumptive	Presumptive RACT Requirement (25 Pa Code Section 129.97(c)(3))
P012 – Reheat Furnaces	12" Bar Mill Reheat Furnace #03	5.3 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	12" Bar Mill Reheat Furnace #04	5.3 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #07	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #08	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #09	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #10	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #11	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #12	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #13	16.6 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #14	16.6 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #15	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #16	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #17	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #18	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #19	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #20	9.7 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P012 – Reheat Furnaces	Bloomer Reheat Furnace #21	16.6 MMBtu/hr		< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
Total	**P012**		**80.39**		
P023	AOD Reline Heater	8.9 MMBtu/hr	2.67	< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices
P024	Transfer Ladle Heater	8.9 MMBtu/hr	2.67	< 20 MMBtu/hr	Install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices

Table 4 Facility Sources Exempt from RACT II per PA Code 129.96(c) {< 1 TPY NO_X}

Source ID	Description	Rating	NO_X PTE (TPY)	VOC PTE (TPY)
B001	Space Heaters (112 units)	0.03 x 1, 0.05 x 5, 0.09 x 14, 0.1 x 40, 0.12 x 22, 0.125 x 9, 0.15 x 5, 0.16 x 5, 0.17 x 1, 0.2 x 6, 0.25 x 2, 0.4 x 2 [MMBtu/hr x Quantity]	< 0.25 (largest unit)	NA
Process Heater	Process Heater	3.0 MMBtu/hr	0.9	NA
Quench Tank Heater	Quench Tank Heater	2.5 MMBtu/hr	0.66	NA

IV. RACT Determination

ACHD has determined that cbc RACT II for Source IDs P001 and P002 is to operate the sources in accordance with the manufacturer's specifications and with good operating practice. NOx emissions at Electric Arc Furnaces can be reduced to some degree through operational practices such as controlling the exhaust flows to reduce the input of outside air and minimizing the opening of the slag door.

The potential Technically Feasible Control Options for Universal Stainless that were evaluated are detailed in Table 5 below.

Table 5 Technically Feasible NO_X Control Cost Comparisons

Control Option		P001	P002
Combustion Optimization	tpy NO_X Removed		
	Cost		
	$/ton		
Low Nox Burners	tpy NO_X Removed		
	Cost		
	$/ton		
Flue Gas Recirculation	tpy NO_X Removed		
	Cost		
	$/ton		
Low Excess Air	tpy NO_X Removed		
	Cost		
	$/ton		
Staged Combustion	tpy NO_X Removed		
	Cost		
	$/ton		
Selective Catalytic Reduction	tpy NO_X Removed		
	Cost		
	$/ton		
Selective Non-Catalytic Reduction	tpy NO_X Removed		
	Cost		
	$/ton		
Combustion / Performance Optimization	tpy NO_X Removed		
	Cost		
	$/ton		
Abide by Manufacturer Maintenance Schedule	tpy NO_X Removed		0
	Cost		$0
	$/ton		NA

There are no Technically Feasible Control Options for EAF and AOD processes at Universal Stainless. Since only electricity is used to melt the steel, the combustion NO_X emissions are already minimized to the greatest extent possible (there is no pre-heating of scrap steel or concurrent firing of oxy-fuel burners employed at this unit). Post-combustion controls such as Selective Catalytic Reduction (SCR) and Non-Selective Catalytic Reduction (NSCR) have technical constraints such that they have never been applied to EAF or AOD operations. These constraints include unstable gas flow rates, NO_X concentrations and temperature. Additionally, the metals such as nickel, zinc and chromium can react with the platinum catalyst to cause catalytic poisoning, as well as the high PM concentration in the exhaust gas stream likely binding to the catalyst.

V. RACT Emissions Summary

Based on the findings in this RACT analysis, the Universal Stainless facility emissions can be summarized as follows:

Table 6 RACT II Emission Reduction Summary

NO_X Potential Emissions (tpy)		
Current PTE	**RACT Reduction**	**Revised PTE**
195.92	0	195.92

As shown in Table 6, the new RACT II conditions will not result in any additional reductions of NO_X from the Universal Stainless facility.

VI. New and Revised RACT II Permit Conditions

1. Retain RACT I language (RACT Order 241).
2. TVOP 0027 Condition V.A.2.n - The testing required by V.A.2.a above shall be repeated at least once every five years from the date of the prior valid test. (§2103.12.h.1; 25 PA Code §129.100)
3. TVOP 0027 Condition V.A.4.b - The permittee shall maintain records to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to the following (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

   V.A.4.b.1 - Number of heats and production for the EAF (daily, monthly, 12-month);
   V.A.4.b.2 - Time and duration of each furnace charge and tap (per charge/tap, monthly average, 12-month);
   V.A.4.b.3 - Differential pressure drop across each compartment of the Melt Shop Baghouse; and
   V.A.4.b.4 - Stack test protocols and reports.

4. TVOP 0027 Condition V.A.4.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; §60.276a(a); 25 PA Code §129.100)
5. TVOP 0027 Condition V.A.6.a - The permittee shall not, at any time, operate the Electric Arc Furnace and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. Such practices shall include, but not limited to, minimizing the input of

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outside air and minimizing the opening of the slag door. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.99)

6. TVOP 0027 Condition V.B.1.a - At no time shall the permittee allow the AOD Vessel to operate unless it is being maintained and operated in accordance with good engineering practice and within the manufacturer's specifications. (RACT Order No. 241, Condition 1.1; 25 PA Code §129.99).

7. TVOP 0027 Condition V.B.4.a - Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

   V.B.4.a.1 - Number of heats and production for the AOD (daily, monthly, 12-month);
   V.B.4.a.2 - Time and duration of each vessel charge and tap (per charge/tap, monthly average, 12-month);
   V.B.4.a.3 - Differential pressure drop across each compartment of the EAF Melt Shop Baghouse; and
   V.B.4.a.4 - Stack test protocols and reports.

8. TVOP 0027 Condition V.B.4.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; 25 PA Code §129.100)

9. TVOP 0027 Condition V.B.6.a - The permittee shall not, at any time, operate the AOD Vessel and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.100)

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UNIVERSAL STAINLESS
& ALLOY PRODUCTS, INC.

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ALLEGHENY COUNTY HEALTH DEPT.
AIR QUALITY PROGRAM

February 5, 2014

Mr. Carl Dettlinger
Document Manager
Allegheny County Health Department
301 Thirty-Ninth Street, Building #7
Pittsburgh, PA 15201

Re: Reasonably Available Control Technology (RACT) Evaluation

Dear Mr. Dettlinger,

Please find attached the RACT Analysis for Universal Stainless & Alloy Products as requested by the Allegheny County Health Department.

If you have any questions or would like additional information please contact me at 412-257-7645.

Sincerely,

Chad Chaney

Chad Chaney
Environmental, Health, and Safety Manager

Attachment

UNIVERSAL STAINLESS & ALLOY PRODUCTS
Bridgeville Plant
Reasonably Available Control Technology (RACT) Analysis Update
February 2014

1.0 INTRODUCTION

Universal Stainless & Alloy Products, Inc. (USAP) is a specialty steel manufacturer with a production facility located at Bridgeville, Pennsylvania. This facility processes stainless steel scrap, limestone, flux, chrome, and other alloying agents into tool steel and stainless steel in the form of plates, billets, and ingots. Universal began operating the Bridgeville facility in August 1994 following acquisition of certain physical assets from Armco. The facility is a major source for NOx and a minor source for VOC. In a letter dated December 6, 2013, the Allegheny County Health Department notified USAP that it must update its RACT Plan submitted and approved by ACHD in 1994. As RACT Plans are only required for major sources of NOx and major sources of VOCs and the USAP Bridgeville facility is a minor VOC source, this RACT Plan addresses only sources of NOx.

Per ACHD Article XXI 2105.06, a RACT plan requires the following information to be included:

1. A description of the source
2. The annual potential uncontrolled emissions of nitrogen oxides and VOCs;
3. The annual potential emissions of nitrogen oxides and VOCs;
4. The actual emissions of nitrogen oxides and VOCs for the calendar year 1992; and
5. A detailed description of the methods used to determine these emissions.

The regulations require reporting 1992 actual emissions. However, a call to Mr. Mike Dorman at the Allegheny County Health Department determined that the facility needs to report calendar year 2008 emissions and not 1992 emissions. Thus, we have reported actual emissions for calendar year 2008 in this RACT plan.

2.0 DESCRIPTION OF SOURCES

The NOx sources at the facility include an electric arc furnace, an argon-oxygen decarburization vessel, ladles, reheaters, etc. These are listed and described below.

2.1 Electric Arc Furnace

The electric arc furnace (EAF) produces alloy steel through the melting and refining of stainless steel scrap, limestone, flux, chrome, and other alloys. The unit is a 50-ton, three-hole, cylindrical, refractory-lined furnace equipped with three carbon electrodes, energized to produce electric arcs that pass between the electrodes and the metal, generating heat and melting the charge. Molten steel and slag are poured from the furnace by tilting. Only electrical energy is used in the EAF operation, no hydrocarbon fuels (such as natural gas) are used for melting.

Each heat consists of charging, meltdown and refining, and tapping. Cold steel scrap is charged to begin a cycle and alloy materials and fluxing agents are added for refining.

When the roof of the furnace has been opened, charging is performed by carefully placing the charge into the open arc furnace. Charging the open furnace produces emissions that are difficult to control. Most charging emissions result from (1) vaporization of oil, grease, or dirt introduced in the scrap; (2) oxidation of organic matter that may adhere to the scrap; and (3) vaporization of water from wet or icy scrap. Charging emissions are made up of particulate matter, carbon monoxide, water vapor, hydrocarbon vapors, and soot. The carbon monoxide is quickly oxidized to carbon dioxide in ambient air.

During the charging process, the scrap must be carefully introduced into the furnace so that there is no damage to the refractory. If scrap pieces remain above the furnace ring, the pieces must be repositioned so that the roof can swing back into place for meltdown. Repositioning of the scrap delays the closing of the roof. After the roof is in place, the electrodes are lowered and the steel is melted. The hood system remains in operation during all charging activities. Thus, all charging emissions are captured and routed to the bag house where particulate emissions are controlled.

During the meltdown operations, the emissions consist of (1) particulates generated from the vaporization of iron and the transformation of mineral additives; (2) some carbon monoxide from combustion losses of the electrodes, carbonaceous additives, and the carbon content of the steel; and (3) hydrocarbons from the vaporization and combustion of oil and impurities remaining on the scrap charge. A portion of the carbon monoxide is combusted where the exhaust gases are exposed to the ambient air, i.e., the electrode ports and the off-gas duct.

During the melting process, emissions escape through the electrode holes, the slag door, the roof ring, and sometimes the tap spout. After the proper temperature has been reached and the steel composition has been adjusted, the molten steel is tapped from the furnace into a ladle.

NOx emissions from the EAF are due to thermal NOx formation at high temperatures (up to 3400°F). Nitrogen is oxidized and released with sufficient residence time to combine with oxygen from melt shop ambient air.

2.2 Argon-Oxygen Decarburization Vessel

The argon-oxygen decarburization (AOD) vessel is used to refine the steel that was melted in the EAF, thus allowing the EAF to be used solely as a scrap melter, resulting in quicker heats. The unit is a 50-ton cylindrical furnace designed to promote decarburization (refining) of molten steel through bottom injection of a mixture of oxygen and argon gas.

The molten steel from the EAF is transferred by ladle to the AOD vessel. Refining is accomplished by blowing argon and oxygen through the molten steel bath. The oxygen flow rate is programmed to maintain the bath temperature through an exothermic reaction. Oxygen is also used to reduce the carbon content of the bath. Just prior to the tap, pure argon is blown through the molten bath to assure uniform temperature distribution and to reduce the bath temperature (for improved steel quality) by decreasing the dissolved gas and oxide content. Furthermore, the

argon is blown through the molten steel to perform effective mixing of the slag and steel in order to reduce metallic oxides from the slag and to decrease the dissolved gas and sulfur levels of the molten steel.

Emissions from the AOD are primarily particulates. NOx emissions from the AOD are due to thermal NOx formation at high temperatures (waste gas combustion) in conjunction with excess oxygen from the process injected gas.

2.3 Combustion Units Less Than 20 MMBTU/HR

NOx emissions from the following sources at the Bridgeville Plant are due exclusively to natural gas combustion.

Source	Unit Description	Size of Units, MMBTU/HR
P003: Ladle Heaters	Heater #1	8.9
	Heater #2	8.9
P006: Electro-Slag Reheat Holding Furnace	Single furnace	4
P011: Annealing Furnaces	Car Bottom Furnace # 11	11
	Clamshell Furnace # CLM1	6
	Clamshell Furnace # CLM2	8.8
	Hood Furnace # 01	8.8
	Hood Furnace # 02	8.8
	Hood Furnace # 03	8.8
	Hood Furnace # 04	8.8
	Hood Furnace # 05	8.8
	Hood Furnace # 06	8.8
	Hood Furnace # 07	8.8
	Hood Furnace # 08	8.8
	Hood Furnace # 09	8.8
	Hood Furnace # 10	8.8
	Hood Furnace # 11	7.44
	Hood Furnace # 12	7.44
	Hood Furnace # 13	7.44
	Hood Furnace # 14	8.8
	Ingot Hood Furnace # CP-1	4.4
	Ingot Hood Furnace # CP-2	4.4
	Ingot Hood Furnace # CP-3	4.4
	Ingot Hood Furnace # CP-4	4.4
	Ingot Hood Furnace # CP-5	3.72
	Ingot Hood Furnace # CP-6	4.4
	Ingot Hood Furnace # CP-7	4.4
	Bar Hood Furnace # 01	3.8
P018: Plate Warming Furnace	Single furnace	6.96
P012: Reheat Furnaces	12" Bar Mill Reheat Furnace # 01	5.3

Source	Unit Description	Size of Units, MMBTU/HR
	12" Bar Mill Reheat Furnace # 02	5.3
	12" Bar Mill Reheat Furnace # 03	5.3
	12" Bar Mill Reheat Furnace # 04	5.3
	Bloomer Reheat Furnace # 07	9.7
	Bloomer Reheat Furnace # 08	9.7
	Bloomer Reheat Furnace # 09	9.7
	Bloomer Reheat Furnace # 10	9.7
	Bloomer Reheat Furnace # 11	9.7
	Bloomer Reheat Furnace # 12	9.7
	Bloomer Reheat Furnace # 13	16.6
	Bloomer Reheat Furnace # 14	16.6
	Bloomer Reheat Furnace # 15	9.7
	Bloomer Reheat Furnace # 16	9.7
	Bloomer Reheat Furnace # 17	9.7
	Bloomer Reheat Furnace # 18	9.7
	Bloomer Reheat Furnace # 19	9.7
	Bloomer Reheat Furnace # 20	9.7
	Bloomer Reheat Furnace # 21	16.6
P023: AOD Reline Heater	Single heater	8.9
P024: Transfer Ladle Heater	Single heater	8.9
Process Heater (installed June 2012)	Process Heater	3.0
B001: Space Heaters	1 heater	0.03 each
	5 heaters	0.05 each
	14 heaters	0.09 each
	40 heaters	0.1 each
	22 heaters	0.12 each
	9 heaters	0.125 each
	5 heaters	0.15 each
	5 heaters	0.16 each
	1 heater	0.17 each
	6 heaters	0.2 each
	2 heaters	0.25 each
	2 heaters	0.4 each
Quench Tank Heater (Exempt from Installation Permit and not yet in Operating Permit)	1 heater	2.5

3.0 NO_X EMISSIONS

The emission units below represent all the NOx emitting stationary sources at the facility.

Process ID	Emissions Unit	Potential Uncontrolled Emissions (tpy)	Potential Emissions (tpy)	2008 Actual Emissions (tpy)	Emissions Determination Method
P001	Electric Arc Furnace	17.52	17.52	5.75	FIRE
P002	Argon-Oxygen Decarburization	10.51	10.51	1.11	AP42, Table 12.5.1-4 (2004)
P003	Ladle Reheaters	5.34	5.34	1.59	Burner Manufacturer
P006	ESR Holding Furnace	1.72	1.72	0.07	FIRE
P011 & P018	Annealing Furnaces and Plate Warming Furnace	67.73	67.73	5.78	FIRE
P012	Reheat Furnaces	80.39	80.39	19.40	FIRE
P023	AOD Reline Heater	2.67	2.67	0.00	Burner Manufacturer
P024	Transfer Ladle Heater	2.67	2.67	0.00	Burner Manufacturer
B001	Space Heaters	5.81	5.81	0.50	FIRE
---	New Process Heater	0.90	0.90	N/A[1]	Burner Manufacturer
---	Quench Tank Heater	0.66	0.66	N/A[1]	Burner Manufacturer
	TOTAL	**195.92**	**195.92**	**34.2**	

[1] *Installed after 2008*

4.0 RACT ANALYSIS – EMISSIONS OF NO_X

4.1 NOx Formation Mechanisms

Nitrogen oxides formation occurs by three fundamentally different mechanisms: (1) thermal NOx, (2) fuel NOx, and (3) prompt NOx. The most important of these is thermal NOx formation.

In thermal NOx formation, NOx is formed by the reactions of N_2 from the (combustion) air with reactants such as O_2 and OH radicals and molecular NO_2. Thermal NOx is the primary source of NO from stationary combustion sources.

Fuel NOx is formed when the nitrogen bound in the fuel is combusted. The amount of NOx formed from this mechanism is a function of the fuel being combusted. Natural gas has no fuel nitrogen, and therefore no NOx is formed by this formation mechanism from the combustion of natural gas. The amount of NOx formed by the fuel NOx mechanism in the combustion of fuel oil depends on the type of oil being burned. Heavy oils tend to have higher nitrogen content than light oils such as residential heating oil. The fuel NOx reaction mechanism is of most concern when coal is being burned.

Prompt NOx, the third formation mechanism, forms NOx by converting molecular nitrogen to NO via intermediate products. This reaction occurs in the early phase in the flame front with hydrocarbons.

4.1.1 Thermal NOx

Thermal NOx is formed from the reaction of nitrogen and oxygen supplied by the (combustion) air stream and is highly dependent on temperature. Although oxygen concentration and residence time influence the formation of thermal NOx, temperature is by far the parameter that most influences thermal NOx formation. The formation of NOx through the thermal NOx mechanism has a slow reaction time and, therefore, requires time for equilibrium to be reached. NOx generated from atmospheric nitrogen is often termed thermal NOx because it is formed in high temperature areas.

Techniques for controlling or minimizing the formation of NOx through the thermal NOx mechanism include: (1) reducing the local oxygen concentration at the peak flame temperature, (2) reducing the residence time at the peak flame temperature, (3) maintaining peak flame temperatures to below 1300°C (2372°F), and (4) decreasing the furnace release rate. The theory of this last control method is to remove the reactants from the reaction zone into the lower temperature ranges before equilibrium is reached, so that less NOx is formed.

4.1.2 Fuel NOx

NOx generated from organically bound nitrogen contained in fuel is termed fuel NOx. The oxidation of nitrogen compounds contained in fossil fuels can create appreciable concentrations of NO and NO_2.

Although thermal NOx typically accounts for the majority of NOx emissions, fuel NOx has been observed in certain cases to account for over 40% to 50% of the emissions, depending on the fuel used. For example, fuel NOx can represent more than half the NOx emissions for residual oil fuel. This variation in the quantity of NOx emissions generated from the fuel NOx mechanism is because fuel NOx formation is related to the nitrogen content of the fuel. As USAP utilizes

natural gas rather than coal or fuel oil for heating, it is already utilizing a fuel with minimal potential for fuel NOx formation.

Fuel NOx formation is also dependent on the oxygen levels in the vicinity of the flame. Consequently, the reduction of oxygen levels is an important factor in reducing levels of NOx emissions that are formed from the fuel NOx mechanism. It is important to note that the oxygen level in the flame zone is as important as the average oxygen concentration in the combustion chamber.

4.1.3 Prompt NOx

Of the three formation mechanisms, prompt NOx constitutes the smallest source of NOx. This mechanism has the greatest impact in fuel-rich combustion zones (such as those present in gas turbines) and low temperature combustion processes. The degree of conversion depends on the stoichiometric conditions and temperature.

Prompt NOx forms within the first five milliseconds of combustion because of the presence of partially oxidized organic species present within the burner flame. Organically bound nitrogen in the fuel reacts quickly in the presence of free radicals such as HCN, NH, and N. The intermediate compound, HCN, is formed and elemental N is quickly oxidized to form NO2. Free radicals continue to react and form NO by breaking the N-C bond.

Because the residence time in typical combustion chambers is too short to allow equilibrium to be established, thereby creating high NOx concentrations, NOx emissions generated through the prompt NOx mechanism are of minor importance.

Prompt reactions are not sensitive to the peak gas temperature. Therefore, combustion modifications do not have a strong influence on the NOx formed by this mechanism.

4.2 RACT Analysis for USAP NOx Sources

4.2.1 Electric Arc Furnace (EAF) and Argon-Oxygen Decarburization (AOD) Vessel

Universal employs one EAF at the facility. Only electricity is used to melt the scrap steel. Since there is no pre-heating of steel scrap associated with charging this unit, nor any concurrent firing of oxy-fuel burners employed on this unit, NO_x emissions are already minimized to the greatest extent practicable.

Universal employs one AOD at the facility. Although limited information exists relative to AOD emissions, the process is quite similar to the Quelle basic oxygen furnace (Q-BOP). Argon and oxygen are blown into the bottom of the vessel through the metal bath in order to oxidize carbon from the molten steel. There is no combustion of natural gas. However, the combustion of waste gas results in the generation of NO_x.

The primary mechanism of NOx formation in the EAF and the AOD is thermal NOx. As there is no fuel used in the EAF or the AOD, there is no fuel or prompt NOx formed and all the NOx formation is due to thermal NOx.

4.2.1.1 RACT Analysis
Step 1 – Identify Control Options

The first step in the RACT analysis is to assess the control options. The following control technologies were identified and evaluated to control NOx emissions from the EAF and the AOD:

- Selective Catalytic Reduction (SCR)
- Non-Selective Catalytic Reduction (NSCR)
- SCONOx Catalytic Oxidation/Absorption
- Shell DeNOx System (modified SCR)
- Exxon's Thermal DeNOx
- Nalco Fuel Tech's NOxOUT
- Low Temperature Oxidation (LTO)

Step 2 – Eliminate Technically Infeasible Control Options

The test for technical feasibility of any control option is whether it is both available and applicable to reducing NOx emissions from the EAF and the AOD.

(a) Selective Catalytic Reduction (SCR) – In this process, ammonia (NH3), usually diluted with air or steam, is injected through a grid system into the exhaust gas stream upstream of a catalyst bed. On the catalyst surface, the ammonia reacts with NOx to form molecular nitrogen and water. The basic reactions are as follows:

$$4NH_3 + 4NO + O_2 \rightarrow 4N_2 + 6H_2O$$
$$8NH_3 + 6NO_2 \rightarrow 7N_2 + 12H_2O$$

The reactions take place on the surface of the catalyst. Usually, a fixed bed catalytic reactor is used for SCR systems.

Depending on system design, NOx removal of 80 – 90 percent may be achievable under optimum conditions (refer, USEPA "ACT Document – NOx Emissions from Iron and Steel Mills", Sept. 1984). The reaction of NH_3 and NOx is favored by the presence of excess oxygen. Another variable affecting NOx reduction is exhaust gas temperature. The greatest NOx reduction occurs within a reaction window at catalyst bed temperatures between 600 °F – 750 °F for conventional (vanadium or titanium-based) catalyst types, and 470 °F – 510 °F for platinum-based catalysts. Performance for a given catalyst depends largely on the temperature of the

exhaust gas stream being treated. A given catalyst exhibits optimum performance when the temperature of the exhaust gas stream is at the midpoint of the reaction temperature window for applications where exhaust gas oxygen concentrations are greater than one percent. Below the optimum temperature range, the catalyst activity is greatly reduced, potentially allowing unreacted ammonia (referred to as "ammonia slip") to be emitted directly to the atmosphere.

The SCR system may also be subject to catalyst deactivation over time. Catalyst deactivation occurs through two primary mechanisms – physical deactivation and chemical poisoning. Physical deactivation is generally the result of either continual exposure to thermal cycling or masking of the catalyst due to entrainment of particulates or internal contaminants. Catalytic poisoning is caused by the irreversible reaction of the catalyst with a contaminant in the gas stream. Catalyst suppliers typically guarantee a three year catalyst lifetime for a sustainable emission limit.

In order for an SCR system to effectively reduce NOx emissions, the exhaust gas stream should have relatively stable gas flow rates, NOx concentrations, and temperature. In addition, certain elements such as iron, nickel, chrome, and zinc can react with platinum catalysts to form compounds or alloys which are not catalytically active. These reactions are termed "catalytic poisoning", and can result in premature replacement of the catalyst. An EAF or AOD flue gas may contain a number of these catalytic poisons. In addition, any solid material in the gas stream can form deposits and result in fouling or masking of the catalytic surface. Fouling occurs when solids obstruct the cell openings within the catalyst. Masking occurs when a film forms on the surface of the catalyst over time. The film prevents contact between the catalytic surface and the flue gas. Both of these conditions can result in frequent cleaning and/or replacement requirements. **Due to the above effective technical applicability constraints, SCR technology has never been applied to EAF or AOD operations, and has been eliminated (not proven in actual practice) for further evaluation in this RACT analysis for emissions of NOx from the EAF and the AOD.**

(b) Non-Selective Catalytic Reduction (NSCR) – The NSCR system is a post-combustion add-on exhaust gas treatment system. It is often referred to as a "three-way conversion" catalyst since it reduces NOx, unburned hydrocarbons (UBH), and CO simultaneously. In order to operate properly, the combustion process must be stoichiometric or near stoichiometric. Under stoichiometric conditions, in the presence of the catalyst, NOx is reduced by CO, resulting in nitrogen and carbon dioxide. Currently, NSCR systems are limited to rich-burn IC engines with fuel rich ignition system applications. Moreover, potential problems with NSCR systems include catalyst poisoning by oil additives such as phosphorus and zinc (present in galvanized scrap steel charged in the EAF and AOD). There are no fuel combustion processes in the EAF or the AOD. **In view of the above limitations, the NSCR option is considered technically infeasible for the EAF and the AOD and has not been considered any further in this RACT analysis.**

(c) SCONOx – Catalytic Oxidation/Absorption – This is a catalytic oxidation/absorption technology that has been applied for reductions of NOx, CO, and VOC from an assortment of combustion applications that mostly include small turbines, boilers, and lean-burn engines. However, this technology has never been applied to steel mill meltshop operations.

An effective SCONOx application to a steel mill meltshop has the following reservations:

1. The technology is not readily adaptable to high-temperature applications outside the 300 °F – 700 °F range and is susceptible to thermal cycling that will be experienced.
2. Scale-up is still an issue. The technology has not been demonstrated for larger applications and the vendor's contention in this context is still being debated upon.
3. Optimum SCONOx operation is predicated by stable gas flow rates, NOx concentrations, and temperature. The nature of the EAF and AOD operations does not lend itself to these conditions which will significantly impair the effective control efficiency of the SCONOx sytem.
4. The catalyst is susceptible to moisture interference and the vendor indicates negation of its warranties and performance guarantees if the catalyst is exposed to any quantity of liquid water. However, during certain atmospheric conditions, the catalyst could be potentially exposed to moisture following a unit shutdown.
5. The prospect of moving louvers that effect the isolation of the saturated catalyst readily lends itself to the possibility of thermal warp and in-duct malfunctions in general. The process is dependent on numerous hot-side dampers that must cycle every 10-15 minutes. Directional flow solutions are not yet known to have been implemented for this technology.
6. The K_2CO_3 coating on the catalyst surface is an active chemical reaction and reformulation site that makes it particularly vulnerable to fouling. On some field installations, the coating has been found to be friable and tends to foul in the harsh in-duct environment.

Thus, there are significant reservations regarding effective technical applicability of this control alternative for a steel mill EAF and AOD application. **SCONOx technology has never been proposed nor successfully implemented for similar industry applications. In view of the above limitations, SCONOx is considered technically infeasible for the EAF and the AOD and has not been considered any further.**

(d) Shell DeNOx System (modified SCR) – The Shell DeNOx system is a variant of traditional SCR technology which utilizes a high activity dedicated ammonia oxidation catalyst based on a combination of metal oxides. The system is comprised of a catalyst contained in a modular reactor housing where in the presence of ammonia, NOx in the exhaust gas is converted to nitrogen and water. The catalyst is contained in a low-pressure drop lateral flow reactor (LFR), which makes best use of the plot space available. Due to the intrinsically high activity of the

catalyst, the technology is suited for NOx conversions at lower temperatures with a typical operating range of 250 °F – 660 °F.

The low temperature operation is the only aspect of the Shell DeNOx technology that marks its variance from traditional SCR technology. From a meltshop application perspective, there are no additional differences between this technology and SCR technology.

In summary, an effective Shell DeNOx application to the EAF and the AOD has the following reservations:

1. The Shell DeNOx system does not suffer from similar placement limitation considerations discussed earlier for SCRs. However, even a placement downstream of the meltshop baghouse does not render it completely safe from the perspective of particulate fouling. The catalyst will still be exposed to particulates, which can inflict a masking effect impairing the effective control efficiency of the system.
2. Optimum Shell DeNOx operation is predicated by stable gas flow rates, NOx concentrations, and temperature. The nature of the EAF and AOD operations does not afford any of these conditions which will significantly impair the effective control efficiency of the Shell DeNOx system.
3. Since steel is produced from scrap, there is the possibility of the presence of catalytic poisons that can adversely affect the Shell DeNOx catalyst resulting in impaired control efficiencies and frequent replacement of the catalyst.
4. The catalyst is particularly susceptible to thermal fluctuations. The vendor indicates a threshold temperature of around 680 °F for catalyst degradation.
5. The use of relatively large amounts of ammonia, a regulated toxic chemical, will have accidental release and hazard implications.

Thus, there are significant reservations regarding effective technical applicability of this control alternative for an EAF or AOD application. Moreover, the Shell DeNOx system has never been proposed nor successfully implemented for similar steel mill applications. Therefore, the Shell DeNOx option is considered technically infeasible and has not been considered any further in this RACT analysis for the EAF and the AOD.

(e) Exxon's Thermal DeNOx – Exxon's Thermal DeNOx system is a non-catalytic process for NOx reduction. The process involves the injection of gas-phase ammonia into the exhaust stream to react with NOx. The ammonia and NOx react according to the following competing reactions:

$$4NH_3 + 2NO + 2O_2 \rightarrow 3N_2 + 6H_2O \quad \text{(i)}$$
$$4NH_3 + 5O_2 \rightarrow 4NO + 6H_2O \quad \text{(ii)}$$

The temperature of the exhaust gas stream is the primary criterion controlling the above selective reaction. Reaction (i) dominates in the temperature window of 1600 °F - 2200 °F resulting in a reduction of NOx. However, above 2200 °F, reaction (ii) begins to dominate, resulting in

enhanced NOx production. Below 1600 °F, neither reaction has sufficient activity to produce or destroy NOx. Thus, the optimum temperature window for the Thermal DeNOx process is approximately 1600 °F - 1900 °F. The above reaction temperature window can be shifted down to approximately 1300 °F - 1500 °F with the introduction of readily oxidizable hydrogen gas. In addition, the process also requires a minimum of 1.0 second residence time in the desired temperature window for any significant NOx reduction.

In order for the Thermal DeNOx system to effectively reduce NOx emissions, the exhaust gas stream should have relatively stable gas flow rates, ensuring the required residence time and be within the prescribed temperature range. Applications of Thermal DeNOx technology to control NOx emissions from meltshop operations are not known.

In summary, an effective Thermal DeNOx application to the EAF and the AOD has the following reservations:

1. Placement of the Thermal DeNOx system in an adequate temperature regime. In order to achieve optimum operational efficiency, the system should be located in a temperature region of at least 1300 °F and preferably between 1600 °F - 1900 °F which would put it upstream of the EAF baghouse. Such a placement configuration would not afford the desired temperature range, which would typically be in the region of 300 °F - 400 °F with an entry temperature of 250 °F at the inlet to the EAF baghouse. The system cannot be placed further upstream for operational hazard reasons. Also any injection mechanism upstream of the baghouse will be susceptible to prompt particulate fouling.
2. Optimum Thermal DeNOx operation is predicated by stable gas flow rates, NOx concentrations, and temperature. The nature of the EAF and AOD operations does not afford any of these conditions which will significantly impair the effective control efficiency of the Thermal DeNOx system.
3. The use of relatively large amounts of ammonia – a regulated toxic chemical – will have accidental release and hazardous impact implications.

There are significant reservations regarding effective technical applicability of this control alternative for an EAF or AOD application. Moreover, Thermal DeNOx technology has never been proposed nor successfully implemented to control NOx emissions from meltshop operations. Therefore, the Thermal DeNOx option is considered technically infeasible and has not been considered any further in this RACT analysis for the EAF and the AOD.

(f) Nalco Fuel Tech's NOxOUT – The NOxOUT process is very similar in principle to the Thermal DeNOx process except that it involves the injection of liquid urea (as opposed to ammonia) into the high temperature zone to promote NOx reduction. The chemical reaction proceeds as follows:

$$NH_2 + NO \rightarrow N_2 + H_2O$$

The reaction involves the decomposition of urea at temperatures of approximately 1700 °F – 3000 °F. Certain proprietary additive developments have allowed the operational temperature window to shift to approximately 1400 °F - 2000 °F. However, the process still has similar constraints as the Thermal DeNOx system. The limitations are dictated by the reaction-controlling variables such as stable gas flow rates for a minimum residence time of 1.0 second in the desired temperature window to ensure proper mixing.

Similar to the Thermal DeNOx system, the application of the NOxOUT system to the EAF and AOD has the following reservations:

1. Placement of the NOxOUT system in an adequate temperature regime. In order to achieve optimal operational efficiency, the system should be located in a temperature region preferably between 1400 °F - 2000 °F which would put it upstream of the EAF baghouse. Such a placement configuration would not afford the desired temperature range, which would typically be in the region of 300 °F to 400 °F with an entry temperature of 250 °F at the inlet to the baghouse. Also any injection mechanism upstream of the baghouse will be susceptible to prompt particulate fouling.
2. In order for the NOxOUT system to effectively reduce NOx emissions, the exhaust stream should have relatively stable gas flow rates, ensuring the requisite residence time requirements and temperature. The temperature of the EAF and AOD exhaust gas will vary widely and will not remain in the desired temperature window during all phases of operation. Moreover, NOxOUT technology has never been proposed nor successfully implemented to control NOx emissions from EAFs and AODs.

As with the Thermal DeNOx system, the NOxOUT system suffers from essentially similar limitations to effectively reduce NOx emissions from EAF and AOD operations. Moreover, applications of the NOxOUT technology to control NOx emissions from a steel mill EAF and AOD are not known. Therefore, this option is considered technically infeasible and has not been considered any further in this RACT analysis.

(g) Low Temperature Oxidation (LTO) – LTO technology has never been utilized for any steel mill EAF or AOD application. The technology is a variant of SNCR technology using ozone. The ozone is injected into the gas stream and the NOx in the gas stream is oxidized to nitrogen pentoxide (N_2O_5) vapor, which is absorbed in the scrubber as dilute nitric acid. The nitric acid is then neutralized with caustic (NaOH) in the scrubber water forming sodium nitrate ($NaNO_3$). The overall chemical reaction can be summarized as follows:

$$NO_2 + NO + 2O_2 + NaOH \rightarrow HNO_3 + NaNO_3 + 2O_2$$

For optimal performance, the technology requires stable gas flows, lack of thermal cycling, invariant pollutant concentrations, and residence times on the order of 1.0 to1.5 seconds. In addition, LTO technology requires frequent calibration of analytical instruments, which sense the NOx concentrations for proper adjustment of ozone injection. Since LTO uses ozone injection, it has the potential for ozone slip, which can vary between 5 to 10 ppmv. Also, the technology requires a cooler flue gas of less than 300 °F at the point of ozone injection; otherwise, the reactive gas is rendered redundant. The technology also suffers from low NOx conversion rates (40% to 60%), potential for nitric acid vapor release (in the event of a scrubber malfunction) with subsequent regional haze impacts and the handling, treatment, and disposal issues for the spent scrubber effluent.

The technology is neither applicable nor proven for EAF and AOD applications and its current limitations render it technically infeasible in its current manifestation. In view of the above, the LTO control option is considered technically infeasible for this application and has not been considered any further in this RACT analysis for the EAF and AOD.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

All control alternatives identified in Step 2 were eliminated as not technically feasible for controlling NOx emissions from the EAF and AOD. **Thus, there are no control options remaining to control the NOx emissions from the EAF and the AOD.**

Step 4 – Evaluate the Most Effective Controls and Document Results.

There are no control options remaining to control the NOx emissions from the EAF and the AOD.

Step 5 – Select RACT
A review of US EPA's RACT/BACT/LAER Clearinghouse, including air permits and sources permitted by other state agencies, identified the following with respect to EAF's and AOD's.

Facility / RBLC ID	Permit Date	Basis	Process	NOx Limit	Controls
SeverCorr LLC, Columbus, MS	7/15/11	BACT-PSD	Meltshop operations: 2 EAFs, 2 LMF	0.35 lb/ton steel, 122.5 lb/hr, 297.5 tpy for each EAF	Use of Direct Evaluation Control (DEC) system
Nucor Steel, Blytheville, AR	6/10/11	BACT-PSD	EAF's, LMF's, Casters and Canopies	0.51 lb/ton steel	Natural gas fired oxy-fuel burners
Osceola Steel	12/29/10	BACT-	1 EAF, 1	0.35 lb/ton	Low NOx burners,

Facility / RBLC ID	Permit Date	Basis	Process	NOx Limit	Controls
Co. GA-0142		PSD	LMS, 430000 tpy scrap		good combustion and operating practices
Nucor Steel, Marion Inc. OH-0341	12/23/10	BACT-PSD	EAF, continuous casting, and 6 preheaters; 1800 tons/day	0.43 lb/ton and 141.58 tons per rolling 12 month period	No controls
V&M Star OH-0316	9/23/08	BACT-PSD	1 EAF 830000 tpy, 1 ladle refining station	0.4 lb/ton	No controls
Mid-American Steel and Wire Company OK-0128	9/8/08	BACT-PSD	2 EAFs 640000 tpy	0.3 lb/ton	No controls
		BACT-PSD	Ladle Metallurgy Furnace	0.05 lb/ton	No controls
New Steel International, Inc., Haverhill OH-0315	5/6/08	BACT	2 EAFs and 1 LMF; 4409248 tpy	0.321 lb/ton, 102.30 lb/hr, and 341.72 tpy as a rolling 12-month summation (combined limit)	Low NOx oxy fuel burners
Charter Steel, OH	2/12/08	BACT-PSD	1 EAF	36.29 lb/hr and 117.25 tpy	Use of Direct Evacuation Control (DEC) system, low NOx oxy fuel burners and monitoring of specific process variables.
Nucor Yamato Steel AR-0096	1/31/08	BACT-PSD	EAF	0.38 lb/ton	Low NOx burners
Nucor Steel, Crawfordsville		BACT-PSD	Meltshop emissions	0.35 lb/ton and 175.7 lb/hr	Natural gas fired oxy fuel burners

Facility / RBLC ID	Permit Date	Basis	Process	NOx Limit	Controls
			including EAF and LMF	(based on CEMS 24-hr average)	
Minnesota Steel Industries, LLC MN-0070	9/7/07	BACT-PSD	EAF/Melt Shop; 205 ton/hr	0.3 lb/ton	No controls
Nucor Decatur LLC	6/12/07	BACT-PSD	2 EAFs and 3 Ladle Metallurgy Furnaces with 2 Meltshop baghouses	0.42 lb/ton	No controls
Elwood National Steel PA-0251	8/18/06	BACT-PSD	EAF 150000 tpy	25.8 tpy	No controls
Nucor Steel, Tuscaloosa AL-0218	6/6/06	BACT-PSD	EAF	0.35 lb/ton and 175.7 lb/hr	No controls

Based on the review above, there is no information that NO_x emissions controls have been installed or that suitable controls are available for EAFs and AODs that do not use fuel for heating and combustion. Therefore, there is no economically or technologically feasible control technology for NO_x at the emission levels represented by the Universal EAF and AOD.

4.2.2 Combustion Units Less Than 20 MMBTU/HR

For the following emission units, each of which is less than 20 MMBTU/HR, the facility will comply with the presumptive RACT requirements specified in Article XXI @ 2105.06(d)(6), which specifies that the facility will install, operate and maintain the units in accordance with manufacturer's specifications.

Source	Unit Description	Size of Units, MMBTU/HR
P003: Ladle Heaters	Heater #1	8.9
	Heater #2	8.9
P006: Electro-Slag Reheat Holding Furnace	Single furnace	4
P011: Annealing Furnaces	Car Bottom Furnace # 11	11
	Clamshell Furnace # CLM1	6
	Clamshell Furnace # CLM2	8.8
	Hood Furnace # 01	8.8
	Hood Furnace # 02	8.8

Source	Unit Description	Size of Units, MMBTU/HR
	Hood Furnace # 03	8.8
	Hood Furnace # 04	8.8
	Hood Furnace # 05	8.8
	Hood Furnace # 06	8.8
	Hood Furnace # 07	8.8
	Hood Furnace # 08	8.8
	Hood Furnace # 09	8.8
	Hood Furnace # 10	8.8
	Hood Furnace # 11	7.44
	Hood Furnace # 12	7.44
	Hood Furnace # 13	7.44
	Hood Furnace # 14	8.8
	Ingot Hood Furnace # CP-1	4.4
	Ingot Hood Furnace # CP-2	4.4
	Ingot Hood Furnace # CP-3	4.4
	Ingot Hood Furnace # CP-4	4.4
	Ingot Hood Furnace # CP-5	3.72
	Ingot Hood Furnace # CP-6	4.4
	Ingot Hood Furnace # CP-7	4.4
	Bar Hood Furnace # 01	3.8
P018: Plate Warming Furnace	Single furnace	6.96
P012: Reheat Furnaces	12" Bar Mill Reheat Furnace # 01	5.3
	12" Bar Mill Reheat Furnace # 02	5.3
	12" Bar Mill Reheat Furnace # 03	5.3
	12" Bar Mill Reheat Furnace # 04	5.3
	Bloomer Reheat Furnace # 07	9.7
	Bloomer Reheat Furnace # 08	9.7
	Bloomer Reheat Furnace # 09	9.7
	Bloomer Reheat Furnace # 10	9.7
	Bloomer Reheat Furnace # 11	9.7
	Bloomer Reheat Furnace # 12	9.7
	Bloomer Reheat Furnace # 13	16.6
	Bloomer Reheat Furnace # 14	16.6
	Bloomer Reheat Furnace # 15	9.7
	Bloomer Reheat Furnace # 16	9.7
	Bloomer Reheat Furnace # 17	9.7
	Bloomer Reheat Furnace # 18	9.7
	Bloomer Reheat Furnace # 19	9.7
	Bloomer Reheat Furnace # 20	9.7
	Bloomer Reheat Furnace # 21	16.6

Source	Unit Description	Size of Units, MMBTU/HR
P023: AOD Reline Heater	Single heater	8.9
P024: Transfer Ladle Heater	Single heater	8.9
Process Heater	Process Heater	3
B001: Space Heaters	1 heater	0.03 each
	5 heaters	0.05 each
	14 heaters	0.09 each
	40 heaters	0.1 each
	22 heaters	0.12 each
	9 heaters	0.125 each
	5 heaters	0.15 each
	5 heaters	0.16 each
	1 heater	0.17 each
	6 heaters	0.2 each
	2 heaters	0.25 each
	2 heaters	0.4 each
Quench Tank Heater (Exempt from Installation Permit and not yet in Operating Permit)	1 heater	2.5

5.0 SUMMARY / IMPLEMENTATION

EMISSION SOURCE	RACT	IMPLEMENTATION SCHEDULE
P001: Electric Arc Furnace	Technologically not feasible	Not applicable
P002: Argon-Oxygen Decarburization Vessel	Technologically not feasible	Not applicable
P003: Ladle Reheat	Article XXI @ 2105.06(d)(6)	Continuous
P006: ESR Furnace	Article XXI @ 2105.06(d)(6)	Continuous
P011: Annealing Furnaces	Article XXI @ 2105.06(d)(6)	Continuous
P018: Plate Warming Furnace	Article XXI @ 2105.06(d)(6)	Continuous
P012: Reheat Furnaces	Article XXI @ 2105.06(d)(6)	Continuous
P023: AOD Reline Heater	Article XXI @ 2105.06(d)(6)	Continuous
P024: Transfer Ladle Heater	Article XXI @ 2105.06(d)(6)	Continuous
Process Heater	Article XXI @ 2105.06(d)(6)	Continuous
B001: Space Heaters	Article XXI @ 2105.06(d)(6)	Continuous
Quench Tank Heater	Article XXI @ 2105.06(d)(6)	Continuous

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
Electric Arc Furnace (P001)

Emission Source Description

Electric Arc Furnace (P001) SCC = 30300904

Maximum Production Capacity **175200** **TPY**

Pollutant	PM^2	PM_{10}^2	$PM_{2.5}^3$	SO_x^2	NO_x^2	VOC^2	CO^4
Emission Factor (lbs/ton)	11.3	6.55	0.0655	0.07	0.2	0.35	0.72
Uncontrolled Emissions (tons)	989.88	573.78	5.74	6.13	17.52	30.66	63.07
Electric Arc Furnace Captured Emissions							
Melt Shop Baghouse							
Capture Efficiency=	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%
Control Efficiency =	98.33%	98.33%	98.33%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	979.98	568.04	5.68	6.07	17.34	30.35	62.44
Controlled (tons)	963.62	558.56	5.59	0.00	0.00	0.00	0.00
Melt Shop Baghouse Emissions =	**16.37**	**9.49**	**0.09**	**6.07**	**17.34**	**30.35**	**62.44**
Electric Arc Furnace Fugitive Emissions							
Melt Shop Building							
Capture Efficiency=	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Control Efficiency =	50.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	9.90	5.74	0.06	0.06	0.18	0.31	0.63
Controlled (tons)	4.95	2.87	0.03	0.00	0.00	0.00	0.00
Melt Shop Building Emissions =	**4.95**	**2.87**	**0.03**	**0.06**	**0.18**	**0.31**	**0.63**
Total EAF Emissions (Tons per Year)=	**21.32**	**12.36**	**0.12**	**6.13**	**17.52**	**30.66**	**63.07**

Notes:

[1] See EAF Design Capacity Worksheet

[2] Emission factor taken from Fire version 6.25

[3] Emission factor taken from ACHD reference - $PM_{2.5}$ = 10% of PM_{10}

[4] As per ACHD letter dated 12/15/98, testing was conducted for CO emissions by the fabric filter inlet containing the combined captured exhaust gases from the EAF and AOD on 10/25 & 10/26/95. Review of these tests by the Department during this review suggest 20% (0.6 lb/ton) of the emissions are attributed to the EAF and 80% (2.4 lb/ton) are attributed to the AOD. These test factors have been increased by 20% (i.e., multiplier of 1.2).

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
Argon-Oxygen Decarburization Vessel (P002)

Emission Source Description

Argon-Oxygen Decarburization Vessel (P002) SCC = 30300904

Maximum Production Capacity[1] **175200** **TPY**

Pollutant	PM[2]	PM_{10}[3]	$PM_{2.5}$[4]	CO[5]	SO_x[2]	NO_x[6]	VOC[2]
Emission Factor (lbs/ton)	16	12.8	0.128	2.88	0	0.12	0
Uncontrolled Emissions (tons)	1401.60	1121.28	11.21	252.29	0.00	10.51	0.00
AOD Captured Emissions							
Melt Shop Baghouse							
Capture Efficiency=	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%
Control Efficiency =	98.33%	98.33%	98.33%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	1387.58	1110.07	11.10	249.77	0.00	10.41	0.00
Controlled (tons)	1364.41	1091.53	10.92	0.00	0.00	0.00	0.00
Melt Shop Baghouse Emissions =	**23.17**	**18.54**	**0.19**	**249.77**	**0.00**	**10.41**	**0.00**
AOD Fugitive Emissions							
Melt Shop Building							
Capture Efficiency=	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Control Efficiency =	50.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	14.02	11.21	0.11	2.52	0.00	0.11	0.00
Controlled (tons)	7.01	5.61	0.06	0.00	0.00	0.00	0.00
Melt Shop Building Emissions =	**7.01**	**5.61**	**0.06**	**2.52**	**0.00**	**0.11**	**0.00**
Total AOD Emissions (Tons per Year)=	**30.18**	**24.14**	**0.24**	**252.29**	**0.00**	**10.51**	**0.00**

Notes:

[1] Maximum AOD design capacity is 370,980 TPY, however capacity is physically limited to EAF capacity of 175,200 TPY.

[2] Emission factor taken from ACHD reference letter dated December 15, 1998

[3] Emission factor taken from ACHD reference - PM_{10} = 80% of TSP

[4] Emission factor taken from ACHD reference - $PM_{2.5}$ = 10% of PM_{10}

[4] As per ACHD letter dated 12/15/98, testing was conducted for CO emissions by the fabric filter inlet containing the combined captured exhaust gases from the EAF and AOD on 10/25 & 10/26/95. Review of these tests by the Department during this review suggest 20% (0.6 lb/ton) of the emissions are attributed to the EAF and 80% (2.4 lb/ton) are attributed to the AOD. These test factors have been increased by 20% (i.e., multiplier of 1.2).

[6] Basis: AP-42, Draft Section 12.5.1, Table 12.5.1-4, Dec. 2004. This factor has been increased by 20% (i.e., multiplier of 1.2).

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
Teeming Ladle Heaters (P003)

Emission Source Description

New and Replacement Ladle Heaters (P003)

Maximum Potential Combustion (Combustion of Natural Gas)	**Rating (Btu/Hr)**	**Operation (Hr/Yr)**	**Btu/yr**	**Gas usage (cf/yr)**	**MMCF/Yr**
	17,800,000	8,760.00	1.56E+11	152,870,588	**152.87**

Pollutant	**PM[1]**	**PM_{10}[1]**	**$PM_{2.5}$[1]**	**CO_2[3]**	**SO_x[1]**	**NO_x[2]**	**VOC[1]**	**CO[1]**
Emission Factor (lbs/MMCF)	7.6	7.6	7.6	---	0.6	69.8	5.5	84
Uncontrolled Emissions (tons)	0.58	0.58	0.58	8,332	0.05	5.34	0.42	6.42
Melt Shop Bag House								
Capture Efficiency=	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%
Control Efficiency =	98.00%	98.00%	98.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	0.5751	0.5751	0.5751	8,249	0.0454	5.2818	0.4162	6.3564
Controlled (tons)	0.5636	0.5636	0.5636	0	0.0000	0.0000	0.0000	0.0000
Plant Building Emissions =	**0.0173**	**0.0173**	**0.0173**	**8,332**	**0.0459**	**5.3352**	**0.4204**	**6.4206**
Total Emissions =	**0.0173**	**0.0173**	**0.0173**	**8,332**	**0.0459**	**5.3352**	**0.4204**	**6.4206**

Notes:

[1] Emission factor from FIRE SCC10200603

[2] Emission factor is based on information provided by burner manufacturer

[3] CO2 Emissions based on formula in 40 CFR 98.33(a), Eq. C-1)

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
Electro-Slag Reheat Furnace (P006)

Emission Source Description

Electro-Slag Reheat Reheat Furnace (P006)

Maximum Production Capacity	**Rating (Btu/Hr)**	**Operation (Hr/Yr)**		**Btu/yr**	**Gas usage (cf/yr)**	**MMCF/Yr**
	4,000,000	8,760		3.50E+10	34,352,941	**34.35**

Pollutant	**PM[1]**	**PM_{10}[1]**	**$PM_{2.5}$[1]**	**CO_2[3]**	**SO_x[2]**	**NO_x[1]**	**VOC[2]**	**CO[2]**
Emission Factor (lbs/MMCF)	7.6	7.6	7.6	---	0.6	100	2.8	84
Uncontrolled Emissions (tons)	0.13	0.13	0.13	1,872	0.01	1.72	0.05	1.44
ESR Reheat Furnace Fugitive Emissions								
ESR Shop Building								
Capture Efficiency=	100.00%	100.00%	100.00%	99.00%	100.00%	100.00%	100.00%	100.00%
Control Efficiency =	50.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	0.1305	0.1305	0.1305	1,854	0.0103	1.7176	0.0481	1.4428
Controlled (tons)	0.0653	0.0653	0.0653	0	0.0000	0.0000	0.0000	0.0000
ESR Shop Emissions =	**0.0653**	**0.0653**	**0.0653**	**1,872**	**0.0103**	**1.7176**	**0.0481**	**1.4428**
Total ESR Reheat Emissions =	**0.0653**	**0.0653**	**0.0653**	**1,872**	**0.0103**	**1.7176**	**0.0481**	**1.4428**

Notes:
[1] Emission factor from Fire v6.25 SCC10200603
[2] Emission factor from Fire v6.25 SCC30490003
[3] CO2 Emissions based on formula in 40 CFR 98.33(a), Eq. C-1)

Emission Source Description

Annealing Furnace Inventory (P011) & Plate Warming (P018)

Annealing Furnace ID	Rating (MMBtu/Hr)	Location
Car Bottom Furnace No. 11	11.0	80 Foot Bldg.
Clamshell Furnace No. CLM1	6.0	400 Foot Bldg.
Hood Furnace No. 01	8.8	80 Foot Bldg.
Hood Furnace No. 02	8.8	80 Foot Bldg.
Hood Furnace No. 03	8.8	80 Foot Bldg.
Hood Furnace No. 04	8.8	80 Foot Bldg.
Hood Furnace No. 05	8.8	80 Foot Bldg.
Hood Furnace No. 06	8.8	80 Foot Bldg.
Hood Furnace No. 07	8.8	400 Foot Bldg.
Hood Furnace No. 08	8.8	400 Foot Bldg.
Hood Furnace No. 09	8.8	80 Foot Bldg.
Hood Furnace No. 10	8.8	80 Foot Bldg.
Ingot Hood Furnace No. CP-1	4.4	Creek Bldg.
Ingot Hood Furnace No. CP-2	4.4	CP-Dock Bldg.
Ingot Hood Furnace No. CP-3	4.4	Creek Bldg.
Ingot Hood Furnace No. CP-4	4.4	CP-Dock Bldg.
Plate Warming Furnace (P018)	6.96	
Total Non-Low Nox	129.6	
Hood Furnace No. 11	7.44	80 Foot Bldg.
Hood Furnace No. 12	7.44	80 Foot Bldg.
Hood Furnace No. 13	7.44	80 Foot Bldg.
Hood Furnace No. 14	8.80	400 Foot Bldg.
Clamshell Furnace No. CLM2	8.80	400 Foot Bldg.
Ingot Hood Furnace No. CP-5	3.72	CP-Dock Bldg.
Ingot Hood Furnace No. CP-6	4.40	CP-Dock Bldg.
Ingot Hood Furnace No. CP-7	4.40	CP-Dock Bldg.
Bar Hood Furnace No. 01	3.80	400 Foot Bldg.
	56.2	

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
Annealing Furnaces (P011)

Revised 1-12-11

Emission Source Description

Annealing Furnaces (P011) & Plate Warming Furnace (P018)

Maximum Production Capacity (Combustion of Natural Gas)	**Rating (Btu/Hr)**	**Operation (Hr/Yr)**	**Btu/yr**	**Gas usage (cf/yr)**	**MMCF/Yr**
	129,600,000	8,760	1.14E+12	1,113,035,294	**1113.04**
	56,240,000	8,760	4.93E+11	483,002,353	**483.00**
Maximum Production Capacity (Tons of Alloy Steel)	**80,369**	**TPY**			

Pollutant	**PM**[1]	**PM_{10}**[1]	**$PM_{2.5}$**[1]	**CO_2**[3]	**SO_x**[1]	**NO_x**[2]	**VOC**[1]	**CO**[1]
Emission Factor (lbs/MMCF)	7.6	7.6	7.6		0.6	100	5.5	84
Emission Factor (lbs/MMCF)						50		
Uncontrolled Emissions (tons)	6.06	6.06	6.06	86,991	0.48	67.73	4.39	67.03
Annealing Furnace Fugitive Emissions								
Plant Buildings								
Capture Efficiency=	100.00%	100.00%	100.00%	99.00%	100.00%	100.00%	100.00%	100.00%
Control Efficiency =	50.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	6.0649	6.0649	6.0649	86,121	0.4788	67.7268	4.3891	67.0336
Controlled (tons)	3.0325	3.0325	3.0325	0	0.0000	0.0000	0.0000	0.0000
Plant Building Emissions =	**3.0325**	**3.0325**	**3.0325**	**86,991**	**0.4788**	**67.7268**	**4.3891**	**67.0336**
Total Annealing Furnace Emissions =	**3.0325**	**3.0325**	**3.0325**	**86,991**	**0.4788**	**67.7268**	**4.3891**	**67.0336**

Notes:

[1] Emission factor from Fire v6.25 SCC10200603

[2] Emission factor from SCC10200603 Fire v6.25

[3] CO2 Emissions based on formula is 40 CFR 98.33(a), Eq. C-1)

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
Reheat Furnaces (P012)

Emission Source Description

Reheat Furnace Inventory (P012)

Reheat Furnace ID	Rating (MMBtu/Hr)	Location
12" Bar Mill Reheat Furnace No. 01	5.3	Bar Mill
12" Bar Mill Reheat Furnace No. 02	5.3	Bar Mill
12" Bar Mill Reheat Furnace No. 03	5.3	Bar Mill
12" Bar Mill Reheat Furnace No. 04	5.3	Bar Mill
Bloomer Reheat Furnace No. 07	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 08	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 09	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 10	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 11	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 12	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 13	16.6	Bloomer Mill
Bloomer Reheat Furnace No. 14	16.6	Bloomer Mill
Bloomer Reheat Furnace No. 15	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 16	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 17	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 18	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 19	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 20	9.7	Bloomer Mill
Bloomer Reheat Furnace No. 21	16.6	Bloomer Mill
Total	187.2	

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
Reheat Furnaces (P012)

Emission Source Description

Reheat Furnaces (P012) SCC=30300933 & SCC=10200603

Maximum Production Capacity (Combustion of Natural Gas)	**Rating (Btu/Hr)**	**Operation (Hr/Yr)**	**Btu/yr**	**Gas usage (cf/yr)**	**MMCF/Yr**
	187,200,000	8,760	1.64E+12	1,607,717,647	**1607.72**

Maximum Production Capacity (Tons of Alloy Steel)	**103,956**	**TPY**

Pollutant	**PM[1]**	**PM_{10}[1]**	**$PM_{2.5}$[1]**	**CO_2[3]**	**SO_x[1]**	**NO_x[2]**	**VOC[1]**	**CO[1]**
Emission Factor (lbs/MMCF)	7.6	7.6	7.6		0.6	100	5.5	84
Uncontrolled Emissions (tons)	6.11	6.11	6.11	87,628	0.48	80.39	4.42	67.52
Reheat Furnace Fugitive Emissions								
Plant Buildings								
Capture Efficiency=	100.00%	100.00%	100.00%	99.00%	100.00%	100.00%	100.00%	100.00%
Control Efficiency =	50.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	6.1093	6.1093	6.1093	86,752	0.4823	80.3859	4.4212	67.5241
Controlled (tons)	3.0547	3.0547	3.0547	0	0.0000	0.0000	0.0000	0.0000
Plant Building Emissions =	**3.0547**	**3.0547**	**3.0547**	**87,628**	**0.4823**	**80.3859**	**4.4212**	**67.5241**
Total Reheat Furnace Emissions =	**3.0547**	**3.0547**	**3.0547**	**87,628**	**0.4823**	**80.3859**	**4.4212**	**67.5241**

Notes:

[1] Emission factor from Fire v6.25 SCC10200603

[2] Emission factor from SCC10200603 Fire v6.25

[3] CO2 Emissions based on formula is 40 CFR 98.33(a), Eq. C-1)

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
AOD Reline Heater (P023)

Emission Source Description

New AOD RelineHeater (P023) SCC=30300934 & SCC=10200603

Maximum Potential Combustion (Combustion of Natural Gas)	**Rating (Btu/Hr)**	**Operation (Hr/Yr)**	**Btu/yr**	**Gas usage (cf/yr)**	**MMCF**
	8,900,000	8,760.00	7.80E+10	76,435,294	**76.44**

Pollutant	**PM[1]**	**PM_{10}[1]**	**$PM_{2.5}$[1]**	**CO_2[3]**	**SO_x[1]**	**NO_x[2]**	**VOC[1]**	**CO[1]**
Emission Factor (lbs/MMCF)	7.6	7.6	7.6	---	0.6	69.8	5.5	84
Uncontrolled Emissions (tons)	0.29	0.29	0.29	4166.1	0.02	2.67	0.21	3.21
Annealing Furnace Fugitive Emissions								
Melt Shop Bag House								
Capture Efficiency=	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%
Control Efficiency =	98.00%	98.00%	98.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	0.2875	0.2875	0.2875	4124.4	0.0227	2.6409	0.2081	3.1782
Controlled (tons)	0.2818	0.2818	0.2818	0.0	0.0000	0.0000	0.0000	0.0000
Plant Building Emissions =	**0.0087**	**0.0087**	**0.0087**	**4166.1**	**0.0229**	**2.6676**	**0.2102**	**3.2103**
Total Emissions =	**0.0087**	**0.0087**	**0.0087**	**4166.1**	**0.0229**	**2.6676**	**0.2102**	**3.2103**

Notes:

[1] Emission factor from FIRE SCC10200603

[2] Emission factor is based on information provided by burner manufacturer

[3] CO2 Emissions based on formula is 40 CFR 98.33(a), Eq. C-1)

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
Transfer Ladle Heater (P024)

Emission Source Description

New Transfer Ladle Heaters (P024)

Maximum Potential Combustion (Combustion of Natural Gas)	**Rating (Btu/Hr)**	**Operation (Hr/Yr)**	**Btu/yr**	**Gas usage (cf/yr)**	**MMCF/Yr**
	8,900,000	8,760.00	7.80E+10	76,435,294	**76.44**

Pollutant	**PM[1]**	**PM_{10}[1]**	**$PM_{2.5}$[1]**	**CO_2[3]**	**SO_x[1]**	**NO_x[2]**	**VOC[1]**	**CO[1]**
Emission Factor (lbs/MMCF)	7.6	7.6	7.6		0.6	69.8	5.5	84
Uncontrolled Emissions (tons)	0.2905	0.2905	0.2905	4,166	0.02	2.67	0.21	3.21
Melt Shop Bag House								
Capture Efficiency=	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%	99.00%
Control Efficiency =	98.00%	98.00%	98.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	0.2875	0.2875	0.2875	4,124	0.0227	2.6409	0.2081	3.1782
Controlled (tons)	0.2818	0.2818	0.2818	0	0.0000	0.0000	0.0000	0.0000
Plant Building Emissions =	**0.0087**	**0.0087**	**0.0087**	**4,166**	**0.0229**	**2.6676**	**0.2102**	**3.2103**
Total Emissions =	**0.0087**	**0.0087**	**0.0087**	**4,166**	**0.0229**	**2.6676**	**0.2102**	**3.2103**

Notes:

[1] Emission factor from FIRE SCC10200603

[2] Emission factor is based on information provided by burner manufacturer

[3] CO2 Emissions based on formula is 40 CFR 98.33(a), Eq. C-1)

		fuel	HEATERS	mfg	kBTU	date	total kbtu
1	tall	gas	next to old grinder office	na	150	Dec-97	150
1	tall	gas	Bar Mill saw	na	150	Dec-97	150
1	short	gas	behind Gantry Grinder wall by air line		100	Jan-98	100
8	wall	gas	Hetran	Roberts Gordon	120	Nov-98	960
2	tall	gas	long product scale shanty & 20" saw	Space Ray	250	Jan-99	500
4	wall	gas	Bloomer water treatment	Dayton	90	Nov-99	360
1	wall	gas	Descale pump	Dayton	90	Feb-00	90
4	wall	gas	Bloomer motor room	Dayton	90	Dec-01	360
1	new	gas	water line by scrap transfer	Universal	125	Dec-03	125
1	new	gas	AOD sample sink	Universal	125	Dec-03	125
3	new	gas	ESR cooling towers	Universal	125	Dec-03	375
1	new	gas	plate inspection	Universal	125	Oct-04	125
1	new	gas	Gray Planer	Universal	125	Oct-04	125
1	new	gas	31" saw	Universal	125	Oct-04	125
1	new	gas	Fab shop	Universal	125	Nov-04	125
1	torpedo	gas	Descale water tank	Dayton	150	Jan-05	150
1	torpedo	gas	Descale valve stand	Dayton	150	Jan-05	150
1	wall	gas	Bar Mill water tank	Dayton	90	pre-94	90
1	tall	gas	Bloomer grease drums	na	150	pre-94	150
1	torpedo	gas	cross transfer sump pump	Dayton	170	pre-94	170
1	tall	gas	Quench		200	pre-94	200
1	tall	gas	Roll Balance counterweight		200	pre-94	200
1	torpedo	gas	Roll Balance valve stand	Sure Flame	400	pre-94	400
1	torpedo	gas	Central Maintenance	Sure Flame	400	pre-94	400
2	tall	gas	long product inspection	Space Ray	100	pre-94	200
1	tall	gas	Caufiel leveller	Space Ray	100	pre-94	100
1	floor	gas	caufiel leveller drive room	Dayton	30	pre-94	30
1	short	gas	plate inspection	Space Ray	100	pre-94	100
2	wall	gas	sonic	Reverber-Ray	50	pre-94	100
1	short	gas	sonic	Space Ray	100	pre-94	100
2	wall	gas	Gray Planer	TEC	100	pre-94	200
1	tall	gas	Ingersol	Space Ray	100	pre-94	100
2	wall	gas	Farrel Newton	TEC	100	pre-94	200
1	short	gas	40" saw	Space Ray	100	pre-94	100
1	short	gas	Oliver saw	Space Ray	100	pre-94	100
4	wall	gas	Lab saws		90	pre-94	360
1	wall	gas	acid sump Lab	TEC	100	pre-94	100
4	wall	gas	Mobile Equipment	TEC	100	pre-94	400
3	wall	gas	Mobile Equipment	TEC	50	pre-94	150
2	short	gas	Mobile Equipment	Space Ray	100	pre-94	200
12	wall	gas	Machine shop	TEC	100	pre-94	1,200
4	wall	gas	Weld shop	Schwank	100	pre-94	400
1	short	gas	G-EAF water bosch		100	pre-94	100
1	short	gas	under G-EAF		100	pre-94	100
1	short	gas	AOD compressor		100	pre-94	100
2	tall	gas	Melt shop water treatment		200	pre-94	400
1	tall	gas	under old-EAF		200	pre-94	200
1	tall	gas	Bricklayers		200	pre-94	200
1	short	gas	Molders		100	pre-94	100
5	wall	gas	ESR shop		160	pre-94	800
14	Various	gas	Various		120		1,680
TOTAL	=		112				13,525

Universal Stainless Alloy Products, Inc. - Bridgeville Plant
Form O
Supporting Calculations
Space Heaters (B001)

Emission Source Description

Space Heaters (B001)

Maximum Production Capacity (Combustion of Natural Gas)	**Rating (Btu/Hr)**	**Operation (Hr/Yr)**	**Btu/yr**	**Gas usage (cf/yr)**	**MMCF/Yr**
	13,525,000	8,760	1.18E+11	116,155,882	**116.16**

Pollutant	**PM^{2}**	**PM_{10}^{1}**	**$PM_{2.5}^{1}$**	**CO_2^{3}**	**SO_x^{1}**	**NO_x^{2}**	**VOC^{1}**	**CO^{1}**
Emission Factor (lbs/MMCF)	8.7	8.7	8.7	---	0.6	100	5.3	20
Uncontrolled Emissions (lb/hr)	0.12	0.12	0.12	6,331.0	0.01	1.33	0.07	0.27
Uncontrolled Emissions (tpy)	0.51	0.51	0.51		0.03	5.81	0.31	1.16
Plant Buildings								
Capture Efficiency=	100.00%	100.00%	100.00%	99.00%	100.00%	100.00%	100.00%	100.00%
Control Efficiency =	50.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Captured (tons)	0.5053	0.5053	0.5053	6,268	0.0348	5.8078	0.3078	1.1616
Controlled (tons)	0.2526	0.2526	0.2526	0	0.0000	0.0000	0.0000	0.0000
Plant Building Emissions =	**0.2526**	**0.2526**	**0.2526**	**6,331**	**0.0348**	**5.8078**	**0.3078**	**1.1616**
Total Space Heater Emissions =	**0.2526**	**0.2526**	**0.2526**	**6,331**	**0.0348**	**5.8078**	**0.3078**	**1.1616**

Notes:

[1] Emission factor from Fire v6.24 SCC10500106 (Filterable plus Condensible)

[2] Emission factor is equal to PM 10 as all particulate emissions from natural gas combustion are assumed to be less than 1 micron in diameter.

[3] CO2 Emissions based on formula is 40 CFR 98.33(a), Eq. C-1)

Universal Stainless & Alloy Products

Bridgeville, PA

Air Emissions Estimates

Combustion Unit		
Emission Unit:	Natural Gas Fired Process Heater	
SCC:		
Emission Unit ID:		
Fuel burned	Natural Gas	
Natural Gas Heating Value	1,000	Btu/scf
Max Operating Schedule	8,760	hours/year
Max Heat Input	3.00	MMBtu/hr
Max Fuel Usage per hour	3,000	scf
Max Fuel Usage per year	26.3	MMCF
Capture Efficiency	100%	
Control Device	None	

Air Emissions

Pollutant	Emission Factor	Uncontrolled Emissions		Control	Controlled Emissions	
	lb/mmcf	lb/hr	tpy	Efficiency	lb/hr	tpy
PM10	3	0.01	0.04	0%	0.01	0.04
PM2.5	3	0.01	0.04	0%	0.01	0.04
SO2	0.6	0.002	0.01	0%	0.002	0.01
NOx	48.3	0.14	0.63	0%	0.14	0.63
VOC	2.8	0.01	0.04	0%	0.01	0.04
CO	126.27	0.38	1.66	0%	0.38	1.66

Notes

NOx and CO emission factors from the manufacturer (NOx = 0.0483 lb/MMBtu, CO = 0.126 lb/MMBtu).
Other Emission Factors are from WebFIRE for Process Heaters
Assumed PM2.5 emission factor is the same as that for PM10

Universal Stainless Alloy Products, Inc. - Bridgeville Plant

Supporting Calculations
New Quench Tank Heater

Emission Source Description

New Quench Tank Heater

Maximum Potential Combustion (Combustion of Natural Gas)	**Rating (Btu/Hr)**	**Operation (Hr/Yr)**	**Btu/yr**	**Gas usage (cf/yr)**	**MMCF**
	2,500,000	4,500.00	1.13E+10	11,029,412	**11.03**

Pollutant	**TSP[1]**	**PM_{10}[1]**	**$PM_{2.5}$[1]**		**SO_x[1]**	**NO_x[2]**	**VOC[1]**	**CO[2]**
Emission Factor (lbs/MMCF)	1.9	1.9	1.9		0.6	120	5.5	73
Uncontrolled Emissions (tons)	0.01	0.01	0.01		0.00	0.66	0.03	0.40
Annealing Furnace Fugitive Emissions								
Melt Shop Bag House								
Capture Efficiency=	100.00%	100.00%	100.00%		100.00%	100.00%	100.00%	100.00%
Control Efficiency =	50.00%	50.00%	50.00%		0.00%	0.00%	0.00%	0.00%
Captured (tons)	0.0105	0.0105	0.0105		0.0033	0.6618	0.0303	0.4026
Controlled (tons)	0.0052	0.0052	0.0052		0.0000	0.0000	0.0000	0.0000
Plant Building Emissions =	**0.0052**	**0.0052**	**0.0052**		**0.0033**	**0.6618**	**0.0303**	**0.4026**
Total Emissions =	**0.0052**	**0.0052**	**0.0052**		**0.0033**	**0.6618**	**0.0303**	**0.4026**

Notes:

[1] Emission factor from FIRE SCC10200603

[2] Emission factor is based on infonnation provided by burner manufacturer

NOx = 0.12 lb/MMBTU

CO = 0.073 lb/MMBTU

ALLEGHENY COUNTY HEALTH DEPARTMENT

Air Quality Program

Summary Report of Pollutants for Stationary Point Sources in Allegheny County
Actual Emissions for 2008 Calendar Year

NAME OF OWNER Universal Stainless & Alloy Products — **FACILITY NAME:** Bridgeville Plant — **AFS:** 0003

PT #	SGT #	EMISSION SOURCE	ANNUAL THROUGHPUT	UNITS	SCC	TONS PER YEAR													
						EF	SOx	EF	NOx	EF	CO	EF	VOC	EF	% Coll.	PM-2.5	EF	% Coll	PM-10
001		ELECTRIC ARC FURNACE																	
	1	EAF G - CAPTURED EMISSIONS	57,503	TONS	30400701	0.069	1.9925	0.198	5.6928	0.00		0.3466	9.9624	8.07	99%	2.3201	11.6	99%	3.3304
	2	EAF G - FUGITIVE EMISSIONS	57,503	TONS	30400701	0.0007	0.0201	0.002	0.0575	0.0000		0.0035	0.1006	0.082	50%	1.1718	0.117	50%	1.6820
	3	EAF TAP/CHARGING - CAPT. EMIS	57,503	TONS	30300906									0.90	99%	0.2596	1.30	99%	0.3726
	4	EAF TAP/CHARGING - FUGIT. EMIS	57,503	TONS	30300906									0.226	50%	3.2440	0.324	50%	4.6577
002		ARGON-OXYGEN DECARBONIZATION (AOD)																	
	1	Captured	66,434	TONS	30300928	0.182	6.0455	0.033	1.0962	2.250	74.7383	0.356	11.8253	9.93	99%	3.2990	14.26	99%	4.7354
	2	Fugitives	66,434	TONS	30300928	0.0018	0.0611	0.0003	0.0111	0.023	0.7549	0.0036	0.1194	0.100	50%	1.6662	0.144	50%	2.3916
003		LADLE REHEAT	31.80	MMCF	30490003	0.6	0.0095	100	1.5900	84	1.3356	5.5	0.0875	1.9	50%	0.0151	1.9	50%	0.0151
004		VESSEL REHEAT	14.30	MMCF	30490003	0.6	0.0043	100	0.7150	84	0.6006	5.5	0.0393	1.9	50%	0.0068	1.9	50%	0.0068
005		TEEMING																	
	1	Captured	59,702	TONS	30300906							0.002	0.0597	0.043	99%	0.0130	0.062	99%	0.0186
	2	Fugitives	59,702	TONS	30300906									0.0004	50%	0.0066	0.00063	50%	0.0094
006		ESR FURNACE - NATURAL GAS	1.40	MMCF	30390003	0.6	0.0004	100	0.0700	84	0.0588	5.5	0.0039	1.9	50%	0.0007	1.9	50%	0.0007
007		ELECTRO-SLAG REMELT PROCESS																	
	1	Captured	9,104	TONS	30300921							0.002	0.0091	2.41	99.34%	0.0723	2.41	99.34%	0.0723
	2	Fugitives	9,104	TONS	30300921									0.0243		0.1106	0.0243		0.1106
009		SPACE HEATERS	9.98	MMCF	10500106	0.6	0.0030	100	0.4990	84	0.4192	5.5	0.0274	1.9	50%	0.0047	1.9	50%	0.0047
010		BLOOMING MILL (HOT ROLLING)	51,213	TONS	30300904							0.025	0.6402						
011		ANNEALING FURNACE	158	MMCF	30300003	0.6	0.0474	50	3.9500	84	6.6380	5.5	0.4345	1.9	50%	0.0751	1.9	50%	0.0751
012		REHEAT FURNACE	388	MMCF	30300003	0.6	0.1164	100	19.4000	84	16.2960	5.5	1.0670	1.9	50%	0.1843	1.9	50%	0.1843
013		GANTRY GRINDER																	
	1	Captured	8,886	TONS	30400711									0.12	99.5%	0.0027	0.204	99.5%	0.0045
	2	Fugitives	8,886	TONS	30400711									0.004		0.0168	0.006		0.0280
014		TYSAMEN GRINDER	536	TONS	30400711									0.04			0.070		
015		MIDWEST GRINDER			30400711														
	1	Captured	55,401	TONS	30400711									0.12	95%	0.1658	0.200	95%	0.2763
	2	Fugitives	55,401	TONS	30400711									0.006		0.1745	0.011		0.2909
016		HOT BAR MILL																	
	1	Abrasive Saw Station	1,676	TONS	30400711									0.052	50.0%	0.0218	0.087	50.0%	0.0364
	2	Hot Bar Mill	1,676	TONS	30400711							0.025	0.0210						
017		COLD ROUND BAR FINISHING																	
	1	Abrasive Saw Captured	116	TONS	30400711									5.55	99%	0.0032	9.245	99%	0.0054
	2	Abrasive Polisher Captured	116	TONS	30400711									0.85		0.0493	1.42		0.0822
	3	Abrasive Saw Fugitives	116	TONS	30400711									0.0560		0.0032	0.093		0.0054
	4	Abrasive Polisher Fugitives	116	TONS	30400711									0.0086		0.0005	0.014		0.0008
018		PLATE WARMING FURNACE	36.59	MMCF	10200603	0.6	0.0110	100	1.8295	84	1.5368	5.5	0.1006	1.9	50.0%	0.0174	1.9	50.0%	0.0174
019		WESTERN GEAR BILLET GRINDERS			30400340														
	1	Captured	5,420	TONS	30400711									0.12	99.0%	0.0033	0.206	99.0%	0.0056
	2	Fugitives	5,420	TONS	30400711									0.0025		0.0068	0.004		0.0114
020		MELT SHOP SLAG PILE																	
	1	Processing - Front End Loader	250	VEHICLE MILES	30300833									0.390	25.0%	0.0366	2.520	25.0%	0.2363
	2	Wind Erosion	120	ACRE-DAYS	30300822									0.390		0.0234	0.920		0.0552
F02		ROAD DUST																	
	1	UNPAVED ROADS	876	VEHICLE MILES	30300833									0.390	79.5%	0.0350	2.520	79.5%	0.2263
	2	PAVED ROADS	4,964	VEHICLE MILES	30300834									0.052		0.1291	0.208		0.5163
024		COOLING TOWERS (2)																	
	1	Melt Shop	769	MMGAL	38500101									3.560		1.3681	3.560		1.3681
	2	Electro-Slag Remelt (ESR)	325	MMGAL	38500101									4.170		0.6776	4.170		0.6776
	3	Vacuum Arc Remelt (VAR)	65.00	MMGAL	38500101									2.100		0.0683	2.100		0.0683
D01	1	GASOLINE STORAGE TANK	-	GAL TRANSFERRED	40600301														
VO1	1	VEHICLE EMISSIONS	72.46	MGAL DIESEL	27000320	137	4.9635	604	21.8829	130	4.7099	49	1.7753	42		1.5217	42		1.5217
		2008 EMISSION TOTALS CALCULATED BY ACHD					13.2747		56.7940		107.0860		26.2731			16.7757			23.1010
		2008 EMISSION TOTALS REPORTED BY FACILITY					13.2558		56.0429		105.8351		26.1907			16.5211			22.6337

ALLEGHENY COUNTY HEALTH DEPARTMENT

IN RE:

Universal Stainless & Alloy Products, Inc. 600 Mayer Street Bridgeville, PA 15017	)	**ORDER AND AGREEMENT NO. 241 UPON CONSENT**

AND NOW, this 19th day of December, 1996,

WHEREAS, the Allegheny County Health Department, (hereafter referred to as "Department"), has determined that Universal Stainless & Alloy Products, Inc. (hereafter referred to as "USAP"), 600 Mayer Street Bridgeville, Allegheny County, PA 15017, is the owner and operator of a specialty steel products plant located at 600 Mayer Street, Pittsburgh, Allegheny County, PA 15017 (hereafter referred to as "the facility"), is a major stationary source of oxides of nitrogen and volatile organic compounds (hereafter referred to as "NO_x" and "VOCs") emissions as defined in Section 2101.20 of Article XXI, Rules and Regulations of the Allegheny County Health Department, Air Pollution Control (hereafter referred to as "Article XXI"); and

WHEREAS, the Department has determined that Section 2105.06.a. of Article XXI, entitled "Major Sources of NO_x & VOCs" is applicable to USAP's operations at this facility; and

WHEREAS, USAP promptly submitted to the Department all documents required by Section 2105.06.b of Article XXI (hereafter

referred to as "the proposal"); and

WHEREAS, the Department, after a review of the submitted proposal, has determined it to be complete; and

WHEREAS, the Department has further determined, after review of the submitted proposal, that it constitutes Reasonably Available Control Technology (hereafter referred to as "RACT") for control of NO_x and VOC emissions from USAP; and

WHEREAS, the Department shall submit the contents of the proposal to the U.S. EPA as a revision to the Commonwealth of Pennsylvania's State Implementation Plan (hereafter referred to as "SIP"); and

WHEREAS, at this time the only available vehicle for submission of the proposal to the U.S. EPA as a revision to the SIP is a Order and Agreement Upon Consent; and

WHEREAS, the Department and USAP desire to memorialize the details of the submitted proposal by entry of an Order and Agreement Upon Consent; and

WHEREAS, pursuant to Section 2109.03 of Article XXI, the Director of the Allegheny County Health Department or his designated representative may issue such orders as are necessary to

aid in the enforcement of the provisions of Article XXI, notwithstanding the absence of any violation of any provision of Article XXI and of any condition causing, contributing to, or creating danger of air pollution;

NOW, THEREFORE, this day first written above, the Department, pursuant to Section 2109.03 of Article XXI, and upon agreement of the parties as hereinafter set forth, hereby issues this Order and Agreement upon Consent:

I. ORDER

1.1. At no time shall the USAP allow the following equipment at the facility to operate unless each piece of listed equipment is being maintained and operated in accordance with good engineering practice and within the manufacturer's specifications, if applicable:

a.) The electric arc furnace

b.) The argon-oxygen decarburization vessel

c.) The ladle reheat furnace

d.) The vessel reheat furnace

e.) The ingot reheat furnace

f.) The teeming process

g.) The hot rolling process

h.) Annealing furnaces no. 3 through 11

i.) Reheat furnaces no. 3 through 20

j.) Space heaters

1.2. USAP shall at all times maintain all appropriate records to demonstrate compliance with the requirements of both Section 2105.06 Article XXI and this Order. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of both Section 2105.06 of Article XXI and this Order are being met. Data and information required to determine compliance shall be recorded and maintained by USAP and shall include, but not be limited to, the following:

A.) Production and operating records for the electric arc furnace, the AOD vessel, the teeming process and the hot rolling process.

1.3. USAP shall at all times maintain records of fuel type and fuel usage for the facility including

certifications from fuel suppliers for all types of liquid fuel. For each shipment of distillate oils number 1 or 2, a certification that the fuel complies with ASTM D396-78 "Standard Specifications for Fuel Oils" is required. For residual oils, minimum record keeping includes a certification from the fuel supplier of the nitrogen content of the fuel, and identification of the sampling method and sampling protocol.

1.4. USAP shall retain all records required by both Section 2105.06 of Article XXI and this Order for the facility for at least two (2) years and shall make the same available to the Department upon request.

II. AGREEMENT

The foregoing Order shall be enforced in accordance with and is subject to the following agreement of the parties, to wit:

2.1. The contents of this Order shall be submitted to the U.S. EPA as a revision to the Commonwealth of Pennsylvania's State Implementation Plan.

2.2. Failure to comply with any portion of this Order or Agreement is a violation of Article XXI that may subject USAP to criminal and civil proceedings, including injunctive relief, by the Department.

2.3. This Order does not, in any way, preclude, limit or otherwise affect any other remedies available to the Department for violations of this Order or of Article XXI, including, but not limited to, actions to require the installation of additional pollution control equipment and the implementation of additional corrective operating practices.

2.4. USAP hereby consents to the foregoing Order and hereby knowingly waives all rights to appeal said Order, and the undersigned represents that he is authorized to consent to the Order and to enter into this Agreement on behalf of USAP.

2.5. USAP acknowledges and understands that the purpose of this Agreement is to establish RACT for the control of emissions of NO_x and VOCs from this facility. USAP further acknowledges and understands the possibility that the U.S. EPA may decide to not accept the Agreement portion of the

NO SIP

Order and Agreement by Consent as a revision to the Allegheny County's portion of the Commonwealth of Pennsylvania's SIP.

IN WITNESS WHEREOF, and intending to be legally bound, the parties hereby consent to all of the terms and conditions of the foregoing Order and Agreement as of the date of the above written.

UNIVERSAL STAINLESS & ALLOY PRODUCTS, INC.

By: Paul A McGrath
(signature)

Print or type Name: Paul A McGrath

Title: Corp. Secretary / General Counsel

Date: December 6, 1996

ALLEGHENY COUNTY HEALTH DEPARTMENT

By: Bruce Dixon 12/19/96

Bruce W. Dixon, M.D., Director
Allegheny County Health Department

and By: Roger C. Westman

Roger C. Westman, Manager
Air Quality

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

Title V Operating Permit
& Federally Enforceable State Operating Permit

Issued To: Universal Stainless & Alloy Products, Inc.

Facility: Universal Stainless & Alloy Products, Inc.
600 Mayer Street
Bridgeville, PA 15017

ACHD Permit #: 0027a

Date of Issuance: November 21, 2017
Amended Date: February 20, 2020
Expiration Date: November 21, 2022

Renewal Date: May 21, 2022

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

Prepared By:
David D. Good
Air Quality Engineer

TABLE OF CONTENTS

AMENDMENTS:

DATE	SECTION
01/27/2020	Condition V.A.2.n – Added RACT II citation.
01/27/2020	Condition V.A.4.b – Added RACT II citation.
01/27/2020	Condition V.A.4.e – Added RACT II citation.
01/27/2020	Condition V.A.6.a – Added RACT II citation.
01/27/2020	Condition V.B.1.a – Added RACT II citation.
01/27/2020	Condition V.B.4.a – Added RACT II citation.
01/27/2020	Condition V.B.4.c – Added RACT II citation.
01/27/2020	Condition V.B.6.a – Added RACT II citation.

I. CONTACT INFORMATION

Facility Location:	**Universal Stainless & Alloy Products, Inc.** 600 Mayer Street Bridgeville, PA 15017
Permittee/Owner:	**Universal Stainless & Alloy Products, Inc.** 600 Mayer Street Bridgeville, PA 15017
Responsible Official:	**Michael Alderson**
Title:	Director of EH&S
Company:	Universal Stainless & Alloy Products, Inc.
Address:	2058 South Bailey Road North Jackson, Ohio
Telephone Number:	330-599-7044
Fax Number:	330-538-9792
Facility Contact:	**Steven Schaum**
Title:	EHS Specialist
Telephone Number:	412-257-7015
E-Mail Address:	s.schaum@univstainless.com

AGENCY ADDRESSES:

ACHD Engineer:	**David Good**
Title:	Air Quality Engineer
Telephone Number:	412-578-8366
Fax Number:	412-578-8144
E-mail Address:	David.Good@AlleghenyCounty.US
ACHD Contact:	**Chief Engineer** **Allegheny County Health Department** Air Quality Program 301 39th Street, Building #7 Pittsburgh, PA 15201-1891
EPA Contact:	**Enforcement Programs Section (3AP12)** **USEPA Region III** 1650 Arch Street Philadelphia, PA 19103-2029

II. FACILITY DESCRIPTION

[This section is provided for informational purposes only and is not intended to be an applicable requirement.]

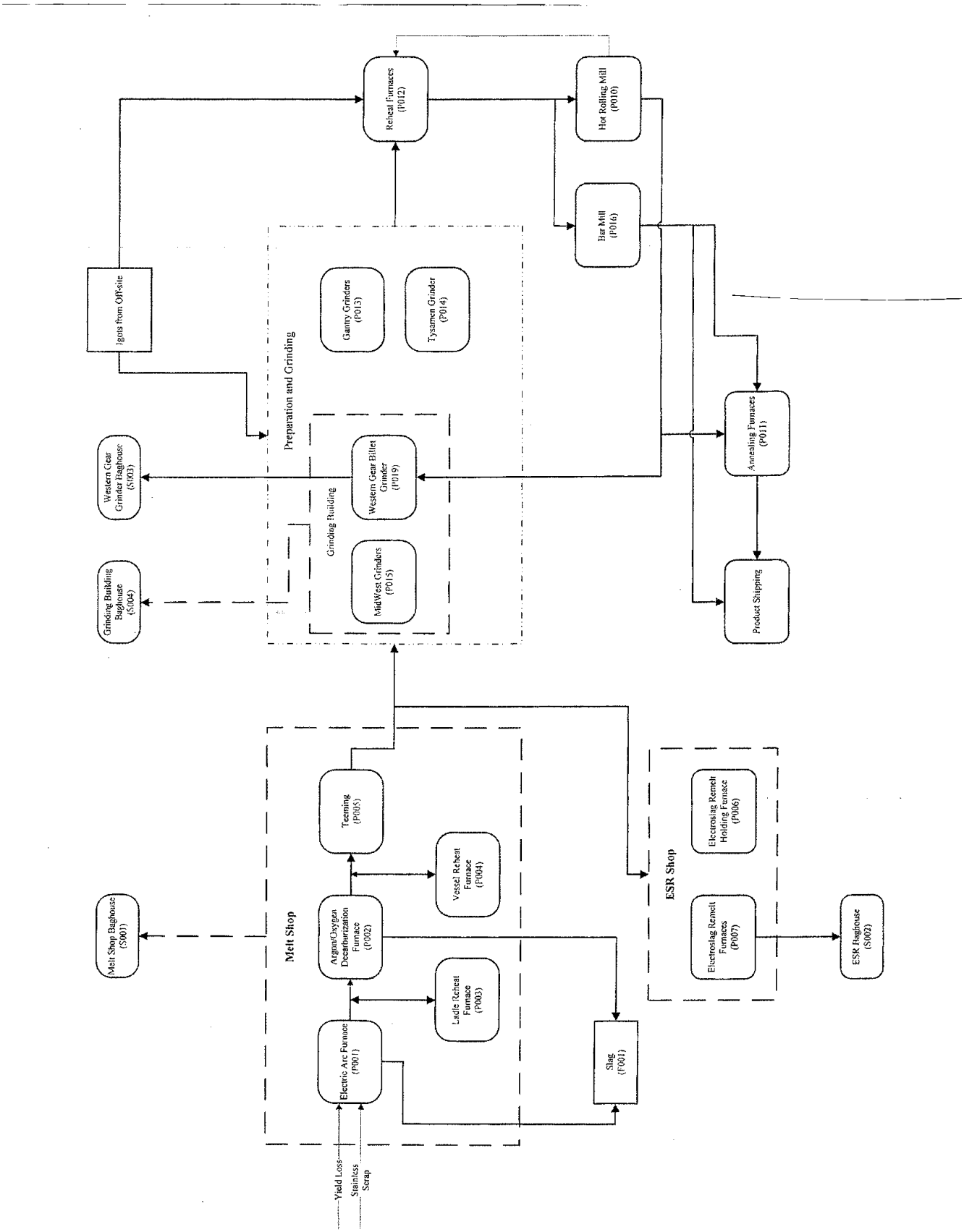
The Universal Stainless & Alloy Products, Inc. plant is a specialty steel manufacturing plant that produces high-speed steels, tool and die steels, and high temperature metals. The facility, which is located in Bridgeville, Allegheny County, Pennsylvania, is composed of one electric arc furnace, one argon-oxygen decarburization vessel, three electro-slag reduction furnaces, one hot rolling mill, and associated reheat and annealing furnaces. The facility is a major source of carbon monoxide (CO) and nitrogen oxides (NOx) and is a minor source of particulate matter < 10 microns (PM10), particulate matter < 2.5 microns (PM2.5), sulfur oxides (SO_X), volatile organic compounds (VOCs), and hazardous air pollutants (HAPs), as defined in Section 2101.20 of Article XXI.

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.
P001	Electric Arc Furnace	Baghouse	56 Tons/Heat & 23.14 TPH	Scrap Steel/Alloys	S001
P002	Argon-Oxygen Decarburization Vessel	Baghouse	60 Tons/Heat & 25.1 TPH	Molten Steel	S001
P003	Teeming Ladle Heaters	N/A	17.8 MMBtu/hr	Natural Gas	N/A
P005	Teeming	Baghouse	60 TPH	Molten Steel	S001
P006	Electro-Slag Remelt Holding Furnace	N/A	4.0 MMBtu/hr	Natural Gas	N/A
P007	Electro-Slag Remelt (4 Furnaces, A-left, A-right, B & C)	Baghouse	7 TPH (total for all ESRs)	N/A (electric)	S002
P010	Hot Rolling/Blooming Mill	N/A	34.31 TPH	Specialty Steel	N/A
P011	Annealing Furnaces	Low NO_x Burners	24 units (178.8 MMBtu/hr total rated capacity)	Natural Gas	N/A
P012	Reheat Furnaces	Low NO_x Burners	19 units (177.8 MMBtu/hr total rated capacity)	Natural Gas	N/A
P013	2 Gantry Grinders	Integral Dust Collector	8 TPH	Specialty Steel	N/A
P015	4 Midwest Grinders plus one spare	Baghouse	10 TPH	Specialty Steel	S004

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
	5-Circulating Water Cooling Towers	Mist Eliminators	Melt Shop - 2,800 gpm; 3-ESR towers - 834 gpm, each; VAR tower – 500 gpm	Cooling water	N/A
P018	Plate Warming Furnace	N/A	7.0 MMBtu/hr	Natural Gas	N/A
P019	Western Gear Billet Grinder	Baghouse	6.8 TPH	Specialty Steel	S003
P023	AOD Relining Heater	N/A	8.9 MMBtu/hr	Natural Gas	N/A
P024	Transfer Ladle Heater	N/A	8.9 MMBtu/hr	Natural Gas	N/A
B001	Miscellaneous Space Heating Units	N/A	112 units (13.53 MMBtu/hr total rated capacity)	Natural Gas	N/A
F001	Dry Bulk Materials Storage and Handling	Wet Suppression	35,000 TPY	Steel Slag	N/A
F002	Plant Roads	Wet Suppression; Chemical Treatment; Paved Road Sweeping	1.0 mi. Paved Roads; 0.8 mi. Unpaved Roads; 70,000 sq. ft. Parking Lots	N/A	N/A


Reheat Furnaces (P012)
Hot Rolling Mill (P010)
Bar Mill (P016)
Ingots from Off-Site
Preparation and Grinding
Gantry Grinders (P013)
Tysaman Grinder (P014)
Grinding Building
Western Gear Billet Grinder (P019)
MidWest Grinders (P015)
Western Gear Grinder Baghouse (S003)
Grinding Building Baghouse (S004)
Annealing Furnaces (P011)
Product Shipping
Melt Shop
Teeming (P005)
Vessel Reheat Furnace (P004)
Argon/Oxygen Decarburization Furnace (P002)
Ladle Reheat Furnace (P003)
Electric Arc Furnace (P001)
Slag (F001)
Melt Shop Baghouse (S001)
ESR Shop
Electroslag Remelt Holding Furnace (P006)
Electroslag Remelt Furnaces (P007)
ESR Baghouse (S002)
Yield Loss
Stainless Scrap

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 - 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.

c. "RACT Order No. 241" shall be defined as Plan Approval Order and Agreement No. 241 Upon Consent, dated December 20, 1996.

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 transferrable 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 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, §2103.22.i.1)

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 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 compliance 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 certifications of compliance must be submitted to the Administrator as well as the Department by March 2 of each year for the time period beginning January 1 and ending December 31 of the previous year. Compliance certifications may be emailed to the Administrator at

R3_APD_Permits@epa.gov in lieu of mailing a hard copy.

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 4 above.

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

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

e. Reports may be submitted electronically to AQReports@AlleghenyCounty.us. Certification by the responsible official in accordance with General Condition 4 above shall be provided separately via hard copy.

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, §2103.24.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 thereunder.

19. Revisions and Minor Permit Modification Procedures (§2103.14.c, §2103.24.a)

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, §2103.22.g)

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.b., §2103.23.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.

23. Reopenings for Cause (§2103.15, §2103.25.a, §2103.12.f.3)

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 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. 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.

30. 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.

31. 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.

32. 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.

33. 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 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.

34. 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.

35. 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.

36. 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.

37. Duty to Supplement and Correct Relevant Facts (§2103.12.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.

38. Effect (§2102.03.g.)

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.

39. 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.

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 insure 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. Orders (§2108.01.f)

In addition to meeting the requirements of General Condition III.28 and Site Level Conditions IV.7 through IV.10 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.

12. 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.11 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.

13. Emissions Testing (§2108.02)

a. On or before December 31, 1981, and at two-year intervals thereafter, any person who operates, or allows to be operated, any piece of equipment or process which has an allowable emission rate, of 100 or more tons per year of particulate matter, sulfur oxides or volatile organic compounds shall conduct, or cause to be conducted, for such equipment or process such emissions tests as are necessary to demonstrate compliance with the applicable emission limitation(s) of this permit and shall submit the results of such tests to the Department in writing. Emissions testing conducted pursuant to this section shall comply with all applicable requirements of Article XXI §2108.02.e.

b. **Orders.** In addition to meeting the requirements of Site Level Condition IV.13.a above, 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.

c. **Tests by the Department.** Notwithstanding any tests conducted pursuant to Site Level Conditions IV.13.a and IV.13.b above, 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.

d. **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.

e. 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.

f. **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.

14. 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.

15. 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.

16. 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;
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.

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. 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.

19. 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.

20. 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.

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. Electric Arc Furnace

Process Description: Electric Arc Furnace (EAF)
Facility ID: P001
Max. Design Rate: 23.14 tons steel/hr
Capacity: 56 tons/heat
Fuel/Raw Material: Steel Scrap, Limestone, Alloying Elements
Control Device(s): Melt Shop Baghouse
Stack I.D.: S001

1. Restrictions:

a. The permittee shall not cause to be discharged into the atmosphere from the EAF any gases which (§60.272a(a), §63.10686(b)(1), §63.10686(b)(2)):

1) Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf);
2) Exit from a control device and exhibit 3 percent opacity or greater; and
3) Exit from a shop and, due solely to the operations of the EAF(s), exhibit 6 percent opacity or greater.

b. The permittee shall not cause to be discharged into the atmosphere from the dust-handling system any gases that exhibit 10 percent opacity or greater. (§60.272a(b)):

c. The permittee shall at no time conduct Melt Shop process operations unless the Melt Shop pollution control equipment is properly maintained and operated according to the following conditions: (§2103.12.a.2.B and Operating Permit Nos. 7037009-000-16400 and 7037009-000-16401)

1) The fugitive emissions capture equipment shall consist of a canopy hood system ducted to the Melt Shop Baghouse, and closed-roof scavenger points ducted to the Melt Shop Baghouse.
2) The EAF shall be equipped with a canopy hood for collection of process emissions, and such hood shall be properly maintained and operated at all times with all captured emissions ducted to the Melt Shop Baghouse.
3) The particulate control efficiency of the baghouse shall be a minimum of 98.3 percent at all times while the subject process equipment is producing particulate emissions.
4) The differential pressure drop across each baghouse compartment shall be between 3" and 12" w.c., inclusive, or as established during the most recent test required by condition V.A.2.a below, measured to the nearest ½" w.c.

d. The production of steel at the EAF shall not exceed 175,200 tons of steel in any consecutive twelve-month period. The production in any one heat shall not exceed 56 tons. (Permit No. 7037009-000-16400, issued August 1, 1978, §2103.12.a.2.B)

e. Emissions from the Melt Shop Baghouse shall not exceed the emissions limitations in Table V-A-1 below. The Melt Shop emission limitations include emissions from the Electric Arc Furnace, AOD, and Teeming. (§2103.12.a.2.B)

TABLE V-A-1 – Melt Shop Emission Limitations (Baghouse)

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	10.98	39.64
PM-10	7.82	28.07
PM-2.5	0.78	2.80
Sulfur Oxides	2.99	11.01
Nitrogen Oxides	7.56	27.75
Carbon Monoxide	88.03	312.21
Volatile Organic Compounds	8.04	30.53
Chromium	0.086	0.326
Nickel	0.050	0.190
Lead	0.016	0.062
Manganese	0.113	0.428

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

f. (a) *Chlorinated plastics, lead, and free organic liquids.* For metallic scrap utilized in the EAF at the facility, the permittee shall comply with the requirements in either Condition V.A.1.f.1) or V.A.1.f.2) below. The permittee may have certain scrap at the facility subject to Condition V.A.1.f.1) and other scrap subject to Condition V.A.1.f.2) below provided the scrap remains segregated until charge make-up. (§ 63.10685(a))

1) *Pollution prevention plan* . For the production of steel other than leaded steel, the permittee shall prepare and implement a pollution prevention plan for metallic scrap selection and inspection to minimize the amount of chlorinated plastics, lead, and free organic liquids that is charged to the furnace. For the production of leaded steel, the permittee shall prepare and implement a pollution prevention plan for scrap selection and inspection to minimize the amount of chlorinated plastics and free organic liquids in the scrap that is charged to the furnace. The permittee shall submit the scrap pollution prevention plan to the permitting authority for approval. The permittee shall operate according to the plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. The permittee may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. The permittee shall keep a copy of the plan onsite, and the permittee shall provide training on the plan's requirements to all plant personnel with materials acquisition or inspection duties. Each plan shall include the information in Condition V.A.1.f.1)a) through V.A.1.f.1)c) below: (§ 63.10685(a)(1))
   a) Specifications that scrap materials shall be depleted (to the extent practicable) of undrained used oil filters, chlorinated plastics, and free organic liquids at the time of charging to the furnace. (§ 63.10685(a)(1)(i))
   b) A requirement in the permittee's scrap specifications for removal (to the extent practicable) of lead-containing components (such as batteries, battery cables, and wheel weights) from the scrap, except for scrap used to produce leaded steel. (§ 63.10685(a)(1)(ii))
   c) Procedures for determining if the requirements and specifications in Condition V.A.1.f.1) above are met (such as visual inspection or periodic audits of scrap providers) and procedures for taking corrective actions with vendors whose shipments are not within

specifications. (§ 63.10685(a)(1)(iii))

d) The requirements of Condition V.A.1.f.1) above do not apply to the routine recycling of baghouse bags or other internal process or maintenance materials in the furnace. These exempted materials shall be identified in the pollution prevention plan. (§ 63.10685(a)(1)(iv))

2) *Restricted metallic scrap* . For the production of steel other than leaded steel, the permittee shall not charge to a furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, lead-containing components, chlorinated plastics, or free organic liquids. For the production of leaded steel, the permittee shall not charge to the furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, chlorinated plastics, or free organic liquids. This restriction does not apply to any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed or cleaned to the extent practicable such that the materials do not include lead components, chlorinated plastics, or free organic liquids. This restriction does not apply to motor vehicle scrap that is charged to recover the chromium or nickel content if the permittee meets the requirements in Condition V.A.1.g.3) below. (§ 63.10685(a)(2))

g. *Mercury requirements* . For scrap containing motor vehicle scrap, the permittee shall procure the scrap pursuant to one of the compliance options in Condition V.A.1.g.1), V.A.1.g.2), or V.A.1.g.3) below for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, the permittee shall procure the scrap pursuant to the requirements in Condition V.A.1.g.4) below for each scrap provider, contract, or shipment. The permittee may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision. (§ 63.10685(b))

1) *Site-specific plan for mercury switches* . The permittee shall comply with the requirements in Conditions V.A.1.g.1)a) through V.A.1.g.1)e) below. (§ 63.10685(b)(1))

a) The permittee shall include a requirement in the permittee's scrap specifications for removal of mercury switches from vehicle bodies used to make the scrap. (§ 63.10685(b)(1)(i))

b) The permittee shall prepare and operate according to a plan demonstrating how the permittee's facility will implement the scrap specification in Condition V.A.1.g.1)a) above for removal of mercury switches. The permittee shall submit the plan to the permitting authority for approval. The permittee shall operate according to this plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. The permittee may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. The permitting authority may change the approval status of the plan upon 90-days written notice based upon the semiannual compliance report or other information. The plan shall include: (§ 63.10685(b)(1)(ii))

i) A means of communicating to scrap purchasers and scrap providers the need to obtain or provide motor vehicle scrap from which mercury switches have been removed and the need to ensure the proper management of the mercury switches removed from that scrap as required under the rules implementing subtitle C of the Resource Conservation and Recovery Act (RCRA) (40 CFR parts 261 through 265 and 268). The plan shall include documentation of direction to appropriate staff to communicate to suppliers

throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the permitting authority, the permittee shall provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols; (§ 63.10685(b)(1)(ii)(A))

ii) Provisions for obtaining assurance from scrap providers that motor vehicle scrap provided to the facility meet the scrap specification; (§ 63.10685(b)(1)(ii)(B))

iii) Provisions for periodic inspections or other means of corroboration to ensure that scrap providers and dismantlers are implementing appropriate steps to minimize the presence of mercury switches in motor vehicle scrap and that the mercury switches removed are being properly managed, including the minimum frequency such means of corroboration will be implemented; and (§ 63.10685(b)(1)(ii)(C))

iv) Provisions for taking corrective actions (i.e., actions resulting in scrap providers removing a higher percentage of mercury switches or other mercury-containing components) if needed, based on the results of procedures implemented in Condition V.A.1.g.1)b)iii) above. (§ 63.10685(b)(1)(ii)(D))

c) The permittee shall require each motor vehicle scrap provider to provide an estimate of the number of mercury switches removed from motor vehicle scrap sent to the permittee's facility during the previous year and the basis for the estimate. The permitting authority may request documentation or additional information at any time. (§ 63.10685(b)(1)(iii))

d) The permittee shall establish a goal for each scrap provider to remove at least 80 percent of the mercury switches. Although a site-specific plan approved under Condition V.A.1.g.1) above may require only the removal of convenience light switch mechanisms, the permitting authority will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal. (§ 63.10685(b)(1)(iv))

e) For each scrap provider, the permittee shall submit semiannual progress reports to the permitting authority that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in Condition V.A.1.g.1)b)i) above. This information can be submitted in aggregated form and does not have to be submitted for each scrap provider, contract, or shipment. The permitting authority may change the approval status of a site-specific plan following 90-days notice based on the progress reports or other information. (§ 63.10685(b)(1)(v))

2) *Option for approved mercury programs.* The permittee shall certify in the permittee's notification of compliance status that the permittee participates in and purchases motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator or the Department based on the criteria in Conditions V.A.1.g.2)a) through V.A.1.g.2)c) below. If the permittee purchases motor vehicle scrap from a broker, the permittee shall certify that all scrap received from that broker was obtained from other scrap providers who participate in a program for the removal of mercury switches that has been approved by the Administrator or the Department based on the criteria in Conditions V.A.1.g.2)a) through V.A.1.g.2)c) below. The National Vehicle Mercury Switch Recovery Program and the Vehicle Switch Recovery Program mandated by Maine State law are EPA-approved programs under Condition V.A.1.g.2) unless and until the Administrator or the Department disapproves the program (in part or in whole) under Condition V.A.1.g.2)c) below. (§ 63.10685(b)(2))

a) The program includes outreach that informs the dismantlers of the need for removal of mercury switches and provides training and guidance for removing mercury switches; (§ 63.10685(b)(2)(i))
b) The program has a goal to remove at least 80 percent of mercury switches from the motor vehicle scrap the scrap provider processes. Although a program approved under Condition V.A.1.g.2) above may require only the removal of convenience light switch mechanisms, the Administrator or the Department will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal; and (§ 63.10685(b)(2)(ii))
c) The program sponsor agrees to submit progress reports to the Administrator or the Department no less frequently than once every year that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and certification that the recovered mercury switches were recycled at facilities with permits as required under the rules implementing subtitle C of RCRA (40 CFR parts 261 through 265 and 268). The progress reports shall be based on a database that includes data for each program participant; however, data may be aggregated at the State level for progress reports that will be publicly available. The Administrator or the Department may change the approval status of a program or portion of a program (e.g., at the State level) following 90-days notice based on the progress reports or on other information. (§ 63.10685(b)(2)(iii))
d) The permittee shall develop and maintain onsite a plan demonstrating the manner through which the permittee's facility is participating in the EPA-approved program. (§ 63.10685(b)(2)(iv))
    i) The plan shall include facility-specific implementation elements, corporate-wide policies, and/or efforts coordinated by a trade association as appropriate for each facility. (§ 63.10685(b)(2)(iv)(A))
    ii) The permittee shall provide in the plan documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the permitting authority, the permittee shall provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols. (§ 63.10685(b)(2)(iv)(B))
    iii) The permittee shall conduct periodic inspections or provide other means of corroboration to ensure that scrap providers are aware of the need for and are implementing appropriate steps to minimize the presence of mercury in scrap from end-of-life vehicles. (§ 63.10685(b)(2)(iv)(C))

3) *Option for specialty metal scrap.* The permittee shall certify in the permittee's notification of compliance status that the only materials from motor vehicles in the scrap are materials recovered for their specialty alloy (including, but not limited to, chromium, nickel, molybdenum, or other alloys) content (such as certain exhaust systems) and, based on the nature of the scrap and purchase specifications, that the type of scrap is not reasonably expected to contain mercury switches. (§ 63.10685(b)(3))
4) *Scrap that does not contain motor vehicle scrap.* For scrap not subject to the requirements in Condition V.A.1.g.1) through V.A.1.g.3) above, the permittee shall certify in the permittee's notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap. (§ 63.10685(b)(4))

2. Testing Requirements:

a. The permittee shall perform emission tests for exhaust gas PM/PM-10 concentrations (gr/dscf) and equivalent mass emission rates (lb/hr), and CO and VOC emission rates (lb/hr) at the Melt Shop Baghouse to demonstrate compliance with condition V.A.1.e above. During the test the damper positions, the differential pressure drop across each compartment and the amperage for each fan motor shall be monitored and recorded on a continuous basis. In addition, the time of each charge, melt and tap shall be recorded and reported during the test. (§2103.12.a.2.B)

b. The permittee shall perform the emission testing required in V.A.2.a above in accordance with Methods Nos. 1 through 5, 9, 10, and 25A or 25B of Appendix A of 40 CFR Part 60, or other methods approved by the Department, and in accordance with Site Level Condition IV.13 above and §2108.02. (§2103.12.a.2.B, § 63.10686(d)(1))

c. During any performance test required under §60.8, and this permit and for any report thereof required by V.A.5.e below, or to determine compliance V.A.1.a.3) above, the permittee shall monitor the following information for all heats covered by the test: (§60.274a(h))

1) Charge weights and materials, and tap weights and materials
2) Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF when direct-shell evacuation control systems are used;
3) Control device operation log; and
4) Continuous opacity monitor or Method 9 data.

d. During performance tests, the permittee shall not add gaseous diluents to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions. (§60.275a (a))

e. When emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of 40 CFR Part 60 Subpart AAa but controlled by a common capture system and control device, the permittee shall use either or both of the following procedures during a performance test (see also § 60.276a(e)): (§60.275a (b))

1) Determine compliance using the combined emissions.
2) Use a method that is acceptable to the Department and the Administrator and that compensates for the emissions from the facilities not subject to 40 CFR Part 60 Subpart AAa.

f. When emission from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60 Subpart AAa, the permittee shall demonstrate compliance with V.A.1.a.3) above based on emissions from only the EAF. (§60.275a (c))

g. In conducting the performance tests, the permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60 Appendix A or other methods and procedures as specified in §60.275a, except as provided in § 60.8(b). (§60.275a (d))

h. The permittee shall determine compliance with the particulate matter and opacity standards in V.A.1.a and V.A.1.b above as follows: (§60.275a (e))

1) Method 5 shall be used for negative-pressure fabric filters to determine the particulate matter

concentration and volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.50 dscm (160 dscf) and, when a single EAF or AOD vessel is sampled, the sampling time shall include an integral number of heats.

2) Method 9 and the procedures of §60.11 shall be used to determine opacity.
3) To demonstrate compliance with V.A.1.a.1), V.A.1.a.2), and V.A.1.a.3) above, the Method 9 test runs shall be conducted concurrently with the particulate matter test runs, unless inclement weather interferes.

i. To comply with V.A.3.j. and V.A.2.c.1) through V.A.2.c.4) above, the permittee shall obtain the information required in these conditions during the particulate matter runs. (§60.275a (f))

j. Any control device subject to the provisions of 40 CFR Part 60 Subpart AAa shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures. (§60.275a (g))

k. Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60 Subpart AAa but controlled by a common capture system and control device, the permittee may use any of the following procedures during a performance test: (§60.275a (h))

1) Base compliance on control of the combined emissions;
2) Utilize a method acceptable to the Department and the Administrator that compensates for the emissions from the facilities not subject to to 40 CFR Part 60 Subpart AAa, or;
3) Any combination of the criteria of V.A.2.k.1) and V.A.2.k.2) above.

l. Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60 Subpart AAa, determinations of compliance with V.A.1.a.3) above will only be based upon emissions originating from the EAF. (§60.275a (i))

m. Unless the presence of inclement weather makes concurrent testing infeasible, the permittee shall conduct concurrently the performance tests required under § 60.8 and this permit to demonstrate compliance with V.A.1.a.1), V.A.1.a.2), and V.A.1.a.3) above. (§60.275a (j))

n. The testing required by V.A.2.a above shall be repeated at least once every five years from the date of the prior valid test. (§2103.12.h.1; 25 PA Code §129.100)

o. 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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.1)

3. Monitoring Requirements:

a. Except as provided under Conditions V.A.3.c and V.A.3.d below, a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the permittee. (§60.273a(a))

b. All continuous monitoring systems required by Condition V.A.3.a above shall be approved by the Department prior to being installed in accordance with the requirements of §2108.03. (§2108.03)

c. No continuous monitoring system shall be required on any control device serving the dust-

handling system. (§60.273a (b))

d. A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) is not required on any modular, multi-stack, negative-pressure or positive-pressure fabric filter if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer; or on any single-stack fabric filter if visible emissions from the control device are performed by a certified visible emission observer and the permittee installs and continuously operates a bag leak detection system according to paragraph (e) of this section. Visible emission observations shall be conducted at least once per day for at least three 6-minute periods when the furnace is operating in the melting and refining period. All visible emissions observations shall be conducted in accordance with Method 9. If visible emissions occur from more than one point, the opacity shall be recorded for any points where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In that case, the Method 9 observations shall be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in V.A.1.a above. (§60.273a (c))

e. A furnace static pressure monitoring device is not required on any EAF equipped with a DEC system if observations of shop opacity are performed by a certified visible emission observer as follows: Shop opacity observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period. Shop opacity shall be determined as the arithmetic average of 24 consecutive 15-second opacity observations of emissions from the shop taken in accordance with Method 9. Shop opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity observations shall be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. (§60.273a (d))

f. A bag leak detection system shall be installed and continuously operated on all single-stack fabric filters if the permittee elects not to install and operate a continuous opacity monitoring system as provided for under Condition V.A.3.c above. In addition, the permittee shall meet the visible emissions observation requirements in Condition V.A.3.c above. The bag leak detection system shall meet the specifications and requirements of Conditions V.A.3.f.1) throughV.A.3.f.8) below: (§60.273a (e))

1) The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less. (§60.273a (e)(1))
2) The bag leak detection system sensor shall provide output of relative particulate matter loadings and the permittee shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.,* using a strip chart recorder or a data logger.) (§60.273a (e)(2))
3) The bag leak detection system shall be equipped with an alarm system that will sound when an increase in relative particulate loading is detected over the alarm set point established according to Condition V.A.3.f.4) below, and the alarm shall be located such that it can be heard by the appropriate plant personnel. (§60.273a (e)(3))
4) For each bag leak detection system required by Condition V.A.3.f above, the permittee shall develop and submit to the Administrator or the Department or delegated authority, for approval, a site-specific monitoring plan that addresses the items identified in Conditions

V.A.3.f.4)a) through V.A.3.f.4)e) below. For each bag leak detection system that operates based on the triboelectric effect, the monitoring plan shall be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA–454/R–98–015). The permittee shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan shall describe the following: (§60.273a (e)(4))

a) Installation of the bag leak detection system;
b) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established;
c) Operation of the bag leak detection system including quality assurance procedures;
d) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list; and
e) How the bag leak detection system output shall be recorded and stored.

5) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time (if applicable). (§60.273a (e)(5))
6) Following initial adjustment, the permittee shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or the Department or delegated authority except as provided for in Conditions V.A.3.f.6)a) and V.A.3.f.6)b) below. (§60.273a (e)(6))
   a) Once per quarter, the permittee may adjust the sensitivity of the bag leak detection system to account for seasonal effects including temperature and humidity according to the procedures identified in the site-specific monitoring plan required under Condition V.A.3.f.4) above.
   b) If opacities greater than zero percent are observed over four consecutive 15-second observations during the daily opacity observations required under Condition V.A.3.c above and the alarm on the bag leak detection system does not sound, the permittee shall lower the alarm set point on the bag leak detection system to a point where the alarm would have sounded during the period when the opacity observations were made.
7) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detection sensor shall be installed downstream of the baghouse and upstream of any wet scrubber. (§60.273a (e)(7))
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. (§60.273a (e)(8))

g. For each bag leak detection system installed according to Condition V.A.3.f above, the permittee shall initiate procedures to determine the cause of all alarms within 1 hour of an alarm. Except as provided for under Condition V.A.3.h below, the cause of the alarm shall be alleviated within 3 hours of the time the alarm occurred by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to, the following: (§60.273a (f))

1) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate emissions; (§60.273a (f)(1))
2) Sealing off defective bags or filter media; (§60.273a (f)(2))
3) Replacing defective bags or filter media or otherwise repairing the control device; (§60.273a (f)(3))
4) Sealing off a defective baghouse compartment; (§60.273a (f)(4))
5) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and (§60.273a (f)(5))
6) Shutting down the process producing the particulate emissions. (§60.273a (f)(6))

h. In approving the site-specific monitoring plan required in Condition V.A.3.f.4) above, the Administrator or Department or delegated authority may allow the permittee more than 3 hours to alleviate specific conditions that cause an alarm if the permittee identifies the condition that could lead to an alarm in the monitoring plan, adequately explains why it is not feasible to alleviate the condition within 3 hours of the time the alarm occurred, and demonstrates that the requested additional time will ensure alleviation of the condition as expeditiously as practicable. (§60.273a (g))

i. Except as provided under paragraph V.A.3.l below, the permittee shall either: check and record the control system fan motor amperes on a once per shift basis; install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet on a once-per-shift basis. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of ±10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Department may require the permittee to demonstrate the accuracy of the monitoring device(s) relative to 40 CFR Part 60 Appendix A Methods 1 and 2. (§60.274a(b))

j. When the permittee is required to demonstrate compliance with V.A.1.a.3) above, and at any other time that the Department or the Administrator may require (under section 114 of the Act, as amended), either: the control system fan motor amperes, the volumetric flow rate through each separately ducted hood, or the volumetric flow rate at the control device inlet shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the EAF. The permittee may petition the Department and/or the Administrator for reestablishment of these parameters whenever the permittee can demonstrate to the Department's and the Administrator's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of § 60.276a(c). (§60.274a(c))

k. Except as provided under V.A.3.l below, the permittee shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (*i.e.*, pressure sensors). This inspection shall 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 ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed. (§60.274a(d))

l. The permittee may petition the Department and the Administrator to approve any alternative to either the monitoring requirements specified in V.A.3.i above or the monthly operational status inspections specified in V.A.3.k above if the alternative will provide a continuous record of operation of each emission capture system. (§60.274a(e))

m. Except as provided for under Condition V.A.3.e above, if emissions during any phase of the heat time are controlled by the use of a DEC system, the permittee shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF or DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an

accuracy of ±5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions. (§60.274a(f))

n. Except as provided for under Condition V.A.3.e above, when the permittee of an EAF controlled by a DEC is required to demonstrate compliance with the standard under §60.272a(a)(3), and at any other time the Department may require (under section 114 of the Clean Air Act, as amended), the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device required under Condition V.A.3.g above. The permittee may petition the Administrator or the Department for reestablishment of the pressure whenever the permittee can demonstrate to the Administrator's or the Department's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Administrator or the Department to be unacceptable operation and maintenance of the affected facility. (§60.274a(g))

o. The permittee shall conduct an inspection on the Melt Shop Baghouse once per week to demonstrate compliance with conditions V.A.1.d.1) and V.A.1.d.2) above. (§2103.12.h.1)

p. The permittee shall check and record the fan motor amperes for the emission control system, i.e., Melt Shop Baghouse, on a once-per-shift basis. (§2103.12.h.1)

q. The permittee shall, at all times, have instrumentation to continuously monitor the differential pressure drop across each compartment of the Melt Shop Baghouse during operation of the EAF. Such instrumentation shall measure the pressure drop to within ½" w.c. and be properly operated, calibrated, and maintained according to manufacturer's specifications. (§2103.12.h.1)

4. Record Keeping Requirements:

a. The permittee shall maintain records of the following information (§60.274a(a)):

1) All data obtained under V.A.3.e above, and
2) All monthly operational status inspections performed under V.A.3.g above.

b. The permittee shall maintain records to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to the following (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

1) Number of heats and production for the EAF (daily, monthly, 12-month);
2) Time and duration of each furnace charge and tap (per charge/tap, monthly average, 12-month);
3) Differential pressure drop across each compartment of the Melt Shop Baghouse; and
4) Stack test protocols and reports.

c. The permittee shall maintain a copy of the manufacturer's specifications for the Melt Shop Baghouse and records of control system inspections and performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment that is subject to this permit. (§2103.12.j.1)

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; §60.276a(a); 25 PA Code §129.100)

f. *Recordkeeping and reporting requirements.* In addition to the records required by §63.10, the permittee shall keep records to demonstrate compliance with the requirements for the permittee's pollution prevention plan in Condition V.A.1.g.1) above and/or for the use of only restricted scrap in Condition V.A.1.g.2) above and for mercury in Conditions V.A.1.h.1) through V.A.1.h.3) above as applicable. The permittee shall keep records documenting compliance with Condition V.A.1.h.4) above for scrap that does not contain motor vehicle scrap. (§ 63.10685(c))

1) If the permittee is subject to the requirements for a site-specific plan for mercury under Condition V.A.1.h.1) above, the permittee shall: (§ 63.10685(c)(1))
   a) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and (§ 63.10685(c)(1)(i))
   b) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports shall include a certification that the permittee has conducted inspections or taken other means of corroboration as required under Condition V.A.1.h.1)b)iii) above. The permittee may include this information in the semiannual compliance reports required under Condition V.A.4.f.3) below. (§ 63.10685(c)(1)(ii))
2) If the permittee is subject to the option for approved mercury programs under Condition V.A.1.h.2) above, the permittee shall maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If the permittee purchases motor vehicle scrap from a broker, the permittee shall maintain records identifying each broker and documentation that all scrap provided by the broker was obtained from other scrap providers who participate in an approved mercury switch removal program. (§ 63.10685(c)(2))
3) The permittee shall submit semiannual compliance reports to the Administrator or the Department for the control of contaminants from scrap according to the requirements in §63.10(e). The report shall clearly identify any deviation from the requirements in Conditions V.A.1.g and V.A.1.h above and the corrective action taken. The permittee shall identify which compliance option in Condition V.A.1.h above applies to each scrap provider, contract, or shipment. (§ 63.10685(c)(3))

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) Monthly and 12-month data required to be reported by condition V.A.4.a above; and

2) Non-compliance information required to be recorded by V.A.4.d above.

b. The permittee shall submit a written report of exceedances of the control device opacity to the Department and the Administrator semi-annually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater. (§60.276a(b))

c. Either operation of control system fan motor amperes at values exceeding ±15 percent of the value established under V.A.3.f above or operation at flow rates lower than those established under V.A.3.f above may be considered by the Department or the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Department and the Administrator semiannually. (§60.276a(c))

d. When the permittee is required to demonstrate compliance with the standard under V.A.2.e.2) above or a combination of V.A.2.e.1) and V.A.2.e.2) above, the permittee shall obtain approval from the Department and the Administrator of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used shall be postmarked at least 30 days prior to the performance test. Notification procedures of §2108.02 shall also apply. (§60.276a(e); §2108.02)

e. The permittee shall conduct the demonstration of compliance with V.A.1.a above and furnish the Department and the Administrator a written report of the results of the test. This report shall include the following information: (§60.276a(f))

1) Facility name and address;
2) Plant representative;
3) Make and model of process, control device, and continuous monitoring equipment;
4) Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
5) Rated (design) capacity of process equipment;
6) Those data required under V.A.2.c above;
   a) List of charge and tap weights and materials;
   b) Heat times and process log;
   c) Control device operation log; and
   d) Continuous opacity monitor or Method 9 data.
7) Test dates and test times;
8) Test company;
9) Test company representative;
10) Test observers from outside agency;
11) Description of test methodology used, including any deviation from standard reference methods;
12) Schematic of sampling location;
13) Number of sampling points;
14) Description of sampling equipment;
15) Listing of sampling equipment calibrations and procedures;
16) Field and laboratory data sheets;
17) Description of sample recovery procedures;
18) Sampling equipment leak check results;
19) Description of quality assurance procedures;
20) Description of analytical procedures;

21) Notation of sample blank corrections; and
22) Sample emission calculations.

f. All shop opacity observations in excess of the emission limits specified in V.A.1.a.2) and V.A.1.a.3) above shall indicate a period of excess emission, and shall be reported to the Department semi-annually, according to § 60.7(c). (§60.276a(g); §2103.12.k.1)

g. Reporting instances of non-compliance in accordance with condition V.A.5.a.2) 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 Electric Arc Furnace and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. Such practices shall include, but are not limited to, minimizing the input of outside air and minimizing the opening of the slag door. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.99)

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)

B. Argon-Oxygen Decarburization Vessel

Process Description:	Argon-Oxygen Decarburization (AOD) Vessel
Facility ID:	P002
Max. Design Rate:	35.5 TPH
Capacity:	25.1 TPH; 175,000 TPY (Based on EAF Steel Production)
Fuel/Raw Material:	Molten Steel, Scrap Steel, Alloy Elements, Flux
Control Device(s):	Melt Shop Baghouse
Stack I.D.:	S001

1. Restrictions:

a. At no time shall the permittee allow the AOD Vessel to operate unless it is being maintained and operated in accordance with good engineering practice and within the manufacturer's specifications. (RACT Order No. 241, Condition 1.1; 25 PA Code §129.99).

b. The permittee shall at no time conduct AOD process operations unless the Melt Shop pollution control equipment is properly maintained and operated according to the following conditions: (§2103.12.a.2.B; ACHD Operating Permit No. 7037009-000-16401, issued August 1, 1978)

1) The fugitive emissions capture equipment shall consist of a canopy hood system ducted to the Melt Shop Baghouse, and closed roof scavenger points ducted to the Melt Shop Baghouse.
2) The AOD shall be equipped with a canopy hood for collection of process emissions, and such hood shall be properly maintained and operated at all times with all captured emissions ducted to the Melt Shop Baghouse.

c. The production of steel at the AOD shall be limited by EAF steel production to not exceed 175,200 tons of steel in any consecutive twelve-month period. (§2103.12.a.2.B)

2. Testing Requirements:

a. 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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.1)

3. Monitoring Requirements:

None except as provided in V.A.3 above.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include (RACT Order No. 241, Condition 1.2; §2103.12.j.1; 25 PA Code §129.100):

1) Number of heats and production for the AOD (daily, monthly, 12-month);
2) Time and duration of each vessel charge and tap (per charge/tap, monthly average, 12-month);
3) Differential pressure drop across each compartment of the EAF Melt Shop Baghouse; and

4) Stack test protocols and reports.

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)

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; 25 PA Code §129.100)

5. Reporting Requirements:

a. The permittee shall report the following information 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)

1) Monthly and 12-month data required to be reported by condition V.B.4.a; and
2) Non-compliance information required to be recorded by V.B.4.b above.

b. Reporting instances of non-compliance in accordance with condition V.B.5.a.2) 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 AOD Vessel and Melt Shop Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.100)

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. Teeming Ladle Heaters

Process Description: Teeming Ladle Heaters
Facility ID: P003
Capacity: Two 8.9 MMBTU/hr burners totaling 17.8 MMBTU/Hr
Fuel: Natural Gas
Control Device(s): North American 4575-9 HiRAM Burners

The permittee is also subject to the following conditions:

1. Restrictions

a. Only commercial quality natural gas shall be combusted in the Teeming Ladle Heaters. (ACHD Installation Permit No. 0027-I008, condition V.A.1.a, issued on April 24, 2009; §2102.04.b.6)

b. Natural gas usage in the Teeming Ladle Heaters shall not exceed a total of 152.9 million cubic feet in any 12 consecutive months. (ACHD Installation Permit No. 0027-I008, condition V.A.1.b, issued on April 24, 2009; §2102.04.b.6; 25 PA Code §129.100)

c. The permittee shall not operate, or allow to be operated the Teeming Ladle Heaters unless the low-NO_X burners are properly installed, maintained and operated consistent with good air pollution control practice. (ACHD Installation Permit No. 0027-I008, condition V.A.1.c, issued on April 24, 2009; §2102.04.b.6; §2105.03; 25 PA Code §129.97(c))

d. Emissions of nitrogen oxides (NO_X) shall not exceed 0.068 lbs/mmBtu of heat input. (ACHD Installation Permit No. 0027-I008, condition V.A.1.d, issued on April 24, 2009; §2102.04.b.6)

e. Emissions from the teeming ladle heaters shall not exceed the following at any time (ACHD Installation Permit No. 0027-I008, condition V.A.1.e, issued on April 24, 2009; §2102.04.b.6):

POLLUTANT	LBS/HR	TPY [1]
PARTICULATE MATTER	0.033	0.145
PM-10	0.033	0.145
PM-2.5	0.033	0.145
NITROGEN OXIDES	1.22	5.33
SULFUR OXIDES	0.010	0.05
CARBON MONOXIDE	1.47	6.42
VOLATILE ORGANIC COMPOUNDS	0.096	0.42

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

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.13 above and Article XXI §2108.02. (ACHD Installation Permit No. 0027-I008, condition V.A.2, issued on April 24, 2009; §2103.12.h)

3. Monitoring Requirements

The permittee shall monitor the monthly quantity of natural gas usage of the Teeming Ladle Heaters. Natural gas usage may be proportioned using the existing metering system. (ACHD Installation Permit No. 0027-I008, condition V.A.3, issued on April 24, 2009; §2102.12.i)

4. Record Keeping Requirements

a. The permittee shall maintain records of the amount of natural gas usage (monthly and 12-month) for the Teeming Ladle Heaters. (ACHD Installation Permit No. 0027-I008, condition V.A.4.a, issued on April 24, 2009; §2102.04.b.6; 25 PA Code §129.100)

b. The permittee shall maintain records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (ACHD Installation Permit No. 0027-I008, condition V.A.4.b, issued on April 24, 2009; §2103.12.j; 25 PA Code §129.100)

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. (ACHD Installation Permit No. 0027-I008, condition V.A.4.c, issued on April 24, 2009; §2103.12.j.2; 25 PA Code §129.97.100)

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. (ACHD Installation Permit No. 0027-I008, condition V.A.4.d, issued on April 24, 2009; §2103.12.h.1)

5. Reporting Requirements

a. The permittee shall report non-compliance information required to be recorded by condition V.C.4.d above 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. (ACHD Installation Permit No. 0027-I008, condition V.A.5.a, issued on April 24, 2009; §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 above, if appropriate. (ACHD Installation Permit No. 0027-I008, condition V.A.5.b, issued on April 24, 2009; §2103.12.k.1)

6. Work Practice Standard

The permittee shall not, at any time, operate the Teeming Ladle Heaters unless they are properly operated and maintained according to good engineering and air pollution control practices. (§2105.06; §2105.03; 25 PA Code §129.97(c))

D. Teeming

Process Description: Teeming
Facility ID: P005
Capacity: 60 TPH
Fuel/Raw Material: Molten Steel
Control Device(s): Melt Shop Baghouse
Stack I.D.: S001

1. Restrictions:

The throughput of molten steel at the Teeming process shall not exceed 175,200 tons of steel in any consecutive twelve-month period. (§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 Site Level Condition III.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified in Condition V.A.3 above for the Melt Shop Baghouse.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include the total amount of molten metal teemed on a daily, monthly, and 12-month basis. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

b. 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; 25 PA Code §129.100)

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)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.D.4.c above 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.D.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

a. The permittee shall not, at any time, operate the Teeming process and Melt Shop Baghouse unless the equipment is properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

E. Electro-Slag Remelt Holding Furnace

Process Description: Electro-Slag Remelt Holding Furnace
Facility ID: P006
Capacity: 4.0 MMBtu/hr
Fuel/Raw Material: Natural Gas
Control Device(s): None
Stack I.D.: N/A

1. Restrictions:

a. Only commercial quality natural gas shall be combusted in the Electro-Slag Remelt Holding Furnace (§2103.12.h.1).

b. Natural gas usage in the Electro-Slag Remelt Holding Furnace shall not exceed a total of 34.4 million cubic feet in any 12 consecutive months. (§2103.12.a.2.B; 25 PA Code §129.100)

c. Emissions from the Electro-Slag Remelt Holding Furnace shall not exceed the emissions limitations in Table V-E-1 below: (§2104.02.b; §2104.03.c; §2103.12.a.2.B)

TABLE V-E-1
Electro-Slag Remelt Holding Furnace Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.03	0.13
PM-10	0.03	0.13
PM-2.5	0.03	0.13
Sulfur Oxides	0.002	0.01
Nitrogen Oxides	0.39	1.712
Carbon Monoxide	0.33	1.44
Volatile Organic Compounds	0.011	0.05

* 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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified elsewhere.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee

and shall include, but not be limited to, production and operating records. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

b. The permittee shall maintain records of the hours of operation and amount of natural gas usage (monthly and 12-month) for the Electro-Slag Remelt Holding Furnace. (RACT Order No. 241, Condition 1.3; 25 PA Code §129.100))

c. The permittee shall maintain records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (§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.j.2; 25 PA Code §129.100))

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.h.1)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.E.4.e above 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.8 above, if appropriate. (§2103.12.k.1)

6. Work Practice Standards

a. The permittee shall not, at any time, operate the Electro-Slag Remelt Holding Furnace unless it is properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

F. Electro-Slag Remelt Furnaces

Process Description:	**Electro-Slag Remelt Furnaces (ESR Remelt Furnaces A-left, A-right, B & C)**
Facility ID:	P007
Capacity:	7 TPH, total for all four furnaces
Fuel/Raw Material:	N/A (electric)/Alloy Steel Ingots, Slag
Control Device(s):	Remelt Shop Baghouse
Stack I.D.:	S002

1. Restrictions:

a. Particulate Matter (PM) emissions from the Electro-Slag Remelt Furnaces shall not exceed 0.2 lb/hr or 0.88 TPY. (ACHD Operating Permit No. 7037033-0000-92300, issued on September 16, 1994)

b. The permittee shall at no time conduct Electro-Slag Remelt operations unless the Remelt Furnaces pollution control equipment are properly maintained and operated according to the following conditions: (§2103.12.a.2.B)

1) All exhaust from the Electro-Slag Remelt Furnaces shall be vented to the Remelt Furnaces Baghouse. The Baghouse shall be equipped with automatic cleaning controls and instrumentation that shall continuously measure the differential pressure drop across the Baghouse to within 2% of the measuring span of the device while treating particulate emissions from the Remelt Shop.
2) The Remelt Furnaces Baghouse shall have a minimum exhaust flow rate of 18,000 dscfm. The particulate control efficiency of the Remelt Furnaces Baghouse shall be a minimum of 98 percent.
3) The differential pressure drop across each Remelt Furnaces Baghouse compartment shall be established by condition V.F.3 below, measured to the nearest ½" w.c.

c. The production of steel at the Electro-Slag Remelt Furnaces shall not exceed 61,320 tons of steel in any consecutive twelve-month period. (§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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

a. The permittee shall inspect the Remelt Furnaces Baghouse, weekly, during operation to insure compliance with the operating specifications of condition V.F.1.b.1) above. Any excursions from the subject specifications shall be corrected as soon as possible. (§2103.12.h.1)

b. The permittee shall check and record the fan motor amperes for the Electro-Slag Remelt Furnaces emission control system on a once-per-shift basis. (§2103.12.h.1)

c. The differential pressure drop across each compartment in the Remelt Furnaces Baghouse shall

be recorded once per day and the differential pressure drop across each compartment of the Remelt Furnaces Baghouse shall not exceed the minimum and maximum values as established during the 120 day shakedown period. (§2103.12.a.2.B)

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to, the following (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

1) Number of heats and production for each furnace (daily, monthly, 12-month);
2) Time and duration of each furnace charge and tap (per charge/tap, monthly average, 12-month); and
3) Differential pressure drop across each compartment of the Remelt Furnaces Baghouse.

b. The results of the inspections required by condition V.F.3.a above and the differential pressure drop across the Remelt Furnaces Baghouse shall be recorded at the time of each inspection. Episodes of non-compliance with condition V.F.1.b above and corrective actions taken shall be recorded upon occurrence. (§2103.12.h.1)

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. 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; 25 PA Code §129.100)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.F.4.c above 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.F.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

a. The permittee shall not, at any time, operate the Electro-Slag Remelt Furnaces and Remelt Furnaces Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

G. Hot Rolling/Blooming Mill

Process Description: Hot Rolling/Blooming Mill
Facility ID: P010
Maximum Design Rate: 34.31 tons/hr
Capacity: 250,000 TPY
Fuel/Raw Material: Alloy Steel Ingots
Control Device(s): None
Stack I.D.: N/A

1. Restrictions:

a. Particulate Matter (PM) emissions from the Hot Rolling/Blooming Mill shall not exceed 7 pounds in any 60-minute period, or 100 pounds in any 24-hour period, or 18.25 tons/year. (§2104.02.b, §2103.12.a.2.B)

b. The permittee shall not operate, or allow to be operated, the Hot Rolling/Blooming Mill in such a manner that the production during any 12 consecutive months exceeds 250,000 tons of steel. (§2103.12.a.2.B)

c. VOC emissions from the Hot Rolling/Blooming Mill shall not exceed 0.30 lb/hr and 1.30 tons/year. (§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 Site Level Condition IV.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified elsewhere.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to, production and operating records. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

b. The permittee shall at all times maintain records of the amounts and types of lubrication oils used (monthly and 12-month) and the VOC contents of these oils. (§2103.12.j.2)

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; 25 PA Code §129.100)

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)

5. Reporting Requirements

a. The permittee shall report non-compliance information required to be recorded by V.G.4.d above 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.G.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

a. The permittee shall not, at any time, operate the Hot Rolling/Blooming Mill unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

H. Annealing Furnaces and Plate-Warming Furnace

Process Description: Annealing Furnaces (P011) and Plate Warming Furnace (P018)
Facility ID: P011
Capacity: 24 Annealing Furnaces (178.7 MMBtu/hr total rated capacity) and the Plate-Warming Furnace (7.0 MMBtu/hr)
Fuel/Raw Material: Natural Gas/Alloy Steel Billets and Slabs
Control Device(s): See table below
Stack I.D.: N/A

The Annealing Furnaces and Plate-Warming Furnace are listed in the following table:

Furnace ID	Rating (MMBtu/hr)	Control Device	Location
Car Bottom Furnace No. 11	11.04	Low NO_x Burners	80 Foot Bldg.
Clamshell Furnace No. CLM1	6.0	Low NO_x Burners	400 Foot Bldg.
Clamshell Furnace No. CLM2	8.8	Low NO_x Burners	400 Foot Bldg.
Hood Furnace No. 01	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 02	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 03	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 04	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 05	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 06	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 07	8.8	Low NO_x Burners	80 Foot Bldg.
Hood F.urnace No. 08	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 09	8.8	Low NO_x Burners	400 Foot Bldg.
Hood Furnace No. 10	8.8	Low NO_x Burners	400 Foot Bldg.
Hood Furnace No. 11	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 12	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 13	8.8	Low NO_x Burners	80 Foot Bldg.
Hood Furnace No. 14	8.8	Low NO_x Burners	400 Foot Bldg.
Ingot Hood Furnace No. CP-1	4.4	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-2	4.4	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-3	4.4	Low NO_x Burners	Creek Bldg.
Ingot Hood Furnace No. CP-4	4.4	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-5	3.72	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-6	4.4	Low NO_x Burners	CP Dock
Ingot Hood Furnace No. CP-7	4.4	Low NO_x Burners	Creek Bldg.
Bar Hood Furnace No. 1	4.5	Low NO_x Burners	400 Foot Bldg.
Plate-Warming Furnace	6.96	Low NO_x Burners	80 Foot Bldg.
TOTAL	**191.3**		

1. Restrictions:

a. The permittee shall not operate, or allow to be operated Car Bottom Furnace No. 11, Clamshell Furnaces CLM1 and CLM2, Hood Furnaces No. 1 through No. 10 and No. 14, Ingot Hood Furnaces CP-1 through CP-4, CP-6 & CP-7 and the Plate-Warming Furnace unless the low-NO_X

burners are properly installed, maintained and operated consistent with good air pollution control practice. [§2105.03, Installation Permit #0027-I007 V.A.1.c; 25 PA Code §129.97(c)]

b. Emissions of nitrogen oxides (NO_X) from Car Bottom Furnace No. 11, Clamshell Furnace CLM1, Hood Furnaces No. 1 through No. 10, Ingot Hood Furnaces CP-1 through CP-4 and the Plate-Warming Furnace, shall not exceed 0.065 lbs/mmBtu of heat input. (§2103.12.a.2.B)

c. Emissions of carbon monoxide (CO) from Car Bottom Furnace No. 11, Clamshell Furnace CLM1, Hood Furnaces No. 1 through No. 10, Ingot Hood Furnaces CP-1 through CP-4 and the Plate-Warming Furnace, shall not exceed 0.037 lbs/mmBtu of heat input. (§2103.12.a.2.B)

d. Only commercial quality natural gas shall be combusted in the Annealing Furnaces and Plate-Warming Furnace. (§2103.12.h.1, Installation Permit #0027-I007 V.A.1.a, Installation Permit #0027-I006 V.A.1.a)

e. Natural gas usage in the Annealing Furnaces and Plate-Warming Furnace shall not exceed a total of 1,596 million cubic feet in any 12 consecutive months. (§2103.12.a.2.B; 25 PA Code §129.100)

f. Combined emissions from the Annealing Furnaces and Plate-Warming Furnace shall not at any time exceed the total emissions limitations in Table V-H-1 below: (§2103.12.a.2.B, §2104.03.c, §2102.04.b.6, Installation Permit No. 0027-I006 V.A.1.f, Installation Permit No. 0027-I005 V.A.1.g, Installation Permit No. 0027-I005 V.A.1.h, Installation Permit No. 0027-I007 V.A.1.e)

TABLE V-H-1 - Emission Limitations for Car Bottom Furnace No. 11, Clamshell Furnace CLM1 and CLM2, Hood Furnaces No. 1 through No. 14, Ingot Hood Furnaces CP-1 through CP-7, Bar Furnace No. 1 and the Plate-Warming Furnace

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	1.42	6.24
PM-10	1.42	6.24
PM-2.5	1.42	6.24
Sulfur Oxides	0.11	0.49
Nitrogen Oxides	15.73	68.90
Carbon Monoxide	15.75	69.00
Volatile Organic Compounds	1.03	4.52

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

g. Ingot Hood Annealing Furnace CP-5, Hood Annealing Furnace Nos. 11, 12 & 13, and Bar Product Annealing Furnace BAR-1 each shall be equipped with low-NOx burners that will limit the concentration of nitrogen oxides in the exhaust gases of each furnace to no more than 53 parts per million (ppm), dry basis, at 3 % oxygen. [§2102.04.b.6, Installation Permit #0027-I006 V.A.1.c]

h. Emissions of nitrogen oxides from Ingot Hood Annealing Furnace CP-5, Hood Annealing Furnace Nos. 11, 12 & 13, and Bar Product Annealing Furnace BAR-1 each shall not exceed 0.064 lbs/mmBtu of heat input. [§2102.04.b.6, Installation Permit #0027-I006 V.A.1.d]

i. Emissions of nitrogen oxides (NOx) from Clamshell Furnace CLM2 and Hood Furnace No. 14 shall not exceed 0.068 lbs/mmBTU of heat input. (§2102.04.b.6, Installation Permit #0027-I007 V.A.1.d)

j. Emissions of nitrogen oxides (NO_X) from Ingot Hood Furnaces CP-6 and CP-7 shall not exceed 0.0456 lbs/mmBtu of heat input. (§2103.12.a.2.B)

k. Emissions of carbon monoxide (CO) from Ingot Hood Annealing Furnace CP-5, Hood Annealing Furnace Nos. 11, 12 & 13, and Bar Product Annealing Furnace BAR-1 each shall not exceed 0.043 lbs/mmBtu of heat input. [§2102.04.b.6, Installation Permit #0027-I006 V.A.1.e]

l. Emissions of carbon monoxide (CO) Ingot Hood Annealing Furnaces CP-6 and CP-7 shall not exceed 84 lbs/mmcf of fuel input. [§2102.04.b.6]

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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified elsewhere.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to, production and operating records. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

b. The permittee shall record the usage of natural gas by the Annealing Furnaces and Plate-Warming Furnace. The permittee shall maintain records of the hours of operation and amount of natural gas usage (monthly and 12-month) for the Annealing Furnace and Plate-Warming Furnace. (RACT Order No. 241, Condition 1.3; 25 PA Code §129.100)

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. 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; 25 PA Code §129.100)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.H.4.c above 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.H.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

a. The permittee shall not, at any time, operate the Annealing Furnaces and Plate-Warming Furnace unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Condition 1.1, §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

I. Reheat Furnaces

Process Description: Reheat Furnaces
Facility ID: P012
Capacity: 19 units (177.8 MMBtu/hr total rated capacity)
Fuel/Raw Material: Natural Gas/Alloy Steel Ingots
Control Device(s): N/A
Stack I.D.: N/A

The Reheat Furnaces consist of the following units:

Reheat Furnace ID	Rating (MMBtu/hr)	Control Device	Location
12" Bar Mill Reheat Furnace No. 01	5.3	Low NO_x Burners	Bar Mill
12" Bar Mill Reheat Furnace No. 02	5.3	Low NO_x Burners	Bar Mill
12" Bar Mill Reheat Furnace No. 03	5.3	Low NO_x Burners	Bar Mill
12" Bar Mill Reheat Furnace No. 04	5.3	Low NO_x Burners	Bar Mill
Bloomer Reheat Furnace No. 7	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 8	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 9	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 10	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 11	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 12	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 13	16.6	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 14	16.6	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 15	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 16	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 17	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 18	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 19	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 20	9.7	Low NO_x Burners	Bloomer Mill
Bloomer Reheat Furnace No. 21	16.6	Low NO_x Burners	Bloomer Mill
TOTAL	**187.2**		

1. Restrictions:

a. The permittee shall not operate, or allow to be operated the Bar Mill and Bloomer Reheat Furnaces, unless the low-NO_X burners are properly installed, maintained and operated consistent with good air pollution control practice. [§2105.03]

b. At no time shall the permittee allow the Bar Mill and Bloomer Reheat Furnaces to operate unless they are being maintained and operated in accordance with good engineering practice and within the manufacturer's specifications. (RACT Order No. 241, Condition 1.1; 25 PA Code §129.97(c)).

c. Emissions of nitrogen oxides (NO_X) from the Bar Mill and Bloomer Reheat Furnaces Nos. 7 through 12 and 14 through 20 shall not exceed 0.075 lbs/mmBtu of heat input. (§2103.12.a.2.B)

d. Emissions of carbon monoxide (CO) from the Bar Mill and Bloomer Reheat Furnaces shall not exceed 0.037 lbs/mmBtu of heat input. (§2103.12.a.2.B, §2102.04.b.6, Installation Permit No.

0027-I005 V.A.1.e)

e. Only commercial quality natural gas shall be combusted by the permittee in the Reheat Furnaces (§2103.12.h.1, §2102.04.b.6, Installation Permit No. 0027-I005 V.A.1.a)

f. Combined natural gas usage in the Bar Mill and Bloomer Reheat Furnaces shall not exceed a total of 1,608 million cubic feet in any 12 consecutive months. (§2103.12.a.2.B, (§2102.04.b.6, §2102.04.b.6, Installation Permit No. 0027-I005 V.A.1.b; 25 PA Code §129.100)

g. Combined emissions from the Bar Mill and Bloomer Reheat Furnaces shall not at any time exceed the total emissions limitations in Table V-I-1 below: (§2103.12.a.2.B, §2104.03.c, §2102.04.b.6, Installation Permit No. 0027-I005 V.A.1.f)

TABLE V-I-1 - Emission Limitations for the 12" Bar Mill Reheat Furnaces No. 1 through No. 4 and Bloomer Reheat Furnace Nos. 7 through 21

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.35	1.53
PM-10	0.35	1.53
PM-10	0.35	1.53
Sulfur Oxides	0.11	0.48
Nitrogen Oxides	14.04	61.50
Carbon Monoxide	6.93	30.34
Volatile Organic Compounds	1.01	4.42

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

h. Bloomer Reheat Furnaces No. 13 & 21 shall be equipped with low-NOx burners that will limit the concentration of nitrogen oxides in the exhaust gases of each furnace to no more than 60 parts per million, dry basis, at 3 % oxygen. [Installation Permit #0027-I005 V.A.1.c, §2102.04.b.6]

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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

The permittee shall monitor the monthly quantity of natural gas usage in each of the reheat furnaces. Natural gas usage may be monitored with the existing metering system. [§2102.12.i]

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include, but not be limited to, production and operating records. (RACT Order No. 241, Condition 1.2; 25 PA Code §129.100)

b. The permittee shall record the usage of natural gas by the reheat Furnaces. The permittee shall maintain records of the hours of operation and amount of natural gas usage (monthly and 12-month) for the Reheat Furnaces (RACT Order No. 241, Condition 1.3; 25 PA Code §129.100)

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. 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; 25 PA Code §129.100)

e. The permittee shall keep records for each reheat furnace of all maintenance, inspections, repairs, replacements or other corrective actions. All such records shall be kept on a monthly basis. [Installation Permit #0027-I005 V.A.4.a §2102.12.j]

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.I.4.c above 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.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

a. The permittee shall not, at any time, operate the Reheat Furnaces unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.97(c))

b. The permittee shall not operate, or allow to be operated each reheat furnace unless the low-NO_x burners specified in Condition V.I.1.c above are properly installed, maintained and operated consistent with good air pollution control practice. [Installation Permit #0027-I005 V.A.6, §2105.03]

c. 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)

J. Gantry Grinders

Process Description: Gantry Grinders (2 Units)
Facility ID: P013
Capacity: 8 TPH (Total)
Fuel/Raw Material: Alloy Steel Billets and Ingots
Control Device(s): Integral Dust Collectors
Stack I.D.: N/A

1. Restrictions:

a. The permittee shall not, at any time, operate the Gantry Grinders and the Integral Dust Collectors unless they are properly operated and maintained according to good engineering and air pollution control practices. (§2105.03)

b. Particulate matter (PM) emissions from the Gantry Grinders shall not exceed 0.61 lbs/hr and 1.8 TPY. (ACHD Operating Permit No. 7037009-000-65301, issued on December 7, 1992)

c. **Emissions Limitations:** Emissions from the Gantry Grinders shall not exceed the emissions limitations in Table V-J-1 below: (ACHD Operating Permit No. 7037009-000-65301, issued on December 7, 1992; §2104.02.b, §2103.12.a.2.B)

TABLE V-J-1 - Gantry Grinders Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.05	0.10
PM-10	0.005	0.01
PM-2.5	0.0005	0.001

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

d. The permittee shall not operate the Gantry Grinders unless the Integral Dust Collectors are properly maintained and operated according to the following conditions: (§2103.12.a.2.B)

1) All emissions from the related equipment are being filtered by the Dust Collectors and
2) The Dust Collectors shall operate at a minimum total particulate control efficiency of 99% at all times while the subject process equipment is producing particulate emissions.

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.13 above and Article XXI §2108.02. (§2103.12.h)

3. Monitoring Requirements:

a. The permittee shall conduct weekly visual inspections of the exhaust systems and control device to insure the equipment appears to be operating properly and that the integrity of the control equipment exhaust systems are not compromised by damage, malfunction or deterioration.

(§2103.12.h.1)

b. Immediate repairs shall be made to correct obvious equipment failures or deficiencies.

c. The Permittee shall monitor at the start of the first daylight turn the velocity through each duct adjacent to the grinding wheel and shall keep records as specified in condition V.J.4.b below. (ACHD Operating Permit No. 7037009-000-65301, issued on December 7, 1992)

4. Record Keeping Requirements:

a. The permittee shall at all times maintain records of steel billets/ingots tonnage throughput through each grinder (monthly, 12-month) and records of all control equipment inspections and any repairs/maintenance required in Condition V.J.3.b above(§2103.12.J)

b. The permittee shall keep weekly records at the start of the first daylight turn, of the velocity through each duct adjacent to the grinding wheel and the date in a log book. The data shall be made available to the Department for inspection and copying on request. (ACHD Operating Permit No. 7037009-000-65301, issued on December 7, 1992)

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. 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 non-compliance information required to be recorded by Condition V.J.4.c 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.J.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 manufacturer's recommendations and good engineering practices. (§2105.03)

K. Midwest Grinders

Process Description: Midwest Grinders [Four (4) Units plus one (1) Spare Unit]
Facility ID: P015
Capacity: 10 TPH, each grinder
Fuel/Raw Material: Alloy Steel Billets and Ingots
Control Device(s): Grinding Building Baghouse
Stack I.D.: S004

1. Restrictions:

a. The permittee shall only operate four Midwest Grinders at one time. (§2102.04.b.6)

b. The permittee shall at no time operate the four Midwest Grinders unless the Grinding Building Baghouse is properly maintained and operated according to the following conditions: (§2103.12.a.2.B)

1) All exhaust from the four operating Midwest Grinders shall be vented to the Grinding Building Baghouse. The Grinding Building Baghouse shall be equipped with automatic cleaning controls and instrumentation that shall continuously measure the differential pressure drop across the Grinding Building Baghouse while treating particulate emissions from the four Midwest Grinders.
2) The Grinding Building Baghouse shall have a design exhaust flow rate of 90,000 dscfm. The particulate capture efficiency of the baghouse shall be a minimum of 95 percent when grinding is taking place.
3) The differential pressure drop across each baghouse compartment shall be between 2” and 6” w.c., inclusive, measured to the nearest ½" w.c.
4) The outlet grain loading from the Grinding Building Baghouse shall not exceed at any time 0.02 grains per dry standard cubic foot of exhaust air.

c. Combined emissions from the four operating Midwest Grinders shall not exceed the emissions limitations in Table V-K-1 below: (§2103.12.a.2.B; §2104.02.b)

TABLE V-K-1 - Midwest Grinders Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.14	0.65
PM-10	0.014	0.06
PM-2.5	0.001	0.006

* 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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

a. The permittee shall conduct an inspection on the Grinding Building Baghouse weekly, for compliance with condition V.K.1.b above. (§2103.12.a.2.B)

b. The permittee shall check and record the fan motor amperes for the Grinding Building emission control system on a once-per-shift basis. (§2103.12.a.2.B)

c. The permittee shall, at all times, have instrumentation to continuously monitor the differential pressure drop across each compartment of the Grinding Building Baghouse during operation of the shop. Such instrumentation shall measure the pressure drop to within ½" w.c. and be properly operated, calibrated, and maintained according to manufacturer's specifications. (§2102.04.b.6)

4. Record Keeping Requirements:

a. The permittee shall at all times maintain records of billet and ingot tonnage throughput to each of the four operating grinders (monthly, 12-month). (§2103.12.J)

b. The permittee shall maintain a copy of the manufacturer's specifications for the Grinding Building Baghouse and records of control system performance evaluations and all records of calibration checks, adjustments, and maintenance performed on all equipment that is subject to this permit. (§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)

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.2)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by V.K.4.c above 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.K.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

a. The permittee shall not, at any time, operate the Midwest Grinders and Grinding Building Baghouse unless they are properly operated and maintained according to good engineering and air pollution control practices. (§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)

L. Western Gear Billet Grinder

Process Description: Western Gear Billet Grinder
Facility ID: P019
Capacity: 6.8 TPH
Fuel/Raw Material: Conditioned Alloy Steel Billets
Control Device(s): Western Gear Billet Grinder Baghouse
Stack I.D.: S003

1. Restrictions:

a. The permittee shall at no time operate the Western Gear Billet Grinder unless the Western Gear Billet Grinder Baghouse is properly maintained and operated according to the following conditions. (ACHD Installation Permit No. 0027-I002, condition V.A.1.a, issued on April 17, 2001; §2102.04.b.6)

1) All exhaust from the Western Gear Billet Grinder shall be vented to the Western Gear Billet Grinder Baghouse dust collector. The Western Gear Billet Grinder Baghouse shall be equipped with automatic cleaning controls and instrumentation that shall continuously measure the differential pressure drop across the baghouse to within 2% of the measuring span of the device while treating particulate emissions from the grinder.
2) The differential pressure drop across each baghouse compartment shall be between 8.5" w.c. to 12" w.c., inclusive, at all times while treating particulate emissions from the grinder.
3) The outlet grain loading from the Western Gear Billet Grinder Baghouse shall not exceed at any time 0.002 grains per dry standard cubic foot of exhaust air.
4) The Western Gear Billet Grinder Baghouse shall have a design exhaust flow rate of 10,000 dscfm.

b. **Emissions Limitations:** Emissions from the Western Gear Billet Grinder Baghouse shall not exceed the emissions limitations in Table V-L-1 below: (ACHD Installation Permit No. 0027-I002, condition V.A.1.b, issued on April 17, 2001; §2104.02.b)

TABLE V-L-1 - Western Gear Billet Grinder Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.03	0.14
PM-10	0.003	0.014
PM-2.5	0.0003	0.0014

* 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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

a. The permittee shall inspect the Western Gear Billet Grinder and Western Gear Billet Grinder

Baghouse weekly, during operation to insure compliance with conditions V.L.1.a and V.L.1.b above. (§2103.12.a.2.B)

b. The permittee shall monitor and record the parameters indicated below for the Western Gear Billet Grinder Baghouse to insure compliance with conditions V.L.1.a and V.L.1.b above: (§2103.12.h.1)

1) Once-per-day recording of the differential pressure drops across the baghouse; and
2) Recording of the baghouse fan motor amperage once per shift to insure proper fan operation.

4. Record Keeping Requirements:

a. The permittee shall at all times maintain monthly records of billet tonnage throughput for the Western Gear Billet Grinder and hours of operation. (ACHD Installation Permit No. 0027-I002, condition V.A.4.b, issued on April 17, 2001)

b. The permittee shall keep and maintain the following data for the Western Gear Billet Grinder Baghouse: (ACHD Installation Permit No. 0027-I002, conditions V.A.4.a and 4.c, issued on April 17, 2001, §2103.12.h.1)

1) Baghouse fan motor amperage (once per shift);
2) Once-per-day recording of the differential pressure drops across the baghouse;
3) Records of all control equipment inspections and any maintenance required in condition V.L.3.a above.

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. 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 non-compliance information required to be recorded by V.L.4.c above 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.L.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 manufacturer's recommendations and good engineering practices. (§2105.03)

M. Miscellaneous Space Heating Units

Process Description: Miscellaneous Space Heating Units
Facility ID: B001
Capacity: 112 units (13.53 MMBtu/hr total rated capacity)
Fuel/Raw Material: Natural Gas
Control Device(s): None
Stack I.D.: N/A

1. Restrictions:

a. Only commercial quality natural gas shall be combusted in the Miscellaneous Space Heating Units (§2103.12.h.1).

b. Natural gas usage in the Miscellaneous Space Heating Units shall not exceed a total of 116.2 million cubic feet in any 12 consecutive months. (§2103.12.a.2.B)

c. **Emissions Limitations:** Combined emissions from the Miscellaneous Space Heating Units shall not exceed the emissions limitations in Table V-M-1 below: (§2103.12.a.2.B, §2104.03.c)

TABLE V-M-1 – Miscellaneous Space Heating Units Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	0.12	0.51
PM-10	0.12	0.51
PM-2.5	0.12	0.51
Sulfur Oxides	0.01	0.03
Nitrogen Oxides	1.33	5.81
Carbon Monoxide	0.27	1.16
Volatile Organic Compounds	0.07	0.31

* 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.13 above and Article XXI §2108.02. (§2103.12.h.)

3. Monitoring Requirements:

None except as specified elsewhere.

4. Record Keeping Requirements:

a. Records shall be kept by the facility to demonstrate compliance with the requirements of §2105.06 and RACT Order No. 241. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of §2105.06 and RACT Order No. 241 are met. Data and information required to determine compliance shall be recorded and maintained by the permittee and shall include the total estimated natural gas usage. (RACT Order No. 241, Condition 1.2; 25

PA Code §129.100)

b. The permittee shall at all times maintain records of the estimated amount of natural gas usage for the Miscellaneous Space Heating Units. (RACT Order No. 241, Condition 1.3; 25 PA Code §129.100)

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; 25 PA Code §129.100)

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)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by condition V.M.4.d above 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.M.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

a. The permittee shall not, at any time, operate the Miscellaneous Space Heating Units unless they are properly operated and maintained according to good engineering and air pollution control practices. (RACT Order No. 241, Conditions 1.1; §2105.06; §2105.03; 25 PA Code §129.97(c))

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)

N. Process P023: (AOD Relining Heater)

Process Description: AOD Relining Heater
Facility ID: P0023
Capacity: 8.9 MMBTU/hr burner
Fuel: Natural Gas
Control Device(s): North American 4575-9 HiRAM Burners

The permittee is also subject to the following conditions:

1. Restrictions

a. Only commercial quality natural gas shall be combusted in the AOD Relining Heater. (ACHD Installation Permit No. 0027-I009, condition V.A.1.a, issued on April 24, 2009; §2102.04.b.6)

b. Natural gas usage in the AOD Relining Heater shall not exceed a total of 76.44 million cubic feet in any 12 consecutive months. (ACHD Installation Permit No. 0027-I009, condition V.A.1.b, issued on April 24, 2009; §2102.04.b.6; 25 PA Code §129.100)

c. The permittee shall not operate, or allow to be operated the AOD Relining Heater unless the low-NO_X burners are properly installed, maintained and operated consistent with good air pollution control practice. (ACHD Installation Permit No. 0027-I009, condition V.A.1.c, issued on April 24, 2009; §2102.04.b.6; §2105.03)

d. Emissions of nitrogen oxides (NO_X) shall not exceed 0.068 lbs/mmBtu of heat input. (ACHD Installation Permit No. 0027-I009, condition V.A.1.d, issued on April 24, 2009; §2102.04.b.6)

e. Emissions from the AOD Relining Heater shall not exceed the following at any time (ACHD Installation Permit No. 0027-I009, condition V.A.1.e, issued on April 24, 2009; §2102.04.b.6):

POLLUTANT	LBS/HR	TPY [1]
PARTICULATE MATTER	0.017	0.073
PM-10	0.017	0.073
PM-2.5	0.017	0.073
NITROGEN OXIDES	0.609	2.668
SULFUR OXIDES	0.005	0.023
CARBON MONOXIDE	0.733	3.210
VOLATILE ORGANIC COMPOUNDS	0.048	0.21

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

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.13 above and Article XXI §2108.02. (ACHD Installation Permit No. 0027-I009, condition V.A.2, issued on April 24, 2009; §2103.12.h)

3. Monitoring Requirements

The permittee shall monitor the monthly quantity of natural gas usage of the AOD Relining Heater. Natural gas usage may be proportioned using the existing metering system. (ACHD Installation Permit No. 0027-I009, condition V.A.3, issued on April 24, 2009; §2102.12.i)

4. Record Keeping Requirements

a. The permittee shall maintain records of the amount of natural gas usage (monthly and 12-month) for the AOD Relining Heater. (ACHD Installation Permit No. 0027-I009, condition V.A.4.a, issued on April 24, 2009; §2102.04.b.6; 25 PA Code §129.100)

b. The permittee shall maintain records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (ACHD Installation Permit No. 0027-I009, condition V.A.4.b, issued on April 24, 2009; §2103.12.j; 25 PA Code §129.100)

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. (ACHD Installation Permit No. 0027-I009, condition V.A.4.c, issued on April 24, 2009; §2103.12.j.2; 25 PA Code §129.100)

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.(ACHD Installation Permit No. 0027-I009, condition V.A.4.d, issued on April 24, 2009; §2103.12.h.1)

5. Reporting Requirements

a. The permittee shall report non-compliance information required to be recorded by condition V.N.4.d above 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. (ACHD Installation Permit No. 0027-I009, condition V.A.5.a, issued on April 24, 2009; §2103.12.k.1)

b. Reporting instances of non-compliance in accordance with condition V.N.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. (ACHD Installation Permit No. 0027-I009, condition V.A.5.b, issued on April 24, 2009; §2103.12.k.1)

6. Work Practice Standard

The permittee shall not, at any time, operate the AOD Relining Heater unless it is properly operated and maintained according to good engineering and air pollution control practices. (§2105.06; §2105.03; 25 PA Code §129.97(c))

O. Process P0024: (Transfer Ladle Heater)

Process Description: Transfer Ladle Heater
Facility ID: P0024
Capacity: 8.9 MMBTU/hr burner
Fuel: Natural Gas
Control Device(s): North American 4575-9 HiRAM Burners

The permittee is also subject to the following conditions:

1. Restrictions

a. Only commercial quality natural gas shall be combusted in the Transfer Ladle Heater (ACHD Installation Permit No. 0027-I009, condition V.B.1.a, issued on April 24, 2009; §2102.04.b.6).

b. Natural gas usage in the Transfer Ladle Heater shall not exceed a total of 76.44 million cubic feet in any 12 consecutive months. (ACHD Installation Permit No. 0027-I009, condition V.B.1.b, issued on April 24, 2009; §2102.04.b.6)

c. The permittee shall not operate, or allow to be operated the Transfer Ladle Heater unless the low-NO_X burners are properly installed, maintained and operated consistent with good air pollution control practice. (ACHD Installation Permit No. 0027-I009, condition V.B.1.c, issued on April 24, 2009; §2102.04.b.6; §2105.03; 25 PA Code §129.97(c))

d. Emissions of nitrogen oxides (NO_X) shall not exceed 0.068 lbs/mmBtu of heat input. (ACHD Installation Permit No. 0027-I009, condition V.B.1.d, issued on April 24, 2009; §2102.04.b.6)

e. Emissions from the Transfer Ladle Heater shall not exceed the following at any time (ACHD Installation Permit No. 0027-I009, condition V.B.1.e, issued on April 24, 2009; §2102.04.b.6):

POLLUTANT	LBS/HR	TPY [1]
PARTICULATE MATTER	0.017	0.073
PM-10	0.017	0.073
PM-2.5	0.017	0.073
NITROGEN OXIDES	0.609	2.668
SULFUR OXIDES	0.005	0.023
CARBON MONOXIDE	0.733	3.210
VOLATILE ORGANIC COMPOUNDS	0.048	0.21

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

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.13 above and Article XXI §2108.02. (§2103.12.h)

3. Monitoring Requirements

The permittee shall monitor the monthly quantity of natural gas usage of the Transfer Ladle Heater. Natural gas usage may be proportioned using the existing metering system. [§2102.12.i]

4. Record Keeping Requirements

a. The permittee shall maintain records of the amount of natural gas usage (monthly and 12-month) for the Transfer Ladle Heater. (§2102.04.b.6; 25 PA Code §129.100)

b. The permittee shall maintain records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment. (§2103.12.j)

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; 25 PA Code §129.100)

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)

5. Reporting Requirements

a. The permittee shall report non-compliance information required to be recorded by condition V.O.4.d above 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.O.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 Standard

The permittee shall not, at any time, operate the Transfer Ladle Heater unless it is properly operated and maintained according to good engineering and air pollution control practices. (§2105.06; §2105.03; 25 PA Code §129.97(c))

P. Circulating Water Cooling Towers

Process Description: Five cooling towers [Melt Shop Cooling Tower, three Electro-Slag Remelt (ESR) Furnace Cooling Towers and the VAR Furnace Cooling Tower]

Capacity: Recirculation rates: Melt Shop Cooling Tower is 2,800 gallons per minute (gpm), each ESR Furnace Cooling Tower is 834 gpm and the VAR Furnace is 500 gpm

Raw Material(s)/Fuel(s): Public drinking water for make-up water

Control Device: Mist eliminators

1. Restrictions:

a. The permittee shall properly maintain and operate the subject cooling towers at all times according to the following conditions: (§2103.12.a.2.B)

1) At all times, the make-up water for the subject units shall be from the public drinking water supply.
2) The cooling towers shall be equipped with mist eliminators which shall operate at all times of unit operation.
3) The cooling towers shall be operated and maintained in accordance with the manufacturer's specifications and instructions.

b. The total particulate emission rate from the five cooling towers shall not exceed an average of 1.85 pounds per hour and 8.1 tons in any consecutive 12-month period. (§2103.12)

c. Compliance with the emission limitation in Condition Condition V.P.1.b above shall be determined by calculating the monthly average particulate emission rate for each cooling tower from the biweekly values of TDS or conductivity and the recirculation rate determined in ConditionV.P.3 below. The sum of the calculated particulate emission rates shall be compared to the hourly and consecutive 12-month emission limitation in Condition V.P.1.b above.

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.13 above entitled "Emissions Testing." (§2103.12.h.1)

3. Monitoring Requirements:

The permittee shall monitor the total dissolved solids (TDS) or conductivity of the recirculating cooling water and the pump motor amperage at least biweekly. The permittee shall provde an estimate of the recirculation rate based on the pump motor amperage. (§2103.12.i)

4. Record Keeping Requirements:

a. The permittee shall keep and maintain the records of TDS and pump motor amperage required to

be monitored by Condition V.P.3 above and present such records upon request by the Department. (§2103.12.j)

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.j)

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)

5. Reporting Requirements:

a. The permittee shall report non-compliance information required to be recorded by the Department in Condition V.P.4.b above, 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.P.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:

None unless provided elsewhere.

Q. Plant Roads

Process Description: Plant Roads
Facility ID: F002
Capacity: 1.0 mi. Paved Roads; 0.8 mi. Unpaved Roads; 70,000 sq. ft. Parking Lots
Fuel/Raw Material: N/A
Control Method(s): Wet Suppression; Chemical Treatment; Paved Road Sweeping
Stack I.D.: N/A

1. Restrictions:

a. The permittee shall take actions to minimize the potential for fugitive emissions from vehicular traffic, including but not limited to, the following: (§2105.49)

1) The periodic sweeping of paved roads and
2) The use of water sprays and chemical dust suppressants.

2. Testing Requirements:

None except as specified elsewhere.

3. Monitoring 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.13 above entitled “Emissions Testing.” (§2103.12.h.1)

4. Record Keeping Requirements:

a. The permittee shall keep and maintain monthly records of the dust control measures taken to control fugitive dust emissions from plant roadways. (§2103.12.a.2.B)

b. 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:

None except as specified elsewhere.

6. Work Practice Standards

None except as specified elsewhere.

VI. MISCELLANEOUS

The following table summarizes processes that were determined to be of minor significance:

TABLE VIII-1
Processes of Minor Significance

I.D.	SOURCE DESCRIPTION	BASIS FOR MINOR SIGNIFICANCE DETERMINATION
P020	**Pangborn ES-1850 Crucible Cleaning System with PC02-4 Pangborn Cartridge Collector**	**Emissions are insignificant**
P021	**CONSARC Vacuum Arc Remelt (VAR) Furnace**	**Electric furnace where steel is melted under vacuum. Emissions are insignificant.**
P022	**Vulcan Ingot-End Grinder equipped with a Pangborn Cartridge Type Dust Collector Model PC03-24.**	**Emissions are insignificant.**

The following table summarizes the processes and/or activities conducted at the Universal Stainless & Alloy Products, Inc. plant that were determined to be insignificant and/or trivial.

TABLE VIII-2
Insignificant and/or Trivial Processes/Activities

I.D.	SOURCE DESCRIPTION	BASIS
ACHD No. 5	Three (3) electrically-heated laboratory ovens in sample preparation area	No emissions of air contaminants
ACHD Nos. 17, 18, and 21	Plant maintenance and vehicle repair facilities (general repairs, welding, non-solvent cleaning, and metal cutting)	Plant maintenance and upkeep activities (listed trivial activity); insignificant emissions of air contaminants
ACHD No. 20	Hand-held equipment for occasional surface grinding or surface finishing of steel products to remove surface imperfections	Hand-held equipment for grinding of metal (listed trivial activity); insignificant emissions of air contaminants
ACHD Nos. 39, 40, and 41	Bench-scale laboratory equipment for chemical analysis of steels (4 electrically operated element analyzers)	Bench-scale laboratory equipment (listed trivial activity); insignificant emissions of air contaminants
ACHD No. 42	Sampling equipment to withdraw and prepare specimens for analysis (5 sample saws, 2 sample drill presses, 7 belt sanders, 1 grinder wheel unit, 2 wet surface grinders, 3 metallographic wet sample polishers, and 2 sample-machining lathes)	Bench-scale laboratory equipment (listed trivial activity); insignificant emissions of air contaminants
D002	Diesel Storage Tank (1,000 gallons capacity)	Insignificant emissions of air contaminants
D003	Diesel Storage Tank (300 gallons capacity)	Insignificant emissions of air contaminants
D004	Waste Oil Tank	Insignificant emissions of air contaminants
D005	Quench Tank for Clam Shell Furnace	Insignificant emissions of air contaminants

I.D.	SOURCE DESCRIPTION	BASIS
DG001	Cold Degreaser Tub	Insignificant emissions of air contaminants
	Quench Tank for Clam Shell Furnace Bar or Plate	Insignificant emissions of air contaminants
	ESR Stub Welding	Insignificant emissions of air contaminants
	Transfer Ladle/Vessel Warming Torches	Insignificant emissions of air contaminants
	Long Product Abrasive Saw	Insignificant emissions of air contaminants
	Acid Etching of Laboratory Samples	Insignificant emissions of air contaminants
E001	Lime Storage Silo	Insignificant emissions of air contaminants
F001	Melt Shop Slag Pile	Insignificant emissions of air contaminants

VII. ALTERNATIVE OPERATING SCENARIOS

A. Melt Shop Slag Processing, Storage, and Handling

USAP's Bridgeville Plant presently uses an on-site contractor for the processing of slag produced in the Melt Shop. This alternative operating scenario is to allow the plant to conduct the Melt Shop Slag Processing activities in the event that the use of the on-site contractor is discontinued.

Process Description:	**Melt Shop Slag Processing**
Facility ID:	F001
Capacity:	27,500 TPY
Fuel/Raw Material:	Steel Slag
Control Method(s):	Wet Suppression
Stack I.D.:	N/A

1. Restrictions:

a. The permittee must insure that the terms and conditions of each reasonably anticipated alternative operating scenario meet all applicable requirements under Article XXI. (§2103.12.n.2)

b. The permittee shall conduct the Melt Shop Slag Processing, Storage and Handling operations inside the slag processing building to minimize fugitive emissions 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 take reasonable actions to prevent fugitive air contaminants from becoming air-borne. Such actions may include, but are not limited to: (§2105.49)

1) the use of asphalt, oil, water, or suitable chemicals for dust control;
2) the paving and maintenance of roadways, parking lots and the like;
3) the prompt removal of earth and other material which has been deposited by leaks from transport, erosion or other means; and
4) the adoption of work or other practices to minimize emissions.

d. The emissions of PM-10 from all slag processing operations shall not exceed 1.5 tons in any consecutive 12-month period. (§2103.12.a.2.B; §2104.02.b)

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 Site Level Condition IV.13 above entitled "Emissions Testing." (§2103.12.h.1)

3. Monitoring Requirements:

a. Notations of visible emissions from the Melt Shop Slag Processing, Storage and Handling operations shall be performed once per week during normal daylight operations. A trained employee shall record whether any emissions are observed and whether these emissions extend beyond the facility property line. (§2103.12.h.1, §2103.12.i)

b. A trained employee is an employee 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, §2103.12.i)

4. Record Keeping Requirements:

a. The permittee shall keep and maintain the following monthly data for the Melt Shop Slag Processing, Storage and Handling operations: (§2103.12.h.1, §2103.12.j)

1) Dry bulk material throughput (tons/day);
2) Records of visible emission notations as required by VII.A.3.a above; and
3) Records of all dust control measures taken and dates of occurrence.

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. 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 non-compliance information required to be recorded by VII.A.4.b above 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 VII.A.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

a. The permittee shall not, at any time, conduct Melt Shop Slag Processing, Storage and Handling operations unless all equipment is properly operated and maintained according to good engineering and air pollution control practices. (§2105.03; 25 PA Code §129.97(c))

b. If any visible emissions from Melt Shop Slag Processing, Storage and Handling operations are observed to extend beyond the facility property line, the permittee shall take reasonable response steps to control fugitive PM emissions. Failure to take corrective steps shall be considered a deviation from this permit. (§2105.03)

VIII. EMISSIONS LIMITATIONS SUMMARY

[This section is provided for informational purposes only and is not intended to be an applicable requirement.]

The tons/year emission limitations for the Universal Stainless & Alloy Products, Inc. plant are summarized in the following table:

TABLE VIII-1
Emission Limitations (Stack & Fugitive)

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	98.6
PM10	64.0
PM2.5	18.2
Nitrogen Oxides	197.8
Sulfur Oxides	17.0
Carbon Monoxide	434.7
Volatile Organic Compounds	44.05
Chromium	0.52
Nickel	0.31
Lead	0.10
Manganese	0.69

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