STATEMENT OF BASIS

ICD Melting Solutions Albertville, Alabama Marshall County 711-0023

This proposed Title V Major Source Operating Permit (MSOP) renewal is issued under provisions of ADEM Admin. Code r. 335-3-16. The above-named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans, and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

Alloy Resources was issued its MSOP on April 13, 2016, with an effective date of June 17, 2016, and an expiration date of June 16, 2021. Per ADEM Admin. Code r. 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but no more than eighteen (18) months, before the date of expiration of the permit. Alloy Resources' 3rd renewal application was due to the Department by December 16, 2020, and it was received on December 16, 2020. Additional information was received by the Department on February 15 and March 3, 2022, including forms for an ownership change from Alloy Resources to ICD Melting Solutions (ICD).

Process Description

ICD owns and operates a specialty metal foundry with a primary product of specialty steel ingots. ICD receives steel scrap from various sources. The cut and sheared scrap is mixed with alloys and limestone to produce a charge. The charge is then transported to one of two (2) Electric Arc Furnaces (EAF). Once at either EAF#1 or EAF#2, approximately 5.0 tons of the raw material is placed per batch. The batch time is approximately 90 minutes. The cylindrical EAFs are equipped with electrodes that are lowered in through the roof. An electric current passed through the electrodes generates heat through the scrap metal. During this process, the alloy agents refine the products to produce the desired metallic properties. Emissions from the EAF are collected by hoods and sent to the corresponding baghouses (Baghouse 1 and Baghouse 2). After melting and refining, the steel is poured into preheated ladles either to be poured or transferred to Argon-Oxygen Decarbonization (AOD) unit. Molten steel from the furnace that requires further decarbonization is poured into a preheated ladle and transferred to an AOD. The process allows the oxidation of carbon from the metal without excess chromium oxidation or high temperatures. This is accomplished by introducing inert gases (argon) into the metal through tuyeres. The amount of inert gas added to the metal increases as the carbon content of the metal decreases. Emissions from the AOD process are conveyed to a baghouse. Batch time is approximately 120 minutes. Once it is determined that the metal is fully refined, it is poured back into the ladle and transferred to the pouring station. The molten steel from the EAFs or AOD is poured from the preheated ladle into prefabricated forms. After the molten steel is poured into molds, it is transferred to a final cooling bin. Incoming metal components are cleaned in a Pangborn Shot Blast Cabinet, using stainless steel as the abrasive. Emissions are conveyed to the existing Fuller Pulse Jet Baghouse. There are fugitive particulate emissions that are released into the atmosphere via the building.

Facility Description

ICD owns and operates a specialty metal small foundry, metal melt production less than 20,000 TPY, located in Albertville, Marshall County, AL. The entire facility is subject to 40 CFR Part 63, Subpart YYYYY and 40 CFR Part 63, Subpart ZZZZZ. The significant sources of air pollutants at this facility are the following:

- Charge Handling
- Electric Arc Furnace #1 (EAF1)
- Electric Arc Furnace #2 (EAF2)
- Argon-Oxygen Decarburization Vessel (AOD)
- Pouring, Casting, and Cooling
- Abrasive Blasting (Pangborn Shotblast)

The insignificant sources of air pollutants at this facility are the following:

- Cutting and Shearing
- Ladle Preheating
- Hot Metal Transfer
- Mold Preparation and Cleaning
- Slag Cooling
- Slag Handling

- Fuel Dispensing and Storage (Gasoline)
- Fuel Dispensing and Storage (Diesel Fuel)
- Internal Combustion Engines (Gasoline-POC)
- Internal Combustion Engines (Diesel Fuel-POC)
- 1.0 MMBtu/hr Preheater

The following is a summary of the facility-wide controlled potential emissions:

Regulated Pollutant	Potential Emissions (TPY)
PM _{TOTAL}	17.5
PM_{10}	16.5
PM _{2.5}	15.6
PM _{CONDENSABLE}	1.16
VOC	1.91
NO _X	8.72
СО	71.5
SO_2	8.16
Total HAP	2.53
Lead	0.23
Hydrogen Fluoride	2.49

The facility operates approximately 2,000 hours per year. Based on the Title V permit application, the facility is a potential major source for particulate matter (PM) based on uncontrolled emissions. Though controlled emissions are below 100 TPY, the facility is required to obtain and retain a Title V permit due to the facility being subject to §63.10680(d) of 40 CFR Part 63, Subpart YYYYY, *National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities*.

ICD estimated greenhouse gases (GHG) based on natural gas usage at the facility. GHG were calculated to be 18,407.66 tons per year (TPY).

<u>40 CFR Part 63, Subpart EEEEE: National Emission Standards for Hazardous Air Pollutants for Iron</u> <u>and Steel Foundries</u>

This subpart applies to iron and steel foundries that are a major source of HAPs. ICD is not a major source for HAPs. Therefore, this subpart does not apply.

Renewal Notes

ICD has not made any changes to the facility units or equipment since the previous Title V Renewal. Although no request for changes were made by the facility, the Department included more detailed NSPS/MACT/NESHAP requirements in this Title V Renewal.

Electric Arc Furnaces (EAF1 & EAF2) w/ Baghouses (BH-1 & BH-2)

The charge is transported to one of two (2) Electric Arc Furnaces (EAF). Once at either EAF1 or EAF2, approximately 5.0 tons of the raw material is placed per batch. During this process, the alloy agents refine the products to produce the desired metallic properties.

Applicability

• These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, *"Major Source Operating Permit"*.

Rule 335-3-16-.03

• These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), *"Control of Particulate Emissions – Visible Emissions".*

Rule 335-3-4-.01(1)

• These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.02(3), *"Control of Particulate Emissions – Fugitive Dust and Fugitive Emissions".*

Rule 335-3-4-.02(3)

• These sources are subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), *"Control of Particulate Emissions – Process Industries – General"*.

Rule 335-3-4-.04(1)

• These sources are subject to the applicable requirements of 40 CFR Part 60, Subpart AA, "Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983".

40 CFR Part 60 Subpart AA, §60.270(b)

• These sources are subject to the applicable requirements of 40 CFR Part 60, Subpart A, "General *Provisions*" as provided in 40 CFR Part 60, Subpart AA.

40 CFR Part 60 Subpart A, §60.1(a)

• This facility is subject to the applicable requirements of 40 CFR Part 63, Subpart YYYYY, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities".

40 CFR Part 63 Subpart YYYYY, §63.10680(a), (b)(1)

• This facility is subject to the applicable requirements of 40 CFR Part 63 Subpart ZZZZZ, "National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources".

40 CFR Part 63 Subpart ZZZZZ, §63.10880(a), (b)(1)

• This facility is subject to the applicable requirements of 40 CFR Part 63, Subpart A, "*General Provisions*" as provided in Table 1 of 40 CFR Part 63, Subpart YYYYY and in 40 CFR Part 63, Subpart ZZZZZ.

40 CFR Part 63 Subpart YYYYY, §63.10690(a) & 40 CFR Part 63 Subpart ZZZZ, §63.10890(j)

• For particulate matter emissions, these sources are subject to the applicable requirements of 40 CFR Part 64, *"Compliance Assurance Monitoring"*.

40 CFR Part 64, §64.2

Emission Standards

Opacity:

• Any source of particulate emission shall not discharge into the atmosphere particulate of an opacity greater than that designated as 20% opacity, as determined by a 6-minute period. During one 6 minute period in any 60 minute period, a source may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as 40% opacity.

Rule 335-3-4-.01(a) & (b)

• The facility must not discharge into the atmosphere from an electric arc furnace any gases which exit from a control device and exhibit three percent (3%) opacity or greater.

40 CFR Part 60 Subpart AA, §60.272(a)(2)

- The facility must not discharge into the atmosphere from an electric arc furnace any gases which exit from a shop and, due solely to operations of any EAF(s), exhibit six percent (6%) opacity or greater except:
 - (i) Shop opacity less than 20 percent may occur during charging periods.
 - (ii) Shop opacity less than 40 percent may occur during tapping periods.
 - (iii) The shop opacity standards shall apply only during periods when the monitoring parameter limits specified in §60.274(b) are being established according to §60.274(c) through (g), unless daily shop opacity observations in lieu of furnace static pressure monitoring as provided for under §60.273(d).
 - (iv) Where the capture system is operated such that the roof of the shop is closed during the charge and the tap, and emissions to the atmosphere are prevented until the roof is opened after completion of the charge or tap, the shop opacity standards shall apply when the roof is opened

and shall continue to apply for the length of time defined by the charging and/or tapping periods.

40 CFR Part 60 Subpart AA, §60.272(a)(3)

• The facility must not discharge into the atmosphere from dust-handling equipment any gases which exhibit ten percent (10%) opacity or greater.

40 CFR Part 60 Subpart AA, §60.272(b)

• The facility must not discharge or cause the discharge into the atmosphere from an EAF or AOD vessel any gases which exit from a melt shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s), exhibit six percent (6%) opacity or greater.

40 CFR Part 63 Subpart YYYYY, §63.10686(c)(2)

Particulate Matter:

• When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape a building or equipment in such a manner and amount as to cause a nuisance or to violate any rule or regulation, the Director may order that the building or equipment in which processing, handling, and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

Rule 335-3-4-.02(3)

• The particulate emissions from the Electric Arc Furnaces process shall not exceed the process weight allowable.

$$E = 3.59P^{0.62}$$
 ($P < 30 \ tons/hr$)

Where E is the emissions in pounds per hour (lb/hr) and P is the process weight per hour in tons per hour (tph).

Rule 335-3-4-.04(1)

• The facility must not discharge into the atmosphere from an electric arc furnace any gases which exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf).

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40 CFR Part 60 Subpart AA, §60.272(a)(1) & 40 CFR Part 63 Subpart YYYYY, §63.10686(c)(1)
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- *Chlorinated plastics, lead, and free organic liquids.* For metallic scrap utilized in the EAF at the facility, the facility must comply with the requirements in either §63.110685(a)(1) or (2).
 - (1) *Pollution prevention plan.* For the production of steel other than leaded steel, the facility must 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. The facility must submit the scrap pollution prevention plan to the permitting authority for approval. The facility must 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 facility 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 facility must keep a copy of the plan onsite, and the facility must provide training on the plan's requirements to all plan personnel with materials acquisition or inspection duties. Each plan must include the information in §63.10685(a)(1)(i) through (iv).

(2) Restricted metallic scrap. For the production of steel other than leaded steel, the facility must 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. 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 facility meets the requirements in §63.10685(b)(3).

40 CFR Part 63 Subpart YYYYY, §63.10685(a)

- *Mercury requirements*. For scrap containing motor vehicle scrap, the facility must procure the scrap pursuant to one of the compliance options in §63.10685(b)(1), (2), or (3) for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, the facility must procure the scrap pursuant to the requirements in §63.10685(b)(4) for each scrap provider, contract, or shipment. The facility may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision.
 - (1) *Site-specific plan for mercury switches*. The facility must comply with the requirements in §63.10685(b)(1)(i) through (v).
 - (2) Option for approved mercury programs. The facility must certify in the notification of compliance status that the facility participates in and purchase motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator based on the criteria in §63.10685(b)(2)(i) through (iii). If the facility purchases motor vehicle scrap from a broker, the facility must 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 based on the criteria.
 - (3) *Option for specialty metal scrap*. The facility must certify in the 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, expected to contain mercury switches.

(4) *Scrap does not contain motor vehicle scrap*. For scrap not subject to the requirements in §63.10685(b)(1) through (3), the facility must certify in the notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap.

40 CFR Part 63 Subpart YYYYY, §63.10685(b)

• The facility must not discharge or cause the discharge into the atmosphere from an EAF any gases which exit from a control device and contain particulate matter (PM) in excess of 0.8 pounds per ton (lb/ton) of steel.

40 CFR Part 63 Subpart YYYYY, §63.10686(c)(1)

- *Metallic scrap management program.* For each segregated metallic scrap storage area, bin or pile, the facility must comply with the materials acquisition requirements. The facility must keep a copy of the material specifications onsite and readily available to all personnel with material acquisition duties and provide a copy to each of the scrap providers.
 - (1) *Restricted metallic scrap*. The facility must prepare and operate at all times according to written material specifications for the purchase and use of only metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, chlorinated plastics, or free liquids.
 - (2) *General iron and steel scrap*. The facility must prepare and operate at all times according to written material specifications for the purchase and use of only iron and steel scrap that has been depleted (to the extent practicable) of organics and HAP metals in the charge materials used by the iron and steel foundry. The materials specifications must include at minimum the following:
 - (i) Specifications for metallic scrap materials charged to a scrap preheater or metal melting furnace to be depleted (to the extent practicable) of the presence of used oil filters, chlorinated plastic parts, accessible lead-containing components (such as batteries and wheel weights), and a program to ensure the scrap materials are drained of free liquids.

40 CFR Part 63 Subpart ZZZZZ, §63.10885(a)(1) & (2)(i)

- *Mercury requirements*. For scrap containing motor vehicle scrap, the facility must procure the scrap pursuant to one of the compliance options in §63.10885(b)(1), (2), or (3) for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, the facility must procure the scrap pursuant to the requirements in §63.10885(b)(4) for each scrap provider, contract, or shipment. The facility may have one scrap provider, contract, or shipment subject to one compliance provision and other subject to another compliance provision.
 - (1) *Site-specific plan for mercury switches*. The facility must comply with the requirements in §63.10885(b)(1)(i) through (v).
 - (2) Option for approved mercury programs. The facility must certify in its notification of compliance status that it 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 based on the criteria in paragraphs §63.10885(b)(2)(i) through (iii). If the facility purchases motor vehicle scrap from a broker, it must 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 based on the criteria in §63.10885(b)(2)(i) through (iii). The National Mercury Switch Recovery Program and the State of Maine Mercury Switch Removal Program are EPA-approved programs under paragraph §63.10885(b)(2) unless and until the Administrator disapproves the program (in part or in whole) under paragraph §63.10885(b)(2)(ii).

- (3) *Option for specialty metal scrap*. The facility must certify in its notification of compliance status and maintain records of documentation 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.
- (4) *Scrap that does not contain motor vehicle scrap.* For scrap not subject to the requirements in paragraphs §63.10885(b)(1) through (3), the facility must certify in its notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap.

40 CFR Part 63 Subpart ZZZZZ, §63.10885(b)(1)-(4)

• For each furfuryl alcohol warm box mold or core making line at a new or existing iron and steel foundry, the facility must use a binder chemical formulation that does not use methanol as a specific ingredient of the catalyst formulation. This requirement does not apply to the resin portion of the binder system.

40 CFR Part 63 Subpart ZZZZZ, §63.10886

• If the annual metal melt production exceeds 20,000 tons during the preceding year, the facility must comply with the requirements for large foundries by the applicable dates.

40 CFR Part 63 Subpart ZZZZZ, §63.10890(h)

• At all times, the facility must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

40 CFR Part 63 Subpart ZZZZZ, §63.10890(i)

Expected Emissions

• According to the application, the potential emissions for PM are based on a stack test performed on May 31, 2005. PM₁₀ and PM_{2.5} are based on engineering estimates. The remaining pollutants are based on emission factors obtained from EPA's WebFire database.

		Emission Rate	
Source	Pollutant	lb/hr	TPY
EP001	PM	0.17	0.74

(BH-1)	PM ₁₀	0.08	0.35
	PM _{2.5}	0.002	0.009
	PM _{CON}	0.06	0.26
	SO_2	0.42	1.84
	NO _X	0.42	1.84
	СО	3.63	15.9
	VOC	0.04	0.18
	Total HAPs	0.16	0.70

 Table 1. Based on 8,760 hours of operation.

		Emission Rate		
Source	Pollutant	lb/hr	TPY	
EP002	PM	0.17	0.74	
(BH-2)	PM_{10}	0.08	0.35	
	PM _{2.5}	0.002	0.009	
	PM _{CON}	0.06	0.26	
	SO_2	0.42	1.84	
	NO _X	0.42	1.84	
	СО	3.63	15.9	
	VOC	0.04	0.18	
	Total HAPs	0.16	0.70	

 Table 2. Based on 8,760 hours of operation.

Compliance and Performance Test Methods & Procedures

• Method 5 of 40 CFR Part 60, Appendix A-3 shall be used in the determination of particulate matter emissions.

Rule 335-3-1-.05; 40 CFR §60.275(e)(1); 40 CFR §63.10686(d)(1)(v)

• Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of opacity.

Rule 335-3-1-.05; 40 CFR §60.275(e)(3); 40 CFR §63.10686(d)(2)

• Method 22 of 40 CFR Part 60, Appendix A-7 shall be used to determine the presence of fugitive emissions.

Rule 335-3-1-.05

• During performance tests required in §60.8, the facility shall not add gaseous diluent to the effluent gas after the fabric in any pressurized fabric collector, unless the amount of dilution is separately determined and considered in the determination of emissions.

40 CFR Part 60 Subpart AA, §60.275(a)

• In conducting the performance tests required in §60.8, the facility shall use as reference methods and procedures the test methods in 40 CFR Part 60 Appendix A or other methods and procedures, except as provided in §60.8(b).

40 CFR Part 60 Subpart AA, §60.275(d)

- The facility shall determine compliance with the particulate matter standards in §60.272 as follows:
 - (1) Method 5 shall be used for negative-pressure fabric filters and other types of control devices and Method 5D shall be used for positive-pressure fabric filters to determine the particular matter concentration and, if applicable, the volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.5 dscm (160 dscf) and, when a single EAF is sampled, the sampling time shall include an integral number of heats.
 - (2) When more than one control device serves the EAF(s) being tested, the concentration of particulate matter shall be determined using the equation in §60.275(e)(2).
 - (3) Method 9 and the procedures of §60.11 shall be used to determine opacity.
 - (4) To demonstrate compliance with §60.272(a)(1), (2), and (3), the Method 9 test runs shall be conducted concurrently with the particulate matter test runs, unless inclement weather interferes.

40 CFR Part 60 Subpart AA, §60.275(e)

• To comply with §60.274(c), (f), (g), and (i), the facility shall obtain the information in these paragraphs during the particulate matter runs.

40 CFR Part 60 Subpart AA, §60.275(f)

• If visible emissions observations are made in lieu of using a continuous opacity monitoring system, as allowed for by §60.273(c), 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 visible emission, only one set of three 6-minute observations will be required. In that case, the Method 9 observations must be made for the site 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 §60.272(a).

40 CFR Part 60 Subpart AA, §60.275(i)

• Unless the presence of inclement weather makes concurrent testing infeasible, the facility shall conduct concurrently the performance tests required under §60.8 to demonstrate compliance with §60.272(a)(1), (2), and (3).

40 CFR Part 60 Subpart AA, §60.275(j)

- Except as provided in §63.10686(d)(6), the facility must conduct performance tests to demonstrate initial compliance with the applicable emissions limit for each emissions source subject to emissions limit in §63.10686(b) or (c).
 - (1) The facility must conduct each PM performance test for an EAF or AOD vessel according to the procedures in §63.7 and 40 CFR 60.275a using the following test methods in 40 CFR Part 60, Appendices A-1, A-2, A-3, and A-4:
 - a. Method 1 or 1A of appendix A-1 of 40 CFR part 60 to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere.
 - b. Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A-1 of 40 CFR part 60 to determine the volumetric flow rate of the stack gas.
 - c. Method 3, 3A, or 3B of appendix A-3 of 40 CFR part 60 to determine the dry molecular weight of the stack gas. The facility may use ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference see §63.14) as an alternative to EPA Method 3B.
 - d. Method 4 of appendix A-3 of 40 CFR part 60 to determine the moisture content of the stack gas.
 - e. Method 5 or 5D of appendix A-3 of 40 CFR part 60 to determine the PM concentration. Three valid test runs are needed to comprise a PM performance test. For EAF, sample only when metal is being melted and refined. For AOD vessels, sample only when the operation(s) are being conducted.
 - (2) The facility must conduct each opacity test for a melt shop according to the procedures in §63.6(h) and Method 9 of Appendix A-4 of 40 CFR Part 60. When emissions from any EAF or AOD vessel are combined with emissions from emission sources not subject to this subpart, the facility must demonstrate compliance with the melt shop opacity limit based on emissions from only the emission sources subject to this subpart.
 - (3) During any performance test, the facility must monitor and record the information specified in 40 CFR §60.274a(h) for all heats covered by the test.
 - (4) The facility must notify and receive approval from the Administrator for procedures that will be used to determine compliance for an EAF or AOD vessel when emissions are combined with those from facilities not subject to this subpart.
 - (5) To determine compliance with the PM emissions limit in §63.10686(c) for an EAF or AOD vessel in a lb/ton of steel format, compute the process-weighted mass emissions (E_P) for each test run using Equation 1 of §63.10686(d)(5).
 - (6) If an existing affected source that is subject to the emissions limits in §63.10686(b) or (c), the facility may certify initial compliance with the applicable emission limit for one or more emissions

sources based on the results of a previous performance test for that emissions source in lieu of the requirement for an initial performance test provided that the test(s) were conducted within 5 years of the compliance date using the method and procedures specified in §63.10686(d)(1) or (2); the test(s) were for the affected facility; and the test(s) were representative of current or anticipated operating processes and conditions. Should the permitting authority deem the prior test data unacceptable to demonstrate compliance with an applicable emissions limit, the facility must conduct an initial performance test within 180 days of the compliance date or within 90 days of receipt of the notification of disapproval of the prior test, whichever is later.

40 CFR Part 63 Subpart YYYYY, §63.10686(d)

Alloy Resources completed the performance testing for initial compliance with the applicable limits on March 31, 2005.

Monitoring

- Compliance Assurance Monitoring shall be conducted.
 - The requirements of this part shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all the following criteria:
 - (1) This unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
 - (2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
 - (3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

40 CFR Part 64, §64.2(a)(1) through (3)

- This source has a particulate matter emission limitation set forth by ADEM Administrative Code r. 335-3-4-.04(1); 40 CFR Part 60 Subpart AA, §60.272(a)(1); and 40 CFR Part 63 Subpart YYYYY, §63.10686(c)(1) [§64.2(a)(1)].
- This source is controlled by a baghouse to comply with the particulate matter emission limit [§64.2(a)(2)].
- This source has the potential to emit over 100 TPY of particulate matter without a control device [§64.2(a)(3)].
- The application proposes the continued use of visible emissions, Inspection/Maintenance, and reference method testing as indicators of compliance. Visible emissions from the stack will be monitored daily during operations by someone certified in Method 9 opacity readings. Inspections

of the baghouse will be performed daily. Compliance testing will be done as necessary using Methods 1-4 and 5.

- See Appendix A for the Compliance Assurance Monitoring (CAM) Requirements

40 CFR Part 64, §64.2

- The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed:
 - a. Check hopper, fan, and cleaning cycle for proper operation.
 - b. Check all hoods and ducts.
 - c. Record any repairs or observed problems.

Rule 335-3-16-.05(c)1.

- The permittee shall perform an annual inspection of the baghouse to verify proper operation. The following activities shall be performed:
 - a. Once per year inspect baghouse structure, access doors, door seals, and bags.
 - b. Once per year perform an internal inspection of the baghouse hoppers.
 - c. Record any repairs or observed problems.

Rule 335-3-16-.05(c)1.

• 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 emission sfrom the control device are performed by a certified visible emission observer and the owner installs and continuously operates a bag leak detection system according to paragraph <u>§60.272(e)</u>. 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 of Appendix A to this part. If visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only once incident of the visible emission, only one set of three 6-minute observations will be required. In that case, the Method 9 observations must be made during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in <u>§60.272(a)</u>.

40 CFR Part 60 Subpart AA, §60.273(c)

A continuous monitoring system for the measurement of the opacity is not installed on either of the EAFs or AOD. The baghouses are single stack and equipped with bag leak detectors and do not require a continuous monitoring system for the measurement of the opacity if a certified visible emission observer performs a daily Method 9 observation.

• 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 or more 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 in proximity to an affected EAF. 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 that directly relates to the cause (or location) of visible emissions observed during a single incident.

40 CFR Part 60 Subpart AA, §60.273(d)

- A bag leak detection system must be installed and continuously operated on all single-stack fabric filters if a continuous opacity monitoring system is not installed and operated. In addition, the facility shall meet the visible emissions observation requirements in §60.273(c). The bag leak detection system must meet the specifications and requirements of (1) through (8).
 - (1) The bag leak detection system sensor must 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.
 - (2) The bag leak detection system sensor must provide output of relative particulate matter loadings and the facility 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.
 - (3) The bag leak detection system must be equipped with an alarm system that will sound when an increase in relative particulate is detected over the alarm set point established according to 60.273(e)(4), and the alarm must be located such that it can be heard by the appropriate plant personnel.
 - (4) The bag leak detection system required shall develop and submit to the Administrator or delegated authority, for approval, a site-specific monitoring plan that addresses the items identified in §60.273(e)(4)(i) through (v). The facility shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan shall describe:
 - (i) Installation of the bag leak detection system;
 - (ii) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established;
 - (iii) Operation of the bag leak detection system including quality assurance procedures;

- (iv) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list; and
- (v) 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).
- (6) Following initial adjustment, the facility shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided for in §60.273(e)(6)(i) through (ii).
 - (i) Once per quarter, the facility 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.
 - (ii) If opacities greater than zero percent are observed over four consecutive 15-second observations during the daily opacity observations and the alarm on the bag leak detection system does not sound, the facility shall lower the alarm set point on the bag leak detection system to a pint 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 must be installed downstream of the baghouse and upstream of any wet scrubber.
- (8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

40 CFR Part 60 Subpart AA, §60.273(e)

- For each bag leak detection system installed, the facility shall initiate procedures to determine the cause of all alarms within 1 hour of an alarm. Except as provided for in §60.273(g), the cause of the alarm must 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:
 - (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;
 - (2) Sealing off defective bags or filter media;
 - (3) Replacing defective bags or filter media or otherwise repairing the control device;
 - (4) Sealing off a defective baghouse compartment;

- (5) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and
- (6) Shutting down the process producing the particulate emissions.

40 CFR Part 60 Subpart AA, §60.273(f)

• In approving the site-specific monitoring plan, the Administrator or delegated authority may allow the facility more than 3 hours to alleviate specific conditions that cause an alarm if the facility 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.

40 CFR Part 60 Subpart AA, §60.273(g)

However, the Department has not allowed this to date.

• The facility shall check and record on a once-per-shift basis furnace static pressure (if a DEC system is in use, and a furnace static pressure gauge is installed according to §60.274(f)) and either: check and record the control system fan motor amperes and damper positions 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 inlet and check and record damper positions 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 Administrator may require the facility to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 of 40 CFR Part 60 Appendix A.

40 CFR Part 60 Subpart AA, §60.274(b)

• When required to demonstrate compliance with the standards under §60.272(a)(3), the control system fan motor amperes and all damper positions, the volumetric flow rate through each separately ducted hood, or the volumetric flow rate at the control device inlet and all damper positions shall be determined during all periods in which a hood is operated for the purpose of the capturing emissions from the affected facility subject to §60.274(b).

40 CFR Part 60 Subpart AA, §60.274(c)

• The facility shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (*e.g.*, presence of hole 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.

40 CFR Part 60 Subpart AA, §60.274(e)

• Except where emissions during any phase of the heat time are controlled by use of a direct shell evacuation system, the facility shall install, calibrate, and maintain a monitoring device that continuously records the pressure in the free space inside the EAF. 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.

40 CFR Part 60 Subpart AA, §60.274(f)

• Except as provided for under §60.273(d), when the facility is required to demonstrate compliance with the standard under §60.272(a)(3) and at any other time the Administrator may require (under section 114 of the 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 under §60.274(f). The facility may petition the Administrator for reestablishment of the 15-minute integrated average pressure whenever the facility can demonstrate to the Administrator'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 the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility.

40 CFR Part 60 Subpart AA, §60.274(g)

- During any performance test required under §60.8, and for any report thereof required by §60.276a(f), or to determine compliance with §60.272a(a)(3), the facility shall monitor the following information for all heats covered by the test:
 - (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.

40 CFR Part 60 Subpart AA, §60.274(i)

• The facility must install, operate, and maintain a capture system that collects the emissions from each EAF (including charging, melting, and tapping operations) and argon-oxygen decarburization (AOD) vessel and conveys the collected emissions to a control device for the removal of particulate matter (PM).

40 CFR Part 63 Subpart YYYYY, §63.10686(a)

Reporting and Recordkeeping

• All records shall be maintained in a form suitable for inspection for a period of at least five (5) years.

Rule 335-3-16-.05(c)2.

• The facility shall maintain a record of all monthly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2.

• The results of each visible emission observation shall be documented using an ADEM visible emissions observation report, and the cause and corrective action taken will be documented in a logbook.

Rule 335-3-16-.05(c)2.

• Records shall be maintained of all six-minute periods during which the average opacity is three percent (3%) or greater. All six-minute periods during which the average opacity is three percent (3%) or greater shall indicate a period of excess emission and shall be reported semi-annually.

40 CFR Part 60 Subpart AA, §60.273(b) & (c)

- The facility shall maintain records daily of the following information:
 - (1) Time and duration of each charge;
 - (2) Time and duration of each tap;
 - (3) All flow rate data obtained under §60.274(b), or equivalent obtained under §60.274(d); and
 - (4) All pressure data obtained under §60.274(f).

40 CFR Part 60 Subpart AA, §60.274(a)

• Operation at a furnace static pressure that exceeds the value established under §60.274(g) and either operation control system fan motor amperes at values exceeding ±15 percent of the value established under §60.274(c) or operation at flow rates lower than those established under §6.274(c) may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the administrator semiannually.

40 CFR Part 60 Subpart AA, §60.276(a)

• The facility shall conduct the demonstration of compliance with §60.272(a) and furnish the Administrator a written report of the results of the test. The report shall include the information from §60.276(c)(1) through (22).

40 CFR Part 60 Subpart AA, §60.276(c)

• The facility shall maintain records of all shop opacity observations made. All shop opacity observations in excess of the emission limit shall indicate a period of excess emission and shall be reported to the Administrator semiannually according to §60.7(c).

40 CFR Part 60 Subpart AA, §60.276(d)

- The facility shall maintain the following records for each bag leak detection system required under §60.273(e):
 - (1) Records of the bag leak detection system output;
 - (2) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
 - (3) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, if procedures were initiated within 1 hour of the alarm, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and if the alarm was alleviated within 3 hours of the alarm.

40 CFR Part 60 Subpart AA, §60.276(e)

- *Recordkeeping and reporting requirements*, in addition to the records required by §63.10, the facility must keep records to demonstrate compliance with the requirements for the pollution prevention plan in §63.10685(a)(1) and/or for the use of only restricted scrap in §63.10685(a)(2) and for mercury in §63.10685(b)(1) through (3) as applicable. The facility must keep records documenting compliance for scrap that does not contain motor vehicle scrap.
 - (1) If the facility is subject to the requirements for a site-specific plan for mercury, the facility:
 - (i) 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 estimate of the percent of mercury switches recovered; and
 - (ii) 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 must include a certification that have conducted inspections or taken other means of corroboration as required under §63.10685(b)(1)(ii)(C). The facility may include this information in the semiannual compliance reports required under §63.10685(c)(3)
 - (2) If the facility is subject to the option for approved mercury programs under §63.10685(b)(2), the facility must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If the facility purchases motor vehicle scrap from a broker, the facility must 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.

(3) The facility must submit semiannual compliance reports to the Administrator for the control of contaminants from scrap according to the requirements in §63.10(e). The report must clearly identify any deviation from the requirements in §63.10685(a) and (b) applies to each scrap provider, contract, or shipment.

40 CFR Part 63 Subpart YYYYY, §63.10685(c)

• The facility must monitor the capture system and PM control device required by this subpart, maintain records, and submit reports according to the compliance assurance monitoring requirements in 40 CFR Part 64. The exemption in 40 CFR 64.2(b)(1)(i) for emissions limitations or standards proposed after November 15, 1990, under section 111 or 112 of the CAA does not apply. In lieu of the deadlines for submittal in 40 CFR 64.5, the facility must submit the monitoring information required by 40 CFR 64.4 to the applicable permitting authority for approval by no later than the compliance date for the affected source for this subpart and operate according to the approved plan by no later than 180 days after the date of approval by the permitting authority.

40 CFR Part 63 Subpart YYYYY, §63.10686(e)

- The notification of compliance status required by §63.9(h) must include each applicable certification of compliance, signed by a responsible official, in §63.10690(b)(1) through (6).
 - (1) For the pollution prevention plan requirements in §63.10685(a)(1): "This facility has submitted a pollution prevention plan for metallic scrap selection and inspection in accordance with §63.10685(a)(1)".
 - (2) For the restrictions on metallic scrap in §63.10685(a)(2): "This facility complies with the requirements for restricted metallic scrap in accordance with §63.10685(a)(2)".
 - (3) For the mercury requirements in §63.10685(b):
 - (i) "This facility has prepared a site-specific plan for mercury switches in accordance with §63.10685(b)(1)";
 - (ii) "This facility 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 EPA Administrator in accordance with §63.10685(b)(2)" and has prepared a plan demonstrating how the facility participates in the EPA-approved program in accordance with §63.10685(b)(2)(iv);
 - (iii) "The only materials from motor vehicles in the scrap charged to an electric arc furnace at this facility are materials recovered for their specialty alloy content in accordance with §63.10685(b)(3) which are not reasonably expected to contain mercury switches"; or

- (iv) This facility complies with the requirements for scrap that does not contain motor vehicle scrap in accordance with §63.10685(b)(4)."
- (4) This certification of compliance for the capture system requirements in §63.10686(a), signed by a responsible official: "This facility operates a capture system for each electric arc furnace and argon-oxygen decarburization vessel that conveys the collected emissions to a PM control device in accordance with §63.10686(a)".
- (5) If applicable, this certification of compliance for the performance test requirements in §63.10686(d)(6); "This facility certifies initial compliance with the applicable emissions limit in §63.10686(a) or (b) based on the results of a previous performance test in accordance with §63.10686(d)(6)".
- (6) This certification of compliance for the monitoring requirements in §63.10686(e), signed by a responsible official: "This facility has developed and submitted proposed monitoring information in accordance with 40 CFR Part 64".

40 CFR Part 63 Subpart YYYYY, §63.10690(b)

The Department received the NOCS on April 30, 2008.

• As required by §63.10(b)(1), the facility must maintain files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site.

40 CFR Part 63 Subpart ZZZZZ, §63.10890(d)

• The facility must maintain records of the information specified in §63.10890(e)(1) through (7) according to the requirements in §63.10(b)(1).

40 CFR Part 63 Subpart ZZZZZ, §63.10890(e)

• The facility must submit semiannual compliance reports to the Administrator according to the requirements in §63.10899(c), (f), and (g), except that §63.10899(c)(5) and (7) do not apply.

40 CFR Part 63 Subpart ZZZZZ, §63.10890(f)

Argon-Oxygen Decarbonization (AOD) Vessel w/ Baghouse #3 (BH-3)

Molten steel from the furnace that requires further decarbonization is transferred to the AOD. The process allows the oxidation of carbon from the metal. This is accomplished by introducing inert gases (argon) into the metal through tuyeres. Once it is determined that the metal is fully refined it is transferred to the pouring station.

Applicability

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, "*Major Source Operating Permit*".

Rule 335-3-16-.03

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), *"Control of Particulate Emissions – Visible Emissions".*

Rule 335-3-4-.01(1)

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.02(3), "Control of Particulate Emissions – Fugitive Dust and Fugitive Emissions".

Rule 335-3-4-.02(3)

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), *"Control of Particulate Emissions – Process Industries – General"*.

Rule 335-3-4-.04(1)

• This source is subject to the applicable requirements of 40 CFR Part 60, Subpart AAa, "Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983".

40 CFR Part 60 Subpart AAa, §60.270a(b)

• This source is subject to the applicable requirements of 40 CFR Part 60, Subpart A, "General *Provisions*".

40 CFR Part 60 Subpart A, §60.1(a)

• This facility is subject to the applicable requirements of 40 CFR Part 63 Subpart YYYYY, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities".

40 CFR Part 63 Subpart YYYYY, §63.10680(a), (b)(1)

• This facility is subject to the applicable requirements of 40 CFR Part 63, Subpart A, "General *Provisions*" as provided in Table 1 of 40 CFR Part 63 Subpart YYYYY.

40 CFR Part Subpart YYYYY, §63.10690(a) & Table 1

• For particulate matter emissions, this source is subject to the applicable requirements of 40 CFR Part 64, "*Compliance Assurance Monitoring*".

40 CFR Part 64, §64.2

Emission Standards

Opacity:

• Any source of particulate emission shall not discharge into the atmosphere particulate of an opacity greater than that designated as 20% opacity, as determined by a 6-minute period. During one 6 minute period in any 60 minute period a source may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as 40% opacity.

<u>Rule 335-3-4-.01(a) & (b)</u>

• The facility must not discharge into the atmosphere from an EAF or an AOD vessel any gases which exit from a control device and exhibit three percent (3%) opacity or greater.

40 CFR Part 60 Subpart AAa, §60.272a(a)(2)

• The facility must not discharge into the atmosphere from an EAF or an AOD vessel any gases which exit from a shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s) exhibit 6 percent opacity or greater.

40 CFR Part 60 Subpart AAa, §60.272a(a)(3)

• The facility shall not cause to be discharged into the atmosphere from the dust-handling system any gas that exhibit 10 percent opacity or greater.

40 CFR Part 60 Subpart AAa, §60.272a(b)

• The facility must not discharge or cause the discharge into the atmosphere from an EAF or AOD vessel any gases which exit from a melt shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s), exhibit six percent (6%) opacity or greater.

40 CFR Part 63 Subpart YYYYY, §63.10686(c)(2)

Particulate Matter:

• When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape a building or equipment in such a manner and amount as to cause a nuisance or to violate any rule or regulation,

the Director may order that the building or equipment in which processing, handling, and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

Rule 335-3-4-.02(3)

• The particulate emissions from the AOD process shall not exceed the process weight allowable.

$$E = 3.59P^{0.62}$$
 (P < 30 tons/hr)

Where E is the emissions in pounds per hour (lb/hr) and P is the process weight per hour in tons per hour (tph).

Rule 335-3-4-.04(1)

• The facility must not discharge into the atmosphere from an EAF or an AOD vessel any gases which exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052gr/dscf).

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40 CFR Part 60 Subpart AAa, §60.272a(a)(1) & 40 CFR Part 63 Subpart YYYYY, §63.10686(c)(1)
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• The facility must not discharge or cause the discharge into the atmosphere from an AOD vessel any gases which exit from a control device and contain particulate matter (PM) in excess of 0.8 pounds per ton (lb/ton) of steel.

40 CFR Part 63 Subpart YYYYY, §63.10686(c)(1)

Expected Emissions

• According to the application, the potential emissions for PM are based on a stack test performed on March 31, 2005. PM₁₀ and PM_{2.5} emissions are based on engineering estimates. The remaining pollutants are based on emission factors obtained from EPA's WebFire database.

		Emission Rate		
Source	Pollutant	lb/hr	TPY	
EP003	PM	0.16	0.7	
(BH-3)	PM_{10}	0.078	0.34	
	PM _{2.5}	0.014	0.06	
	PM _{CON}	0.12	0.53	
	SO_2	0.83	3.63	
	NO _X	0.91	3.99	
	СО	7.47	32.7	
	VOC	0.10	0.44	
	Total HAPs	0.25	1.09	

Table 3. Based on 8,760 hours of operation.

Compliance and Performance Test Methods & Procedures

• Method 5 of 40 CFR Part 60, Appendix A-3 shall be used in the determination of particulate emissions.

Rule 335-3-1-.05; 40 CFR §60.275a(e)(1); 40 CFR §63.10686(d)(1)(v)

• Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of opacity.

Rule 335-3-1-.05; 40 CFR §60.275a(e)(3); 40 CFR §63.10686(d)(2)

• Method 22 of 40 CFR Part 60, Appendix A-7 shall be used to determine the presence of fugitive emissions.

Rule 335-3-1-.05

• During performance tests required in §60.8, the facility 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.

40 CFR Part 60 Subpart AAa, §60.275a(a)

- When 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 facility shall use either or both of the following procedures during a performance test:
 - (1) Determine compliance using the combined emissions.
 - (2) Use a method that is acceptable to the Administrator and that compensates for the emissions from the facilities not subject to the provisions of this subpart.

40 CFR Part 60 Subpart AAa, §60.275a(b)

• When emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to 40 CFR Part 60, Subpart AAa, the facility shall demonstrate compliance with §60.272(a)(3) based on emissions from only the affected facility(ies).

40 CFR Part 60 Subpart AAa, §60.275a(c)

• In conducting the performance tests required in §60.8, the facility 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 this section, except as provided in §60.8(b).

40 CFR Part 60 Subpart AAa, §60.275a(d)

• The facility shall determine compliance with the particulate matter standards in §60.272a as follows:

- (1) Method 5 shall be used for negative-pressure fabric filters and other types of control devices and Method 5D shall be used for positive-pressure fabric filters to determine the particular matter concentration and, if applicable, the volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.5 dscm (160 dscf) and, when a single EAF is sampled, the sampling time shall include an integral number of heats.
- (2) When more than one control device serves the EAF(s) being tested, the concentration of particulate matter shall be determined using the equation in §60.275(e)(2).
- (3) Method 9 and the procedures of §60.11 shall be used to determine opacity.
- (4) To demonstrate compliance with §60.272(a)(1), (2), and (3), the Method 9 test runs shall be conducted concurrently with the particulate matter test runs, unless inclement weather interferes.

40 CFR Part 60 Subpart AAa, §60.275a(e)

• To comply with §60.274a(c), (f), (g), and (h); the facility shall obtain the information required in these paragraphs during the particulate matter runs.

40 CFR Part 60 Subpart AAa, §60.275a(f)

• Any control device subject to the provisions of the subpart shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.

40 CFR Part 60 Subpart AAa, §60.275a(g)

- Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart but controlled by a common capture system and control device, the facility may use any of the following procedures during a performance test:
 - (1) Base compliance on control of the combined emissions;
 - (2) Utilize a method acceptable to the Administrator that compensates for the emissions from the facilities not subject to the provisions of this subpart; or
 - (3) Any combination of the criteria of §60.275a(h)(1) and (2).

40 CFR Part 60 Subpart AAa, §60.275a(h)

• Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart, determinations of compliance with §60.272a(a)(3) will only be based upon emissions originating from the affected facility(ies).

40 CFR Part 60 Subpart AAa, §60.275a(i)

• Unless the presence of inclement weather makes concurrent testing infeasible, the facility shall conduct concurrently the performance tests required under §60.8 to demonstrate compliance with §60.276a(a)(1), (2), and (3) of this subpart.

40 CFR Part 60 Subpart AAa, §60.275a(j)

- Except as provided in §63.10686(d)(6), the facility must conduct performance tests to demonstrate initial compliance with the applicable emissions limit for each emissions source subject to emissions limit in §63.10686(b) or (c).
 - (1) The facility must conduct each PM performance test for an EAF or AOD vessel according to the procedures in §63.7 and 40 CFR 60.275a using the following test methods in 40 CFR Part 60, Appendices A-1, A-2, A-3, and A-4:
 - a. Method 1 or 1A of appendix A-1 of 40 CFR part 60 to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere.
 - b. Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A-1 of 40 CFR part 60 to determine the volumetric flow rate of the stack gas.
 - c. Method 3, 3A, or 3B of appendix A-3 of 40 CFR part 60 to determine the dry molecular weight of the stack gas. The facility may use ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference see §63.14) as an alternative to EPA Method 3B.
 - d. Method 4 of appendix A-3 of 40 CFR part 60 to determine the moisture content of the stack gas.
 - e. Method 5 or 5D of appendix A-3 of 40 CFR part 60 to determine the PM concentration. Three valid test runs are needed to comprise a PM performance test. For EAF, sample only when metal is being melted and refined. For AOD vessels, sample only when the operation(s) are being conducted.
 - (2) The facility must conduct each opacity test for a melt shop according to the procedures in §63.6(h) and Method 9 of Appendix A-4 of 40 CFR Part 60. When emissions from any EAF or AOD vessel are combined with emissions from emission sources not subject to this subpart, the facility must demonstrate compliance with the melt shop opacity limit based on emissions from only the emission sources subject to this subpart.
 - (3) During any performance test, the facility must monitor and record the information specified in 40 CFR §60.274a(h) for all heats covered by the test.
 - (4) The facility must notify and receive approval from the Administrator for procedures that will be used to determine compliance for an EAF or AOD vessel when emissions are combined with those from facilities not subject to this subpart.

- (5) To determine compliance with the PM emissions limit in §63.10686(c) for an EAF or AOD vessel in a lb/ton of steel format, compute the process-weighted mass emissions (E_P) for each test run using Equation 1 of §63.10686(d)(5).
- (6) If an existing affected source that is subject to the emissions limits in §63.10686(b) or (c), the facility may certify initial compliance with the applicable emission limit for one or more emissions sources based on the results of a previous performance test for that emissions source in lieu of the requirement for an initial performance test provided that the test(s) were conducted within 5 years of the compliance date using the method and procedures specified in §63.10686(d)(1) or (2); the test(s) were for the affected facility; and the test(s) were representative of current or anticipated operating processes and conditions. Should the permitting authority deem the prior test data unacceptable to demonstrate compliance with an applicable emissions limit, the facility must conduct an initial performance test within 180 days of the compliance date or within 90 days of receipt of the notification of disapproval of the prior test, whichever is later.

40 CFR Part 63 Subpart YYYYY, §63.10686(d)

Alloy Resources completed the performance testing for initial compliance with the applicable limits on March 31, 2005.

Monitoring

- Compliance Assurance Monitoring shall be conducted.
 - The requirements of this part shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all the following criteria:
 - (1) This unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
 - (2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
 - (3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

40 CFR Part 64, §64.2(a)(1) through (3)

- This source has a particulate matter emission limitation set forth by ADEM Administrative Code r. 335-3-4-.04(1); 40 CFR Part 60 Subpart AA, §60.272(a)(1); and 40 CFR Part 63 Subpart YYYYY, §63.10686(c)(1) [§64.2(a)(1)].
- This source is controlled by a baghouse to comply with the particulate matter emission limit [§64.2(a)(2)].

- This source has the potential to emit over 100 TPY of particulate matter without a control device [§64.2(a)(3)].
- The application proposes the continued use of visible emissions, Inspection/Maintenance, and Reference Method Testing as indicators of compliance. Visible emissions from the stack will be monitored daily during operations by someone certified in Method 9 opacity readings. Inspections of the baghouse will be performed daily. Compliance testing will be done as necessary using Methods 1 – 4 and 5.
- See Appendix A for the Compliance Assurance Monitoring (CAM) Requirements

40 CFR Part 64, §64.2

- The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed:
 - a. Check hopper, fan, and cleaning cycle for proper operation.
 - b. Check all hoods and ducts.
 - c. Record any repairs or observed problems.

Rule 335-3-16-.05(c)1.

- The permittee shall perform an annual inspection of the baghouse to verify proper operation. The following activities shall be performed:
 - a. Once per year inspect baghouse structure, access doors, door seals, and bags.
 - b. Once per year perform an internal inspection of the baghouse hoppers.
 - c. Record any repairs or observed problems.

Rule 335-3-16-.05(c)1.

• 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; or on any single-stack fabric filter if visible emissions from the control device are performed by a certified visible emission observer and the owner installs and continuously operates a bag leak detection system according to paragraph §60.272(e). 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 of Appendix A to this part. If visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only once incident of the visible emission, only one set of three 6-minute observations will be

required. In that case, the Method 9 observations must be made during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in §60.272(a).

40 CFR Part 60 Subpart AAa, §60.273a(c)

A continuous monitoring system for the measurement of the opacity is not installed on either of the EAFs or AOD. The baghouses are single stack and equipped with bag leak detectors and do not require a continuous monitoring system for the measurement of the opacity if a certified visible emission observer performs a daily Method 9 observation.

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

40 CFR Part 60 Subpart AAa, §60.273a(b)

- A bag leak detection system must be installed and continuously operated on all single-stack fabric filters if a continuous opacity monitoring system is not installed and operated. In addition, the facility shall meet the visible emissions observation requirements in §60.273a(c). The bag leak detection system must meet the specifications and requirements of (1) through (8).
 - (1) The bag leak detection system sensor must 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.
 - (2) The bag leak detection system sensor must provide output of relative particulate matter loadings and the facility 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.
 - (3) The bag leak detection system must be equipped with an alarm system that will sound when an increase in relative particulate is detected over the alarm set point established according to 60.273(e)(4), and the alarm must be located such that it can be heard by the appropriate plant personnel.
 - (4) The bag leak detection system required shall develop and submit to the Administrator or delegated authority, for approval, a site-specific monitoring plan that addresses the items identified in §60.273(e)(4)(i) through (v). The facility shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan shall describe:
 - (i) Installation of the bag leak detection system;
 - (ii) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established;
 - (iii) Operation of the bag leak detection system including quality assurance procedures;
 - (iv) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list; and

- (v) 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).
- (6) Following initial adjustment, the facility shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided for in §60.273a(e)(6)(i) through (ii).
 - (i) Once per quarter, the facility 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.
 - (ii) If opacities greater than zero percent are observed over four consecutive 15-second observations during the daily opacity observations and the alarm on the bag leak detection system does not sound, the facility shall lower the alarm set point on the bag leak detection system to a pint 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 must be installed downstream of the baghouse and upstream of any wet scrubber.
- (8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

40 CFR Part 60 Subpart AAa, §60.273a(e)

- For each bag leak detection system installed, the facility shall initiate procedures to determine the cause of all alarms within 1 hour of an alarm. Except as provided for in §60.273(g), the cause of the alarm must 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:
 - (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;
 - (2) Sealing off defective bags or filter media;
 - (3) Replacing defective bags or filter media or otherwise repairing the control device;
 - (4) Sealing off a defective baghouse compartment;
 - (5) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and

(6) Shutting down the process producing the particulate emissions.

40 CFR Part 60 Subpart AAa, §60.273a(f)

• When required to demonstrate compliance with the standards under §60.272(a)(3), the control system fan motor amperes and all damper positions, the volumetric flow rate through each separately ducted hood, or the volumetric flow rate at the control device inlet and all damper positions shall be determined during all periods in which a hood is operated for the purpose of the capturing emissions from the affected facility subject to §60.274(b).

40 CFR Part 60 Subpart AAa, §60.274a(c)

• The facility shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (*e.g.*, presence of hole 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.

40 CFR Part 60 Subpart AAa, §60.274a(d)

- During any performance test required under §60.8, and for any report thereof required by §60.276a(f), or to determine compliance with §60.272a(a)(3), the facility shall monitor the following information for all heats covered by the test:
 - (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.

40 CFR Part 60 Subpart AAa, §60.274a(h)

• The facility must install, operate, and maintain a capture system that collects the emissions from each EAF (including charging, melting, and tapping operations) and argon-oxygen decarburization (AOD) vessel and conveys the collected emissions to a control device for the removal of particulate matter (PM).

40 CFR Part 63 Subpart YYYYY, §63.10686(a)

Reporting and Recordkeeping

• All records shall be maintained in a form suitable for inspection for a period of at least five (5) years.

Rule 335-3-16-.05(c)2.

• The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2.

• If a visible emission observation is required using the 40 CFR Part 60, Appendix A, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action taken will be documented in a logbook.

Rule 335-3-16-.05(c)2.

• The facility shall maintain records of all monthly operational status inspections performed under §60.274a(c).

40 CFR Part 60 Subpart AAa, §60.274a(a)

• Records of the measurements required in §60.274a must be retained for at least 2 years following the date of the measurement.

40 CFR Part 60 Subpart AAa, §60.276a(a)

• The facility shall submit a written report of exceedances of the control device opacity to 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.

40 CFR Part 60 Subpart AAa, §60.276a(b)

• Either operation of control system fan motor amperes at values exceeding ±15 percent of the value established under §60.274a(c) or operation at flow rates lower than those established under §60.274a(c) may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Administrator semiannually.

40 CFR Part 60 Subpart AAa, §60.276a(c)

• The requirements of this section remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with this section, provided that they comply with the requirements established by the State.

40 CFR Part 60 Subpart AAa, §60.276a(d)

• When the facility of an EAF or AOD is required to demonstrate compliance with the standard under \$60.275(b)(2) or a combination of (b)(1) and (b)(2) the facility shall obtain approval from the Administrator of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be postmarked at least 30 days prior to the performance test.

40 CFR Part 60 Subpart AAa, §60.276a(e)

• The facility shall conduct the demonstration of compliance with §60.272a(a) of this subpart and furnish the Administrator a written report of the results of the test. This report shall include the information from §60.276a(f)(1) through (22).

40 CFR Part 60 Subpart AAa, §60.276a(f)

- The facility shall maintain the following records for each bag leak detection system required under §60.273a(e):
 - (1) Records of the bag leak detection system output;
 - (2) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
 - (3) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, if procedures were initiated within 1 hour of the alarm, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and if the alarm was alleviated within 3 hours of the alarm.

40 CFR Part 60 Subpart AAa, §60.276a(h)

• The facility must monitor the capture system and PM control device required by this subpart, maintain records, and submit reports according to the compliance assurance monitoring requirements in 40 CFR Part 64. The exemption in 40 CFR 64.2(b)(1)(i) for emissions limitations or standards proposed after November 15, 1990 under section 111 or 112 of the CAA does not apply. In lieu of the deadlines for submittal in 40 CFR 64.5, the facility must submit the monitoring information required by 40 CFR 64.4 to the applicable permitting authority for approval by no later than the compliance date for the affected source for this subpart and operate according to the approved plan by no later than 180 days after the date of approval by the permitting authority.

40 CFR Part 63 Subpart YYYYY, §63.10686(e)

Charge Handling

Scrap metal is mixed with alloys and limestone to produce a charge. The charge is then transported to one of two (2) EAFs.

Applicability

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, "*Major Source Operating Permit*".

Rule 335-3-16-.03

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), *"Control of Particulate Emissions – Visible Emissions".*

Rule 335-3-4-.01(1)

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.02(3), *"Fugitive Dust and Fugitive Emissions"*.

Rule 335-3-4-.02(3)

• This facility is subject to the applicable requirements of 40 CFR Part 63, Subpart YYYYY, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities".

40 CFR Part 63 Subpart YYYYY, §63.10680(b)(1)

• This facility is subject to the applicable requirements of 40 CFR Part 63, Subpart ZZZZZ, "National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources".

40 CFR Part 63 Subpart ZZZZZ, §63.10880(b)(1)

• This facility is subject to the requirements of 40 CFR Part 63, Subpart A, "*General Provisions*" as provided in Table 1 of 40 CFR Part 63 Subpart YYYYY and in 40 CFR Part 63 Subpart ZZZZ.

<u>40 CFR Part 63 Subpart YYYYY, §63.10690(a) & Table 1; 40 CFR Part 63 Subpart ZZZZZ, §63.10890(j)</u>

Emission Standards

Visible Emissions:

• Any source of particulate emission shall not discharge into the atmosphere an opacity greater than that designated as 20% opacity, as determined by a 6-minute period. During one 6 minute period in any 60 minute period a source may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as 40% opacity.

<u>Rule 335-3-4-.01(a) & (b)</u>

Particulate Matter:

• When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape a building or equipment in such a manner and amount as to cause a nuisance or to violate any rule or regulation, the Director may order that the building or equipment in which processing, handling, and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

Rule 335-3-4-.02(3)

- *Chlorinated plastics, lead, and free organic liquids.* For metallic scrap utilized in the EAF at your facility, the facility must comply with the requirements in either §63.10685(a)(1) or (2).
 - (1) Pollution prevention plan. For the production of steel other than leaded steel, the facility must 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. The facility must submit the scrap pollution prevention plan to the permitting authority for approval. The facility must 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 facility 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 facility must keep a copy of the plan onsite, and the facility must provide training on the plan's requirements to all plan personnel with materials acquisition or inspection duties. Each plan must include the information in §63.10685(a)(1)(i) through (iv).
 - (2) Restricted metallic scrap. For the production of steel other than leaded steel, the facility must 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. 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 facility meets the requirements in §63.10685(b)(3).

40 CFR Part 63 Subpart YYYYY, §63.10685(a)

• *Mercury requirements*. For scrap containing motor vehicle scrap, the facility must procure the scrap pursuant to one of the compliance options in §63.10685(b)(1), (2), or (3) for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, the facility must procure the scrap pursuant to the requirements in §63.10685(b)(4) for each scrap provider, contract, or

shipment. The facility may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision.

- (1) *Site-specific plan for mercury switches*. The facility must comply with the requirements in §63.10685(b)(1)(i) through (v).
- (2) Option for approved mercury programs. The facility must certify in the notification of compliance status that the facility participates in and purchase motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator based on the criteria in §63.10685(b)(2)(i) through (iii). If the facility purchases motor vehicle scrap from a broker, the facility must 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 based on the criteria.
- (3) *Option for specialty metal scrap*. The facility must certify in the 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, expected to contain mercury switches.
- (4) *Scrap does not contain motor vehicle scrap*. For scrap not subject to the requirements in §63.10685(b)(1) through (3), the facility must certify in the notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap.

40 CFR Part 63 Subpart YYYYY, §63.10685(b)

- *Metallic scrap management program.* For each segregated metallic scrap storage area, bin or pile, the facility must comply with the materials acquisition requirements. The facility must keep a copy of the material specifications onsite and readily available to all personnel with material acquisition duties and provide a copy to each of the scrap providers.
 - (1) *Restricted metallic scrap*. The facility must prepare and operate at all times according to written material specifications for the purchase and use of only metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, chlorinated plastics, or free liquids.
 - (2) *General iron and steel scrap*. The facility must prepare and operate at all times according to written material specifications for the purchase and use of only iron and steel scrap that has been depleted (to the extent practicable) of organics and HAP metals in the charge materials used by the iron and steel foundry. The materials specifications must include at minimum the following:
 - (i) Specifications for metallic scrap materials charged to a scrap preheater or metal melting furnace to be depleted (to the extent practicable) of the presence of used oil filters, chlorinated plastic parts, accessible lead-containing components (such as batteries and wheel weights), and a program to ensure the scrap materials are drained of free liquids.

40 CFR Part 63 Subpart ZZZZZ, §63.10885(a)(1) & (2)(i)

- *Mercury requirements*. For scrap containing motor vehicle scrap, the facility must procure the scrap pursuant to one of the compliance options in §63.10885(b)(1), (2), or (3) for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, the facility must procure the scrap pursuant to the requirements in §63.10885(b)(4) for each scrap provider, contract, or shipment. The facility may have one scrap provider, contract, or shipment subject to one compliance provision and other subject to another compliance provision.
 - (1) *Site-specific plan for mercury switches*. The facility must comply with the requirements in §63.10885(b)(1)(i) through (v).

40 CFR Part 63 Subpart ZZZZZ, §63.10885(b)(1)

• The facility must comply with the pollution prevention management practices for metallic scrap and mercury switches in §63.10885 and binder formulations in §63.10886.

40 CFR Part 63 Subpart ZZZZZ, §63.10890(a)

• At all times, the facility must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

40 CFR Part 63 Subpart ZZZZZ, §63.10890(i)

Expected Emissions

• According to the application, the potential emissions for PM and PM₁₀ are based on AP-42, Ch. 12.5, Table 12.5-1.

		Emission Rate		
Source	Pollutant	lb/hr	TPY	
Charge Handling	PM	1.20	5.26	
(Fugitives)	PM_{10}	1.20	-	

Table 4. Based on 8,760 hours of operation.

Compliance and Performance Test Methods & Procedures

• Method 9 of 40 CFR Part 60, Appendix A-4, shall be used in the determination of opacity.

Rule 335-3-1-.05

• Method 22 of 40 CFR Part 60, Appendix A-7 shall be used to determine the presence of fugitive emissions.

Rule 335-3-1-.05

Monitoring

• Monitoring will be in the form of maintaining records and submitting required reports.

Rule 335-3-16-.05(c)1.

Reporting and Recordkeeping

• All records shall be maintained in a form suitable for inspection for a period of at least five (5) years.

Rule 335-3-16-.05(c)2.

• If a visible emission observation is required using 40 CFR Part 60, Appendix A, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action taken will be documented in a logbook.

Rule 335-3-16-.05(c)2.

- *Recordkeeping and reporting requirements*, in addition to the records required by §63.10, the facility must keep records to demonstrate compliance with the requirements for the pollution prevention plan in §63.10685(a)(1) and/or for the use of only restricted scrap in §63.10685(a)(2) and for mercury in §63.10685(b)(1) through (3) as applicable. The facility must keep records documenting compliance for scrap that does not contain motor vehicle scrap.
 - (1) If the facility is subject to the requirements for a site-specific plan for mercury, the facility:
 - (i) 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 estimate of the percent of mercury switches recovered; and
 - (ii) 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 must include a certification that have conducted inspections or taken other means of corroboration as required under §63.10685(b)(1)(ii)(C). The facility may include this information in the semiannual compliance reports required under §63.10685(c)(3)
 - (2) If the facility is subject to the option for approved mercury programs under §63.10685(b)(2), the facility must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If the facility purchases motor vehicle scrap from a broker, the facility must 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.

(3) The facility must submit semiannual compliance reports to the Administrator for the control of contaminants from scrap according to the requirements in §63.10(e). The report must clearly identify any deviation from the requirements in §63.10685(a) and (b) applies to each scrap provider, contract, or shipment.

40 CFR Part 63 Subpart YYYYY, §63.10685(c)

• As required by §63.10(b)(1), the facility must maintain files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site.

40 CFR Part 63 Subpart ZZZZZ, §63.10890(d)

• The facility must maintain records of the information specified in §63.10890(e)(1) through (7) according to the requirements in §63.10(b)(1).

40 CFR Part 63 Subpart ZZZZZ, §63.10890(e)

• The facility must submit semiannual compliance reports to the Administrator according to the requirements in §63.10899(c), (f), and (g), except that §63.10899(c)(5) and (7) do not apply.

40 CFR Part 63 Subpart ZZZZZ, §63.10890(f)

Pouring, Casting, and Cooling

Once it is determined that the metal is fully refined, it is transferred to the pouring station. The molten steel from the EAFs or AOD is poured into prefabricated forms. After the molten steel is poured into molds, it is transferred to a final cooling bin.

Applicability

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, "Major Source Operating Permit".

Rule 335-3-16-.03

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), "Visible Emissions".

Rule 335-3-4-.01(1)

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.02(3), *"Fugitive Dust and Fugitive Emissions"*.

Rule 335-3-4-.02(3)

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), *"Process Industries – General"*.

Rule 335-3-4.04(1)

Emission Standards

Visible Emissions:

• Any source of particulate emission shall not discharge into the atmosphere an opacity greater than that designated as 20% opacity, as determined by a 6-minute period. During one 6 minute period in any 60 minute period a source may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as 40% opacity.

Rule 335-3-4-.01(a) & (b)

Particulate Matter:

• When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape a building or equipment in such a manner and amount as to cause a nuisance or to violate any rule or regulation, the Director may order that the building or equipment in which processing, handling, and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material

leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

Rule 335-3-4-.02(3)

• The particulate emissions from the Pouring, Casting, and Cooling process shall not exceed the process weight allowable.

 $E = 3.59P^{0.62}$ (P < 30 tons/hr)

Where E is the emissions in pounds per hour (lb/hr) and P is the process weight per hour in tons per hour (tph).

Rule 335-3-4-.04(1)

Expected Emissions

• According to the application, the potential emissions for PM are based on a stack test performed on March 31, 2005. PM₁₀ and PM_{2.5} are based on engineering estimates. The remaining pollutants are based on emission factors obtained from EPA's WebFire database.

		Emission Rate	
Source	Pollutant	lb/hr	TPY
EP005	PM	0.63	2.77
	PM_{10}	0.63	2.77
	PM _{2.5}	0.63	2.77
	SO_2	0.03	0.13
	NO _X	0.02	0.09
	VOC	0.24	1.05

 Table 5. Based on 8,760 hours of operation.

Compliance and Performance Test Methods & Procedures

• Method 5 of 40 CFR Part 60, Appendix A-3, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

• Method 9 of 40 CFR Part 60, Appendix A-4, shall be used in the determination of opacity.

Rule 335-3-1-.05

• Method 22 of 40 CFR Part 60, Appendix A-7 shall be used to determine the presence of fugitive emissions.

Rule 335-3-1-.05

Monitoring

• Monitoring will be in the form of maintaining records and submitting required reports.

Rule 335-3-16-.05(c)1.

Reporting and Recordkeeping

• All records shall be maintained in a form suitable for inspection for a period of at least five (5) years.

Rule 335-3-16-.05(c)2.

• If a visible emission observation is required using the 40 CFR Part 60, Appendix A, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action taken will be documented in a logbook.

Rule 335-3-16-.05(c)2.

Abrasive Blasting (Pangborn Shotblast) w/ Shared Baghouse

Incoming metal components are cleaned in a Pangborn Shot Blast Cabinet, using stainless steel as the abrasive. The unit is anticipated to operate a maximum of four (4) hours per day. The Pangborn Shotblast shares a baghouse with the Argon-Oxygen Decarburization (AOD) vessel. Therefore, the Pangborn Shotblast is required to meet the applicable requirements of 40 CFR Part 60, Subpart AAa when operating simultaneously with the Argon-Oxygen Decarburization (AOD) vessel.

Applicability

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-16-.03, "*Major Source Operating Permit*".

Rule 335-3-16-.03

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.01(1), *"Control of Particulate Emissions – Visible Emissions".*

Rule 335-3-4-.01(1)

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.02(3), *"Control of Particulate Emissions – Fugitive Dust and Fugitive Emissions".*

Rule 335-3-4-.02(3)

• This source is subject to the applicable requirements of ADEM Admin. Code r. 335-3-4-.04(1), "Control of Particulate Emissions – Process Industries – General".

Rule 335-3-4-.04(1)

• The stack associated with this source is subject to the applicable requirements of 40 CFR Part 60 Subpart AAa, "Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983".

40 CFR Part 60 Subpart AAa, §60.270a(b)

• The stack associated with this source is subject to the applicable requirements of 40 CFR Part 63 Subpart YYYYY, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities".

40 CFR Part 63 Subpart YYYYY, §63.10680(a), (b)(1)

Emission Standards

Opacity:

• Any source of particulate emission shall not discharge into the atmosphere an opacity greater than that designated as 20% opacity, as determined by a 6-minute period. During one 6 minute period in any 60 minute period a source may discharge into the atmosphere from any source of emissions, particulate of an opacity not greater than that designated as 40% opacity.

Rule 335-3-4-.01(a) & (b)

• The facility must not discharge into the atmosphere from an AOD vessel any gases which exit from a control device and exhibit three percent (3%) opacity or greater.

40 CFR Part 60 Subpart AAa, §60.272a(a)(2)

Particulate Matter:

• When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape a building or equipment in such a manner and amount as to cause a nuisance or to violate any rule or regulation, the Director may order that the building or equipment in which processing, handling, and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

Rule 335-3-4-.02(3)

• The particulate emissions from the Abrasive Blasting process shall not exceed the process weight allowable.

$$E = 3.59P^{0.62}$$
 ($P < 30 \ tons/hr$)

Where E is the emissions in pounds per hour (lb/hr) and P is the process weight per hour in tons per hour (tph).

Rule 335-3-4-.04(1)

• The facility must not discharge into the atmosphere from an AOD vessel any gases which exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052gr/dscf)

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40 CFR Part 60 Subpart AAa, §60.272a(a)(1) & 40 CFR Part 63 Subpart YYYYY, §63.10686(c)(1)
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• The facility must not discharge or cause the discharge into the atmosphere from an AOD vessel any gases which exit from a control device and contain particulate matter (PM) in excess of 0.8 pounds per ton (lb/ton) of steel.

40 CFR Part 63 Subpart YYYYY, §63.10686(c)(1)

Expected Emissions

• According to the application, the potential emissions for PM are based on a stack test performed on March 31, 2005. PM₁₀ and PM_{2.5} emissions are based on engineering estimates.

		Emission Rate	
Source	Pollutant	lb/hr	TPY
EP003	PM	0.04	0.18
(BH-3)	PM10	0.04	0.14
	PM _{2.5}	0.04	0.16

 Table 6. Based on 8,760 hours of operation.

Compliance and Performance Test Methods & Procedures

• Method 5 of 40 CFR Part 60, Appendix A-3, shall be used in the determination of particulate emissions.

Rule 335-3-1-.05

• Method 9 of 40 CFR Part 60, Appendix A-4, shall be used in the determination of opacity.

Rule 335-3-1-.05

• Method 22 of 40 CFR Part 60, Appendix A-7, shall be used to determine the presence of fugitive emissions.

Rule 335-3-1-.05

Monitoring

- The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed:
 - a. Check hopper, fan, and cleaning cycle for proper operation.
 - b. Check all hoods and ducts.
 - c. Record any repairs or observed problems.

Rule 335-3-16-.05(c)1.

- The permittee shall perform an annual inspection of the baghouse to verify proper operation. The following activities shall be performed:
 - a. Once per year inspect baghouse structure, access doors, door seals, and bags.
 - b. Once per year perform an internal inspection of the baghouse hoppers.

c. Record any repairs or observed problems.

Rule 335-3-16-.05(c)1.

Reporting and Recordkeeping

• All records shall be maintained in a form suitable for inspection for a period of at least five (5) years.

Rule 335-3-16-.05(c)2.

• The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2.

• If a visible emission observation is required using the 40 CFR Part 60, Appendix A, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action taken will be documented in a logbook.

Rule 335-3-16-.05(c)2.

Environmental Justice

ADEM utilized the EJSCREEN screening tool to perform an analysis of the area. Please refer to Appendix B.

Recommendation

Based on the above analysis, I recommend that, pending the 30-day Public Comment Period and 45-day EPA Review Period, Alloy Resources be issued a renewal for Major Source Operating Permit No. 711-0023. The facility should be able to meet the requirements of this permit and all applicable state and federal air pollution regulations.

Jennifer Youngpeter Industrial Minerals Section Energy Branch Air Division Date

APPENDIX A

COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS

Compliance Assurance Monitoring (CAM) Plan for Electric Arc Furnace #1

		Indicator 1	Indicator 2	Indicator 3
T	Indicator 1 Indicator 2 Visita Environment Leasting (Maintenance)		Deference Method	
1.	Indicator	Visible Emissions	Inspection/Maintenance	Reference Method
				Testing
Measurement Approach		Visual inspection of	Daily inspection	Emissions testing using
		the baghouse stack	according to I/M	methods $1 - 4$ and 5
			checklist; maintenance	
			performed as needed	
II.	Indicator Range	While the unit is	N/A	Particulate Matter,
	C	operating, an		0.0052 gr/dscf
		excursion is defined		6
		as instantaneous		
		opacity greater than		
		20% Excursions		
		570. Excuisions		
		ingger an		
		inspection,		
		corrective action,		
		and a reporting		
	D	requirement.		
III.	Performance			
	Criteria			
	A. Data	Observe visible	Inspections are	Test samples done at the
	Representativeness	emissions at each	performed at the	exhaust of the baghouse
		exit for at least	baghouse	
		three six-minute		
		periods per day		
B.	Verification of	N/A	N/A	N/A
	Operation Status			
C.	QA/QC Practices	The observer will	Qualified personnel	Use reference method
	and Criteria	be certified in	perform inspection	protocols
		Reference Method 9		1
D.	Monitoring	An instantaneous	Daily inspection	Initial/Subsequent
	Frequency	observation will be	J J IIII	Compliance Test
		performed daily.		
		periorities surf.		
		The VF observation	Records are maintained	As required by Methods
		will be recorded	to document daily	1 - 4 and 5
E.	Data Collection	with date time	inspections and any	
	Procedures	regults and nome of	required maintenance	
		observer	required maintenance	
		observer.		
F	Averaging Deriod	Instantaneous	N/A	N/A
L. T.	riveraging renou	mstantaneous		11/17

Compliance Assurance Monitoring (CAM) Plan for Electric Arc Furnace #2

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Visible Emissions	Inspection/Maintenance	Reference Method Testing
Measurement Approach	Visual inspection of the baghouse stack	Daily inspection according to I/M checklist; maintenance performed as needed	Emissions testing using methods $1 - 4$ and 5
II. Indicator Range	While the unit is operating, an excursion is defined as instantaneous opacity greater than 3%. Excursions trigger an inspection, corrective action, and a reporting requirement.	N/A	Particulate Matter, 0.0052 gr/dscf
III. Performance Criteria A. Data Representativeness	Observe visible emissions at each exit for at least three six-minute periods per day	Inspections are performed at the baghouse	Test samples done at the exhaust of the baghouse
B. Verification of Operation Status	N/A	N/A	N/A
C. QA/QC Practices and Criteria	The observer will be certified in Reference Method 9	Qualified personnel perform inspection	Use reference method protocols
D. Monitoring Frequency	An instantaneous observation will be performed daily.	Daily inspection	Initial/Subsequent Compliance Test
E. Data Collection Procedures	The VE observation will be recorded with date, time, results, and name of observer.	Records are maintained to document daily inspections and any required maintenance	As required by Methods 1 – 4 and 5
F. Averaging Period	Instantaneous	N/A	N/A

Compliance Assurance Monitoring (CAM) Plan for Argon-Oxygen Decarburization (AOD) Vessel

		Indicator 1	Indicator 2	Indicator 3
I.	Indicator	Visible Emissions	Inspection/Maintenance	Reference Method Testing
Measur	rement Approach	Visual inspection of the baghouse stack	Daily inspection according to I/M checklist; maintenance performed as needed	Emissions testing using methods $1 - 4$ and 5
П.	Indicator Range	While the unit is operating, an excursion is defined as instantaneous opacity greater than 3%. Excursions trigger an inspection, corrective action, and a reporting requirement.	N/A	Particulate Matter, 0.0052 gr/dscf
III.	Performance Criteria A. Data Representativeness	Observe visible emissions at each exit for at least three six-minute periods per day	Inspections are performed at the baghouse	Test samples done at the exhaust of the baghouse
B.	Verification of Operation Status	N/A	N/A	N/A
C.	QA/QC Practices and Criteria	The observer will be certified in Reference Method 9	Qualified personnel perform inspection	Use reference method protocols
D.	Monitoring Frequency	An instantaneous observation will be performed daily.	Daily inspection	Initial/Subsequent Compliance Test
E.	Data Collection Procedures	The VE observation will be recorded with date, time, results, and name of observer.	Records are maintained to document daily inspections and any required maintenance	As required by Methods 1 – 4 and 5
F.	Averaging Period	Instantaneous	N/A	N/A

APPENDIX B

ENVIRONMENTAL JUSTICE SCREEN





1 mile Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 731

Input Area (sq. miles): 3.65

ICE Melting Solutions, LLC

Selected Variables	State	EPA Region	USA
Selected Valiables	Percentile	Percentile	Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	63	58	61
EJ Index for Ozone	63	58	61
EJ Index for 2017 Diesel Particulate Matter*	63	57	60
EJ Index for 2017 Air Toxics Cancer Risk*	62	58	60
EJ Index for 2017 Air Toxics Respiratory HI*	62	58	60
EJ Index for Traffic Proximity	71	64	63
EJ Index for Lead Paint	64	63	64
EJ Index for Superfund Proximity	63	57	59
EJ Index for RMP Facility Proximity	69	62	63
EJ Index for Hazardous Waste Proximity	63	58	60
EJ Index for Underground Storage Tanks	70	63	66
EJ Index for Wastewater Discharge	81	82	77



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.





1 mile Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 731 Input Area (sq. miles): 3.65 ICE Melting Solutions, LLC



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0





1 mile Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 731

Input Area (sq. miles): 3.65

ICE Melting Solutions, LLC

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA	
Pollution and Sources								
Particulate Matter 2.5 (µg/m ³)	8.65	8.9	33	8.18	69	8.74	51	
Ozone (ppb)	41.2	39.1	70	37.9	68	42.6	39	
2017 Diesel Particulate Matter [*] (µg/m ³)	0.148	0.216	38	0.261	<50th	0.295	<50th	
2017 Air Toxics Cancer Risk [*] (lifetime risk per million)	30	34	55	31	80-90th	29	80-90th	
2017 Air Toxics Respiratory HI*	0.4	0.47	38	0.4	70-80th	0.36	80-90th	
Traffic Proximity (daily traffic count/distance to road)	140	230	62	430	50	710	39	
Lead Paint (% Pre-1960 Housing)	0.097	0.18	47	0.15	57	0.28	39	
Superfund Proximity (site count/km distance)	0.023	0.054	33	0.083	36	0.13	20	
RMP Facility Proximity (facility count/km distance)	1.1	0.41	89	0.6	83	0.75	78	
Hazardous Waste Proximity (facility count/km distance)	0.44	0.83	53	0.62	65	2.2	42	
Underground Storage Tanks (count/km ²)	1.3	1.7	66	3.5	53	3.9	50	
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.015	0.42	80	0.45	83	12	72	
Socioeconomic Indicators								
Demographic Index	37%	36%	62	37%	58	36%	60	
People of Color	29%	34%	54	39%	46	40%	47	
Low Income	46%	37%	67	35%	70	31%	76	
Unemployment Rate	3%	6%	34	6%	33	5%	35	
Linguistically Isolated	3%	1%	85	3%	69	5%	62	
Less Than High School Education	22%	14%	80	13%	82	12%	82	
Under Age 5	5%	6%	41	6%	42	6%	40	
Over Age 64	15%	17%	44	17%	49	16%	53	

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

For additional information, see: www.epa.gov/environmentaljustice

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.





3 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 10,542

Input Area (sq. miles): 29.78

ICE Melting Solutions, LLC

Selected Variables	State	EPA Region	USA						
Selected Valiables	Percentile	Percentile	Percentile						
Environmental Justice Indexes									
EJ Index for Particulate Matter 2.5	72	66	68						
EJ Index for Ozone	73	67	68						
EJ Index for 2017 Diesel Particulate Matter*	72	65	66						
EJ Index for 2017 Air Toxics Cancer Risk*	71	66	68						
EJ Index for 2017 Air Toxics Respiratory HI*	70	66	69						
EJ Index for Traffic Proximity	79	70	68						
EJ Index for Lead Paint	72	72	70						
EJ Index for Superfund Proximity	71	64	64						
EJ Index for RMP Facility Proximity	94	88	86						
EJ Index for Hazardous Waste Proximity	81	81	73						
EJ Index for Underground Storage Tanks	74	67	69						
EJ Index for Wastewater Discharge	87	90	84						



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.





3 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 10,542 Input Area (sq. miles): 29.78 ICE Melting Solutions, LLC



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	1





3 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 10,542

Input Area (sq. miles): 29.78

ICE Melting Solutions, LLC

Selected Variables	Value	State Avg.	%ile in State	EPA Region	%ile in EPA Region	USA Avg.	%ile in USA		
Pollution and Sources									
Particulate Matter 2.5 (µg/m ³)	8.69	8.9	36	8.18	70	8.74	52		
Ozone (ppb)	41.2	39.1	69	37.9	67	42.6	39		
2017 Diesel Particulate Matter [*] (µg/m ³)	0.165	0.216	45	0.261	<50th	0.295	<50th		
2017 Air Toxics Cancer Risk* (lifetime risk per million)	30	34	55	31	80-90th	29	80-90th		
2017 Air Toxics Respiratory HI*	0.4	0.47	38	0.4	70-80th	0.36	80-90th		
Traffic Proximity (daily traffic count/distance to road)	200	230	71	430	58	710	47		
Lead Paint (% Pre-1960 Housing)	0.11	0.18	52	0.15	61	0.28	42		
Superfund Proximity (site count/km distance)	0.022	0.054	32	0.083	35	0.13	20		
RMP Facility Proximity (facility count/km distance)	2.1	0.41	97	0.6	94	0.75	91		
Hazardous Waste Proximity (facility count/km distance)	0.84	0.83	66	0.62	77	2.2	53		
Underground Storage Tanks (count/km ²)	1.4	1.7	67	3.5	54	3.9	51		
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.0093	0.42	76	0.45	80	12	68		
Socioeconomic Indicators									
Demographic Index	40%	36%	66	37%	62	36%	64		
People of Color	28%	34%	52	39%	44	40%	45		
Low Income	53%	37%	77	35%	80	31%	83		
Unemployment Rate	3%	6%	39	6%	39	5%	41		
Linguistically Isolated	8%	1%	95	3%	85	5%	79		
Less Than High School Education	26%	14%	88	13%	89	12%	87		
Under Age 5	8%	6%	74	6%	76	6%	73		
Over Age 64	16%	17%	49	17%	54	16%	57		

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

For additional information, see: www.epa.gov/environmentaljustice

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.





5 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 30,064

Input Area (sq. miles): 81.04

ICE Melting Solutions, LLC

Selected Variables	State	EPA Region	USA						
Selected Valiables	Percentile	Percentile	Percentile						
Environmental Justice Indexes									
EJ Index for Particulate Matter 2.5	69	64	67						
EJ Index for Ozone	70	64	66						
EJ Index for 2017 Diesel Particulate Matter*	71	63	65						
EJ Index for 2017 Air Toxics Cancer Risk*	68	64	66						
EJ Index for 2017 Air Toxics Respiratory HI*	68	64	67						
EJ Index for Traffic Proximity	79	70	69						
EJ Index for Lead Paint	71	71	69						
EJ Index for Superfund Proximity	68	62	62						
EJ Index for RMP Facility Proximity	95	89	88						
EJ Index for Hazardous Waste Proximity	84	84	76						
EJ Index for Underground Storage Tanks	77	69	71						
EJ Index for Wastewater Discharge	88	91	85						



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.





5 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 30,064 Input Area (sq. miles): 81.04 ICE Melting Solutions, LLC



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	3





5 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 30,064

Input Area (sq. miles): 81.04

ICE Melting Solutions, LLC

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 (µg/m³)	8.7	8.9	36	8.18	71	8.74	53
Ozone (ppb)	41.2	39.1	69	37.9	67	42.6	39
2017 Diesel Particulate Matter [*] (µg/m ³)	0.153	0.216	40	0.261	<50th	0.295	<50th
2017 Air Toxics Cancer Risk [*] (lifetime risk per million)	30	34	55	31	80-90th	29	80-90th
2017 Air Toxics Respiratory HI*	0.4	0.47	38	0.4	70-80th	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	180	230	69	430	56	710	45
Lead Paint (% Pre-1960 Housing)	0.15	0.18	61	0.15	68	0.28	47
Superfund Proximity (site count/km distance)	0.022	0.054	32	0.083	35	0.13	20
RMP Facility Proximity (facility count/km distance)	2.1	0.41	97	0.6	94	0.75	91
Hazardous Waste Proximity (facility count/km distance)	1	0.83	70	0.62	81	2.2	56
Underground Storage Tanks (count/km ²)	1.2	1.7	65	3.5	52	3.9	49
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.0086	0.42	76	0.45	80	12	68
Socioeconomic Indicators							
Demographic Index	38%	36%	64	37%	59	36%	61
People of Color	29%	34%	54	39%	46	40%	47
Low Income	48%	37%	70	35%	73	31%	78
Unemployment Rate	3%	6%	39	6%	39	5%	41
Linguistically Isolated	9%	1%	96	3%	87	5%	81
Less Than High School Education	23%	14%	82	13%	85	12%	84
Under Age 5	8%	6%	73	6%	75	6%	73
Over Age 64	15%	17%	43	17%	48	16%	51

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

For additional information, see: www.epa.gov/environmentaljustice

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10 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 68,022

Input Area (sq. miles): 319.15

ICE Melting Solutions, LLC

Selected Variables	State	EPA Region	USA					
	Percentile	Percentile	Percentile					
Environmental Justice Indexes								
EJ Index for Particulate Matter 2.5	67	61	64					
EJ Index for Ozone	67	62	64					
EJ Index for 2017 Diesel Particulate Matter*	67	60	62					
EJ Index for 2017 Air Toxics Cancer Risk*	66	61	64					
EJ Index for 2017 Air Toxics Respiratory HI*	66	61	64					
EJ Index for Traffic Proximity	73	65	64					
EJ Index for Lead Paint	69	69	68					
EJ Index for Superfund Proximity	64	58	60					
EJ Index for RMP Facility Proximity	89	83	81					
EJ Index for Hazardous Waste Proximity	79	79	71					
EJ Index for Underground Storage Tanks	74	66	68					
EJ Index for Wastewater Discharge	85	88	82					



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.





10 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 68,022 Input Area (sq. miles): 319.15 ICE Melting Solutions, LLC



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	6





10 miles Ring around the Area, ALABAMA, EPA Region 4

Approximate Population: 68,022

Input Area (sq. miles): 319.15

ICE Melting Solutions, LLC

Selected Variables	Value	State	%ile in	EPA Region	%ile in EPA	USA Ava	%ile in
		Avg.	State	Avg.	Region	Avg.	USA
Pollution and Sources							
Particulate Matter 2.5 (µg/m ³)	8.7	8.9	36	8.18	71	8.74	53
Ozone (ppb)	41.2	39.1	68	37.9	67	42.6	39
2017 Diesel Particulate Matter [*] (µg/m ³)	0.14	0.216	36	0.261	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	30	34	55	31	80-90th	29	80-90th
2017 Air Toxics Respiratory HI*	0.4	0.47	38	0.4	70-80th	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	150	230	65	430	52	710	41
Lead Paint (% Pre-1960 Housing)	0.16	0.18	63	0.15	69	0.28	48
Superfund Proximity (site count/km distance)	0.022	0.054	31	0.083	34	0.13	19
RMP Facility Proximity (facility count/km distance)	1.4	0.41	92	0.6	87	0.75	83
Hazardous Waste Proximity (facility count/km distance)	0.77	0.83	64	0.62	76	2.2	51
Underground Storage Tanks (count/km ²)	1.1	1.7	63	3.5	50	3.9	47
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.0067	0.42	74	0.45	78	12	66
Socioeconomic Indicators							
Demographic Index	37%	36%	61	37%	57	36%	59
People of Color	26%	34%	50	39%	43	40%	44
Low Income	47%	37%	70	35%	73	31%	77
Unemployment Rate	3%	6%	39	6%	39	5%	42
Linguistically Isolated	7%	1%	94	3%	83	5%	76
Less Than High School Education	22%	14%	80	13%	83	12%	82
Under Age 5	8%	6%	70	6%	73	6%	70
Over Age 64	15%	17%	47	17%	52	16%	55

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