

## STATEMENT OF BASIS

Grede II, LLC – Brewton  
Brewton, Alabama  
Escambia County  
502-0011

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.

Grede II, LLC – Brewton (Grede Brewton) was issued its initial MSOP on August 27, 2003. Grede Brewton was issued its second renewal of the MSOP on January 26, 2016, with an effective date of February 10, 2016, and an expiration date of February 9, 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. Grede Brewton's third renewal application was due to the Department by August 9, 2020 and was received on August 7, 2020. Additional information was received on September 16, 2020 and June 18, 2021.

The facility is located in Escambia County, which is currently listed as attainment/unclassifiable with all National Ambient Air Quality Standards (NAAQS).

There are no current or ongoing enforcement actions against Grede Brewton necessitating additional requirements to achieve compliance with the proposed permit conditions. Grede Brewton was issued a Notice of Violation on June 15, 2022, for failure to comply with semiannual opacity performance testing requirements in 40 CFR Part 63, Subpart EEEEE. However, no changes to the Permit were necessary for Grede to return to compliance. This enforcement action, as well as the facility's enforcement and compliance history, can be found at <https://echo.epa.gov/> (search using Facility ID AL0000000105300011).

### **Facility Description**

Grede Brewton owns and operates a grey iron foundry located in Brewton, AL. Grede Brewton produces ductile, gray, and specialty iron castings and machined components for automotive, commercial vehicle, and industrial markets. Grede Brewton raises the steel scrap and iron foundry refuse to a specific temperature in the Preheaters. The preheated scrap is then transferred in a charge bucket to one of the four (4) electric induction furnaces (EIF), where the metal is heated to molten form. Graphite is added for carbon adjustment, as well as flux to remove impurities. Once the molten iron has reached the desired temperature, the molten iron is tapped into a treatment ladle containing magnesium to create ductile iron (DI). A sand cooler and sand foundry system are used to prepare sand for use in molding operations, and core machines combine sand and resin to create hardened cores used in DI production. Pouring and cooling lines process and mold the molten iron to create cooled iron castings. The rotary shakeout machines are then used to remove sand from the castings and to capture the sand. The iron castings are sent to the de-gating operations where bars, gates, and risers are removed. The continuous and rocker shotblasts tumble and blast the castings with steel shot to create clean iron castings. Iron castings are then sent through the grinding operations for the desired dimensions, shape, and surface finish. The reclean shotblast is sometimes used for additional cleaning before the castings are sent to shipping.

Grede Brewton owns and operates an iron foundry located in Brewton, Escambia County, AL. The significant sources of air pollutants at this facility are:

- Preheaters A (IT6) & B (IT7) w/ Baghouse J
- One (1) LKF 210 Core Machine, Two (2) LFB 25 Core Machines, and One (1) DISA Combi-Core Machines w/ a Gaylord Packed Bed Scrubber
- Four (4) Electric Induction Furnaces (EIF) w/ Shared Baghouse K
- Two (2) Rotary Shakeout Machines w/ Baghouse I

- Nodularization – Ductile Treatment w/ Baghouse G
- Two (2) DISA Pouring Lines w/ Shared Baghouse K
- Two DISA Cooling Lines (B & C)<sup>1,2</sup>
- One (1) DISA 250 Cooling Line (AA) w/ Shared Baghouse BB
- Sand Cooler and Foundry Sand System w/ Shared Baghouse CC
- De-gating & Snag Grinders w/ Shared Baghouse L
- Continuous Shotblast Unit w/ Shared Baghouse L
- Rocker Shotblast Unit w/ Shared Baghouse L
- Reclean Shotblast Unit w/ Shared Baghouse L
- Diesel Emergency Generators
  - 1,050 BHP and 587 BHP

<sup>1</sup>DISA Cooling Lines B & C have a portion of emissions ducted to roof vents

<sup>2</sup>DISA Cooling Lines B & C have the remaining emissions ducted to Shared Baghouses BB & CC

The insignificant sources of air pollutants at this facility are:

- Storage Tanks (Diesel Fuel < 2,000 gallon capacity)
- Brazing, Soldering, and Welding
- Hot Metal Transfer
- Slag Cooling and Handling
- Non-Contact Cooling Water Towering
- Propane Tanks – Loading/Unloading

The following is a summary of facility-wide controlled emissions and the reported 2020 actual emissions:

Regulated Pollutant	Potential Emissions (TPY)	Actual 2020 Emissions (TPY)
<b>PM<sub>TOTAL</sub></b>	145.69	47.2
<b>PM<sub>10</sub></b>	60.88	28.21
<b>PM<sub>2.5</sub></b>	25.84	14.41
<b>VOC</b>	74.50	26.95
<b>NO<sub>x</sub></b>	6.13	2.95
<b>CO</b>	5.07	2.17
<b>Lead</b>	0.23	0.01
<b>SO<sub>2</sub></b>	2.2	0.74
<b>HAP</b>	35.49	-
<b>Benzene</b>	16.39	1.45
<b>Formaldehyde</b>	0.18	0.01
<b>Phenol</b>	6.96	0.54
<b>Toluene</b>	6.96	0.17
<b>Xylene</b>	5.00	0.05
<b>Diisocyanates: MDI/PMDI</b>	0.003	-
<b>GHG (CO<sub>2e</sub>)</b>	7223	-

The facility operates 8,760 hours per year.

### Summary of Changes

The following changes have been made at Grede Brewton since the 2016 Title V renewal:

Date	Unit	Description of Request
12/20/16	X028	Replaced a DISA Combi-Core Machine w/ a Leampe LFB25 Core Machine
1/5/17	X038	Replaced Reclean Shotblast w/ a newer unit (same model); installed new Rocker Shotblast; replaced BH-A, E, & J w/ BH-L
5/2/17	X018 & X021	Relocated BH-I (EP008) to pull from the shakeout operation
9/1/17	X011	Replaced BH-D & H w/ BH-J
3/13/18	X033, X016, & X017	Replaced BH-B & C w/ BH-BB & CC, respectively
4/19/18	X039	Replaced EIF #1 w/ a larger unit
5/15/18	X030	Installed a larger fan motor on BH-G

7/31/18	X040	Installed a new DISA Cooling Line (AA) w/ Pressure Pour Line
1/17/19	X016	Replaced Sand Cooler w/ larger unit
4/23/21	X041 (EG-1)	Permitted existing 587 BHP (438 kW) Emergency Generator No. 1
4/11/22	X042 (EG-2)	Installed 1,050 bhp (783 kW) Emergency Generator No. 2

Notable changes to the Grede II, LLC – Brewton Title V renewal permit are as follows:

- Removal of Compliance Assurance Monitoring (CAM) requirements for Continuous Shotblast EP009, Snag Grinders and De-gating Line EP011, and Wheelabrator “Reclean” Shotblast EP010. These units are still subject to the CAM requirements in 40 CFR Part 64 but have different emission points. The permit will be revised to reflect this change.
- Previously, the Emission Point for Pouring Lines 1 & 2 was Emission Point 004 (EP004). However, the two pouring lines and the four (4) EIFs share Baghouse K (EP002); therefore, the Emission Point for the two pouring lines will be changed to Emission Point 002.
- Addition of Compliance Assurance Monitoring (CAM) requirements for the Preheaters A & B (EP009), Pouring Lines 1 & 2 (EP002), Cooling Lines B & C and DISA Cooling Line AA (EP006), and the Snag Grinders, De-gating Line, Continuous, Rocker, and Reclean Shotblasts (EP013).
- Air Permit No. 502-0011-X039 authorized an increase to the metal melt limit of 108,360 tons to 180,000 tons per 12 months, pending a Title V modification. The new limit will be included in this renewal.
- Air Permit No. 502-0011-X040 for a DISA 250 Cooling Line with Pressure Pour with shared Baghouse M will not be included as an Authorization to Operate (ATO) has not been issued for the unit.
- The requirements of Air Permit Nos. 502-0011-X041 and X042 will be included in this renewal.

#### **40 CFR Part 63, Subpart EEEEE - National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries**

Grede Brewton is a grey iron ductile foundry. Therefore, the facility is subject to National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries, 40 CFR Part 63, Subpart EEEEE. The subpart states that an affected source is existing if construction or reconstruction of the affected source occurred before December 23, 2002 [§63.7682(c)]. Therefore, Grede Brewton would be considered an existing affected source. See below for facility-wide requirements from Subpart EEEEE:

- For each building or structure housing any iron and steel foundry emissions source at the iron and steel foundry, the facility must not discharge any fugitive emissions to the atmosphere from foundry operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 27 percent opacity. [§63.7690(a)(7)]
  - The facility must conduct subsequent performance tests to demonstrate compliance with the opacity limit no less frequently than once every 6 months. [§63.7731(b)]
    - Using a certified observer, the facility shall conduct each opacity test according to the requirements in EPA Method 9 (40 CFR part 60, appendix A) and §63.6(h)(5). The certified observer may identify a limited number of openings or vents that appear to have the highest opacities and perform opacity observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single opacity observation for the entire building or structure may be performed, if the fugitive release points afford such an observation. [§63.7732(d)(1)]
    - During testing intervals when PM performance tests, if applicable, are being conducted, conduct the opacity test such the opacity observations are recorded during the PM performance tests. [§63.7732(d)(2)]
    - The facility must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required by §63.7(b)(1). [§63.7750(d)]

- Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in §63.7751(f)(1) through (3). [§63.7751(f)]
- The facility must keep records of performance tests and performance evaluations as required by §63.10(b)(2)(viii). [§63.7752(a)(3)]
- The facility must always operate and maintain the iron and steel foundry, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this subpart. [§63.7710(a)]
- The facility must be in compliance with the emissions limitations, work practice standards, and operation and maintenance requirements in this subpart at all times. [§63.7720(a)]
- The startup, shutdown, and malfunction plan requirements no longer apply. [§63.7720(c)]
- The facility shall comply with the requirements of 40 CFR Part 63, Subpart A as specified in Table 1 of Subpart EEEEE. [§63.7760]

### **Preheaters A & B w/ Baghouse J**

Scrap metal is placed in the natural gas-fired preheaters A & B. Once the material reaches the specific temperature in the preheaters, it is conveyed into one of the four (4) EIF. The emissions from the preheaters are ducted to Baghouse J (BH-J) (EP009).

These units are subject to state regulations, 40 CFR Part 63, Subpart EEEEE, “*National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries*”, and 40 CFR Part 64, “*Compliance Assurance Monitoring*”.

### **Emission Standards**

#### **Opacity:**

- Any source of particulate emission shall not discharge into the atmosphere particulate of an opacity greater than that designated as 20%, 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 and total metal HAP:**

- 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 gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants be discharge to the open air.

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

- The particulate emissions from both Preheater A and B shall not exceed the lesser of the Anti-PSD combined limit of 1.5 lb/hr (3.7 TPY) (Air Permits 502-0011-X012 & -X011 issued March 3, 2003) out of the baghouse stack or the process weight allowable.

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

Or

$$E = 17.31P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

Where  $E$  is the emissions in pounds per hour (lb/hr) and  $P$  is the process weight per hour in tons per hour (tph). At maximum capacity of 35.4 tph, the combined process weight PM allowable for these units would be 30.63 lb/hr.

#### **Rule 335-3-4-.04(1) & Rule 335-3-14-.04 (Anti-PSD)**

- For each scrap preheater, no emission shall be discharged into the atmosphere that exceed either the limit for particulate matter of 0.005 gr/dscf or alternatively the limit for total metal HAP (arsenic, chromium, mercury, etc. [§63.7765]) of 0.0004 gr/dscf.

#### **40 CFR Part 63 Subpart EEEEE, §63.7690(a)(1)(i) & (ii)**

#### **VOHAP:**

- The facility must not discharge emissions of VOHAP (benzene, toluene, formaldehyde, etc.) through a conveyance to the atmosphere that exceed 20 ppmv, or the facility must meet the work practice standards in §63.7700(e).

40 CFR Part 63 Subpart EEEEE, §63.7690(a)(9)

- If the facility chooses to comply with the VOHAP emissions limit, the facility must install, operate, and maintain a capture and collection system for all emissions sources subject to an emissions limit for VOHAP or triethylamine (TEA) in paragraphs §63.7690(a)(8) through (11).
  - (a) Each capture and collection system must meet accepted engineering standards.
  - (b) The facility must operate each capture system at or above the lowest value or settings established as operating limits in your operation and maintenance plan.

40 CFR Part 63 Subpart EEEEE, §63.7690(b)(1)(i) & (ii)

**Work Practice Standards**

- For each segregated scrap storage area, bin or pile, the facility must either comply with the certification requirements in §63.7700(b) or prepare and implement a plan for the selection and inspection of scrap according to the requirements in §63.7700(c). The facility may have certain scrap subject to §63.7700(b) and other scrap subject to §63.7700(c) provided the scrap remains segregated until charge make-up.

40 CFR Part 63 Subpart EEEEE, §63.7700(a)

- The facility must prepare and operate at all times according to a written certification that the foundry purchases and uses 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, mercury switches, plastics, or free organic liquids. For the purpose of this §63.7700(b), “free organic liquids” is defined as material that fails the paint filter test by EPA Method 9095A, “Paint Filter Liquids Test” (Revision 1, December 1996), as published in EPA Publication SW-846 “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (incorporated by reference - see §63.14). Any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed and/or cleaned to the extent practicable such that the materials do not include lead components, mercury switches, chlorinated plastics, or free organic liquids can be included in this certification

40 CFR Part 63 Subpart EEEEE, §63.7700(b)

- The facility must prepare and operate at all times according to a written plan for the selection and inspection of iron and steel scrap to minimize, to the extent practicable, the amount of organics and HAP metals in the charge materials used by the iron and steel foundry. This scrap selection and inspection plan is subject to approval by the Administrator. You must keep a copy of the plan onsite and readily available to all plant personnel with materials acquisition or inspection duties. You must provide a copy of the material specifications to each of your scrap vendors. Each plan must include the information specified below:
  - (a) A materials acquisition program to limit organic contaminants according to the requirements below, as applicable.
    - i. For scrap charged to a scrap preheater, electric arc metal melting furnace, or electric induction metal melting furnace, specifications for scrap materials to be depleted (to the extent practicable) of the presence of used oil filters, chlorinated plastic parts, organic liquids, and a program to ensure the scrap materials are drained of free liquids; or
    - ii. For scrap charged to a cupola metal melting furnace, specifications for scrap materials to be depleted (to the extent practicable) of the presence of chlorinated plastic, and a program to ensure the scrap materials are drained of free liquids.

- (b) A materials acquisition program specifying that the scrap supplier remove accessible mercury switches from the trunks and hoods of any automotive bodies contained in the scrap and remove accessible lead components such as batteries and wheel weights. You must either obtain and maintain onsite a copy of the procedures used by the scrap supplier for either removing accessible mercury switches or for purchasing automobile bodies that have had mercury switches removed, as applicable, or document your attempts to obtain a copy of these procedures from the scrap suppliers servicing your area.
- (c) Procedures for visual inspection of a representative portion, but not less than 10 percent, of all incoming scrap shipments to ensure the materials meet the specifications.
  - i. The inspection procedures must identify the location(s) where inspections are to be performed for each type of shipment. Inspections may be performed at the scrap supplier's facility. The selected location(s) must provide a reasonable vantage point, considering worker safety, for visual inspection.
  - ii. The inspection procedures must include recordkeeping requirements that document each visual inspection and the results.
  - iii. The inspection procedures must include provisions for rejecting or returning entire or partial scrap shipments that do not meet specifications and limiting purchases from vendors whose shipments fail to meet specifications for more than three inspections in one calendar year.
  - iv. If the inspections are performed at the scrap supplier's facility, the inspection procedures must include an explanation of how the periodic inspections ensure that not less than 10 percent of scrap purchased from each supplier is subject to inspection.

40 CFR Part 63 Subpart EEEEE, §63.7700(c)

- For each scrap preheater at an existing iron and steel foundry, the facility must meet either the following requirements or the VOHAP emissions limit in §63.7690(a)(9):
  - (a) The facility must operate and maintain a gas-fired preheater where the flame directly contacts the scrap charged; or
  - (b) The facility must charge only material that is subject to and in compliance with the scrap certification requirement in §63.7700(b).

40 CFR Part 63 Subpart EEEEE, §63.7700(e)

While Grede Brewton has the option to comply with the alternative emission limit for VOHAP, the facility has elected to comply with the work practice standards in §63.7700(e).

### **Operation and Maintenance Requirements**

- The facility must prepare and operate at all times according to a written operation and maintenance plan for each capture and collection system and control device for an emissions source subject to a PM, metal HAP, TEA, or VOHAP emissions limit in §63.7690(a) or the work practice standards in §63.7700(g). This operation and maintenance plan is subject to approval by the Administrator. Each plan must contain the elements described below:
  - (a) Monthly 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 must include observations of the physical appearance of the equipment (*e.g.*, presence of holes in the ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan must also include requirements to repair the defect or deficiency as soon as practicable.
  - (b) Operating limits for each capture system for an emissions source subject to an emissions limit or standard for VOHAP or TEA in §63.7690(a)(8) through (11). The facility must establish the operating according to the requirements below.



- i. Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a minimum, you must use appropriate operating limit parameters that indicate the level of the ventilation draft and damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to: volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure. Any parameter for damper position setting may be used that indicates the duct damper position related to the fully open setting.
  - ii. For each operating limit parameter selected in §63.7710(b)(2)(i) of this section, designate the value or setting for the parameter at which the capture system operates during the process operation. If your operation allows for more than one process to be operating simultaneously, designate the value or setting for the parameter at which the capture system operates during each possible configuration that you may operate (*i.e.*, the operating limits with one furnace melting, two melting, as applicable to your plant).
  - iii. Include documentation in your plan to support your selection of the operating limits established for your capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why you chose the parameter, a description of the method used to monitor the parameter according to the requirements of §63.7740(a), and the data used to set the value or setting for the parameter for each of your process configurations.
- (c) Preventative maintenance plan for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
- (d) A site-specific monitoring plan for each bag leak detection system. For each bag leak detection system that operates on the triboelectric effect, the monitoring plan must be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015). This baghouse monitoring plan is subject to approval by the Administrator. The owner or operator shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan must address all of the items identified below.
- 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.
  - v. How the bag leak detection system output will be recorded and stored.
- (e) Corrective action plan for each baghouse. The plan must include the requirement that, in the event a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions taken may include, but are not limited to:
- i. Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.
  - ii. Sealing off defective bags or filter media.
  - iii. Replacing defective bags or filter media or otherwise repairing the control device.
  - iv. Sealing off a defective baghouse compartment.
  - v. Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.



- vi. Making process changes.
- vii. Shutting down the process producing the PM emissions.

40 CFR Part Subpart EEEEE, §63.7710(b)

- The facility must operate and maintain each gas-fired preheater such that the flame directly contacts the scrap charged to demonstrate continuous compliance with the requirement §63.7700(e)(1).

40 CFR Part Subpart EEEEE, §63.7744(c)

Expected Emissions

According to the application, the potential emissions for PM are based on Subpart EEEEE limits. PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates. The remaining pollutants are based on AP-42 Table 1.4-1 and 1.4-2.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP009 (BH – J)	PM	1.29	5.26
	PM <sub>10</sub>	0.57	2.49
	PM <sub>2.5</sub>	0.32	1.31
	VOC	0.08	0.33
	NO <sub>x</sub>	1.38	6.04
	SO <sub>2</sub>	0.01	0.04
	CO	1.16	5.07

<sup>1</sup>Based on 8,760 hours of operation

Compliance and Performance Test Methods and Procedures

- If testing is required to demonstrate compliance with the state particulate standard, Method 5 of 40 CFR Part 60, Appendix A-3 shall be used in the determination of particulate matter.

Rule 335-3-1-.05

- If testing is required to demonstrate compliance with the state visible emissions standard, Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of opacity.

Rule 335-3-1-.05

- The facility must conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP, VOHAP, and TEA emissions limitations in §63.7690 no less frequently than every 5 years and each time the facility elects to change an operating limit or to comply with a different alternative emissions limit, if applicable. The requirement to conduct performance tests every 5 years does not apply to an emissions source for which a continuous emissions monitoring system (CEMS) is used to demonstrate continuous compliance.

40 CFR Part 63 Subpart EEEEE, §63.7731(a)

- The facility must conduct each performance test according to the requirements in §63.7732(b) through (i). Each performance test must be conducted under conditions representative of normal operations. Normal operating conditions exclude periods of startup and shutdown. The facility may not conduct performance tests during periods of malfunction. The facility must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation.

Upon request, the facility shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

40 CFR Part 63 Subpart EEEEE, §63.7732(a)

- To determine compliance with the applicable emissions limit for PM in §63.7690(a)(1) through (6) for a metal melting furnace, scrap preheater, pouring station, or pouring area, follow the test methods and procedures below.
  - (a) Determine the concentration of PM according to the test methods in 40 CFR part 60, appendix A that are specified below.
    - i. Method 1 or 1A 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.
    - ii. Method 2, 2A, 2C, 2D, 2F, or 2G to determine the volumetric flow rate of the stack gas.
    - iii. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.
    - iv. Method 4 to determine the moisture content of the stack gas.
    - v. Method 5, 5B, 5D, 5F, or 5I, as applicable, to determine the PM concentration. The PM concentration is determined using only the front-half (probe rinse and filter) of the PM catch.
  - (b) Collect a minimum sample volume of 60 dscf of gas during each PM sampling run. A minimum of three valid test runs are needed to comprise a performance test.
  - (c) For cupola metal melting furnaces, sample only during times when the cupola is on blast.
  - (d) For electric arc and electric induction metal melting furnaces, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, melting, alloying, refining, slagging, and tapping.
  - (e) For scrap preheaters, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, heating, and discharging.
  - (f) Determine the total mass of metal charged to the furnace or scrap preheater. For a cupola metal melting furnace at an existing iron and steel foundry that is subject to the PM emissions limit in §63.7690(a)(ii), calculate the PM emissions rate in pounds of PM per ton (lb/ton) of metal charged using Equation 1 of this section:

$$EF_{PM} = C_{PM} \times \left( \frac{Q}{M_{charge}} \right) \times \left( \frac{t_{test}}{7,000} \right) \quad (Eq. 1)$$

Where:

$EF_{PM}$  = Mass emissions rate of PM, pounds of PM per ton (lb/ton) of metal charged;

$C_{PM}$  = Concentration of PM measured during performance test run, gr/dscf;

$Q$  = Volumetric flow rate of exhaust gas, dry standard cubic feet per minute (dscfm);

$M_{charge}$  = Mass of metal charged during performance test run, tons;

$t_{test}$  = Duration of performance test run, minutes; and

7,000 = Unit conversion factor, grains per pound (gr/lb).

40 CFR Part 63 Subpart EEEEE, §63.7732(b)

- To determine compliance with the applicable emissions limit for total metal HAP in §63.7690(a)(1) through (6) for a metal melting furnace, scrap preheater, pouring station, or pouring area, follow the test methods and procedures below.

- (a) Determine the concentration of total metal HAP according to the test methods in 40 CFR part 60, appendix A that are specified below.
  - i. Method 1 or 1A 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.
  - ii. Method 2, 2A, 2C, 2D, 2F, or 2G to determine the volumetric flow rate of the stack gas.
  - iii. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.
  - iv. Method 4 to determine the moisture content of the stack gas.
  - v. Method 29 to determine the total metal HAP concentration.
- (b) A minimum of three valid test runs are needed to comprise a performance test.
- (c) For cupola metal melting furnaces, sample only during times when the cupola is on blast.
- (d) For electric arc and electric induction metal melting furnaces, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, melting, alloying, refining, slagging, and tapping.
- (e) For scrap preheaters, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, heating, and discharging.
- (f) Determine the total mass of metal charged to the furnace or scrap preheater during each performance test run and calculate the total metal HAP emissions rate (pounds of total metal HAP per ton (lb/ton) of metal charged) using Equation 2 of this section:

$$EF_{\text{TMHAP}} = C_{\text{TMHAP}} \times \left( \frac{Q}{M_{\text{charge}}} \right) \times \left( \frac{t_{\text{test}}}{7,000} \right) \quad (\text{Eq. 2})$$

Where:

$EF_{\text{TMHAP}}$  = Emissions rate of total metal HAP, pounds of total metal HAP per ton (lb/ton) of metal charged;

$C_{\text{TMHAP}}$  = Concentration of total metal HAP measured during performance test run, gr/dscf;

$Q$  = Volumetric flow rate of exhaust gas, dscfm;

$M_{\text{charge}}$  = Mass of metal charged during performance test run, tons;

$t_{\text{test}}$  = Duration of performance test run, minutes; and

7,000 = Unit conversion factor, gr/lb.

40 CFR Part 63 Subpart EEEEE, §63.7732(c)

- To determine compliance with the applicable VOHAP emissions limit in §63.7690(a)(8) for a cupola metal melting furnace or in §63.7690(a)(9) for a scrap preheater, follow the test methods and procedures below.
  - (a) Determine the VOHAP concentration for each test run according to the test methods in 40 CFR part 60, appendix A, that are specified below.
    - i. Method 1 or 1A 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.
    - ii. Method 2, 2A, 2C, 2D, 2F, or 2G to determine the volumetric flow rate of the stack gas.
    - iii. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.
    - iv. Method 4 to determine the moisture content of the stack gas.

- v. Method 18 to determine the VOHAP concentration. Alternatively, you may use Method 25 to determine the concentration of total gaseous nonmethane organics (TGNMO) or Method 25A to determine the concentration of total organic compounds (TOC), using hexane as the calibration gas.
- (b) Determine the average VOHAP, TGNMO, or TOC concentration using a minimum of three valid test runs. Each test run must include a minimum of 60 continuous operating minutes.
- (c) For a cupola metal melting furnace, correct the measured concentration of VOHAP, TGNMO, or TOC for oxygen content in the gas stream using Equation 3 of this section:

$$C_{\text{VOHAP, 10\%O}_2} = C_{\text{VOHAP}} \left( \frac{10.9\%}{20.9\% - \%O_2} \right) \quad (\text{Eq. 3})$$

Where:

$C_{\text{VOHAP}}$  = Concentration of VOHAP in ppmv as measured by Method 18 in 40 CFR part 60, appendix A or the concentration of TGNMO or TOC in ppmv as hexane as measured by Method 25 or 25A in 40 CFR part 60, appendix A; and

$\%O_2$  = Oxygen concentration in gas stream, percent by volume (dry basis).

40 CFR Part 63 Subpart EEEEE, §63.7732(e)

- For each capture system subject to operating limits in §63.7690(b)(1)(ii) for VOHAP, the facility must establish site-specific operating limits in its operation and maintenance plan according to the procedures below:
  - (a) Concurrent with applicable emissions and opacity tests, measure and record values for each of the operating limit parameters in your capture system operation and maintenance plan according to the monitoring requirements in §63.7740(a).
  - (b) For any dampers that are manually set and remain at the same position at all times the capture system is operating, the damper position must be visually checked and recorded at the beginning and end of each run.
  - (c) Review and record the monitoring data. Identify and explain any times the capture system operated outside the applicable operating limits.

40 CFR Part 63 Subpart EEEEE, §63.7733(a)

Periodic Monitoring

- The permittee shall perform a visual check, once per day, of the baghouse associated with these units. The check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are observed at any time and not corrected within a 1 hour period, then a 30-minute Method 9 observation must be performed within 4 hours. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

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

- The permittee shall monitor and record the pressure drop across the baghouse once per day.

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

- The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed:
  - (a) Once per week check the hopper, fan, and cleaning cycle for proper operation.

- (b) Once per week conduct a visual check of all hoods and ductwork.
- (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

- For each capture system subject to an operating limit in §63.7690(b)(1) for VOHAP, the facility must install, operate, and maintain a CPMS according to the requirements in §63.7741(a) and the requirements below:
  - (a) If the facility uses a flow measurement device to monitor the operating limit parameter, the facility must at all times monitor the hourly average rate (*e.g.*, the hourly average actual volumetric flow rate through each separately ducted hood or the average hourly total volumetric flow rate at the inlet to the control device).
  - (b) Dampers that are manually set and remain in the same position are exempt from the requirement to install and operate a CPMS. If dampers are not manually set and remain in the same position, the facility must make a visual check at least once every 24 hours to verify that each damper for the capture system is in the same position as during the initial performance test.

40 CFR Part 63 Subpart EEEEE, §63.7740(a)

- For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, the facility must at all times monitor the relative change in PM loadings using a leak detection system according to the requirements in §63.7741(b).

40 CFR Part 63 Subpart EEEEE, §63.7740(b)

- For each baghouse, regardless of type, that is applied to meet any PM or total metal HAP emissions limitation, the facility must conduct inspections at their specified frequencies according to the requirements specified below:
  - (a) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
  - (b) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
  - (c) Check the compressed air supply for pulse-jet baghouses each day.
  - (d) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
  - (e) Check bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means.
  - (f) Make monthly visual checks of bag tension on reverse air and shaker-type baghouse to ensure that bags are not kinked (knead or bent) or lying on their sides. The facility does not have to make this check for shaker-type baghouse using self-tensioning (spring-loaded) devices.
  - (g) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.

- (h) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

40 CFR Part 63 Subpart EEEEE, §63.7740(c)

- For each capture system subject to an operating limit in §63.7690(b)(1) for VOHAP, the facility must install, operate, and maintain each CPMS according to the requirements below:
  - (a) If you use a flow measurement device to monitor an operating limit parameter for a capture system, you must meet the requirements below.
    - i. Locate the flow sensor and other necessary equipment such as straightening vanes in a position that provides a representative flow and that reduces swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
    - ii. Use a flow sensor with a minimum measurement sensitivity of 2 percent of the flow rate.
    - iii. Conduct a flow sensor calibration check at least semiannually.
    - iv. At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.
  - (b) If you use a pressure measurement device to monitor the operating limit parameter for a capture system, you must meet the requirements below.
    - i. Locate the pressure sensor(s) in or as close as possible to a position that provides a representative measurement of the pressure and that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.
    - ii. Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.
    - iii. Check the pressure tap for pluggage daily. If a “non-clogging” pressure tap is used, check for pluggage monthly.
    - iv. Using a manometer or equivalent device such as a magnahelic or other pressure indicating transmitter, check gauge and transducer calibration quarterly.
    - v. Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range, or install a new pressure sensor.
    - vi. At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.
  - (c) Record the results of each inspection, calibration, and validation check.

40 CFR Part 63 Subpart EEEEE, §63.7741(a)

- For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must install, operate, and maintain a bag leak detection system according to the requirements below:
  - (a) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
  - (b) The bag leak detection system sensor must provide output of relative particulate matter loadings and the owner or operator 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).



- (c) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over the alarm set point established in the operation and maintenance plan, and the alarm must be located such that it can be heard by the appropriate plant personnel.
- (d) The initial adjustment of the system must, at 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).
- (e) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time without approval from the Administrator. Except, once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonable effects including temperature and humidity according to the procedures in the operation and maintenance plan required by §63.7710(b).
- (f) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector sensor must be installed downstream of the baghouse and upstream of any wet scrubber.
- (g) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

40 CFR Part 63 Subpart EEEEE, §63.7741(b)

- The facility must operate each CPMS used to meet the requirements of this subpart according to the requirements specified below:
  - (a) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of three of the required four data points to constitute a valid hour of data.
  - (b) Each CPMS must have valid hourly data for 100 percent of every averaging period.
  - (c) Each CPMS must determine and record the hourly average of all recorded readings and the 3-hour average of all recorded readings.

40 CFR Part 63 Subpart EEEEE, §63.7741(f)

- Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the facility must monitor continuously (or collect data at all required intervals) any time a source of emissions is operating.

40 CFR Part 63 Subpart EEEEE, §63.7742(a)

- The facility may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emissions or operating levels or to fulfill a minimum data availability requirement, if applicable. The facility must use all the data collected during all other periods in assessing compliance.

40 CFR Part 63 Subpart EEEEE, §63.7742(b)

- A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

40 CFR Part 63 Subpart EEEEE, §63.7742(c)

- The facility must demonstrate continuous compliance for each capture system subject to an operating limit in §63.7690(b)(1) for VOHAP by meeting the requirements below:

- (a) Operating the capture system at or above the lowest values or settings established for the operating limits in your operation and maintenance plan; and
- (b) Monitoring the capture system according to the requirements in §63.7740(a) and collecting, reducing, and recording the monitoring data for each of the operating limit parameters according to the applicable requirements in this subpart.

40 CFR Part 63 Subpart EEEEE, §63.7743(b)

- The facility shall inspect and maintain each baghouse according to the requirements of §63.7740(c)(1) through (8) and record all information needed to document conformance with these requirements; and

If the baghouse is equipped with a bag leak detection system, the facility shall maintain records of the times the bag leak detection system sounded, and for each valid alarm, the time the facility initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

40 CFR Part 63 Subpart EEEEE, §63.7743(c)

- For each capture system and control device for an emissions source subject to an emissions limit in §63.7690(a), the facility must demonstrate continuous compliance with the operation and maintenance requirements of §63.7710 by:
  - (a) Making monthly inspections of capture systems and initiating corrective action according to §63.7710(b)(1) and recording all information needed to document conformance with these requirements;
  - (b) Performing preventative maintenance for each control device according to the preventive maintenance plan required by §63.7710(b)(3) and recording all information needed to document conformance with these requirements;
  - (c) Operating and maintaining each bag leak detection system according to the site-specific monitoring plan required by §63.7710(b)(4) and recording all information needed to demonstrate conformance with these requirements; and
  - (d) Initiating and completing corrective action for a bag leak detection system alarm according to the corrective action plan required by §63.7710(b)(5) and recording all information needed to document conformance with these requirements.

40 CFR Part 63 Subpart EEEEE, §63.7745(a)

Compliance Assurance Monitoring (CAM)

- 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 the following criteria:
  - (a) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
  - (b) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
  - (c) 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 particulate matter emission limitations set forth by ADEM Administrative Code r. 335-3-4-.04(1) and 335-3-14-.04 (Anti-PSD) [§64.2(a)(1)].

- This source is controlled by a baghouse to comply with the particulate matter emission limits [§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)].
- See Appendix A for the Compliance Assurance Monitoring (CAM) Requirements.

#### Recordkeeping and Reporting

- 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 visual checks and Method 9 observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken.

##### Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- If a visible emission observation is required using the 40 CFR Part 60, Appendix A-4, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action take will be documented in a logbook.

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

- The facility shall maintain a record of all differential pressure readings performed to satisfy the monitoring requirements. This shall include all problems observed, excursions, and corrective actions taken.

##### Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- 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 & 40 CFR Part 64

- The facility shall maintain a record of all the calibrations of the magnehelic. This shall include all problems observed, excursions, and corrective actions taken.

##### Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- The facility must maintain records of the times the bag leak detection system sounded, and for each valid alarm, the time the facility initiated corrective action, the corrective action taken and the date on which corrective action was completed.

##### 40 CFR Part 63 Subpart EEEEE, §63.7743(c)(2)

- The facility must maintain records that document continuous compliance with the certification requirements in §63.7700(b) or with the procedures in the facility scrap selection and inspection plan required in §63.7700(c). The facility records documenting compliance with the scrap selection and inspection plan must include a copy (kept onsite) of the procedures used by the scrap supplier for either removing accessible mercury switches or for purchasing automobile bodies that have had mercury switches removed, as applicable.

##### 40 CFR Part 63 Subpart EEEEE, §63.7744(a)

- The facility must keep records to document that each scrap preheater charges only material that is subject to and in compliance with the scrap certification requirements in §63.7700(b).

40 CFR Part 63 Subpart EEEEE, §63.7744(c)

- The facility must maintain a current copy of the operation and maintenance plans required by §63.7710(b) onsite and available for inspection upon request. The facility must keep the plans for the life of the iron and steel foundry or until the iron and steel foundry is longer subject to the requirements of 40 CFR Part 63, Subpart EEEEE.

40 CFR Part 63 Subpart EEEEE, §63.7745(b)

- The facility must report each instance in which it did not meet each emissions limitation in §63.7690 (including each operating limit) that applies. This requirement includes periods of startup, shutdown, and malfunction. The facility also must report each instance in which it did not meet each work practice standard in §63.7700 and each operation and maintenance requirement of §63.7710 that applies. These instances are deviations from the emissions limitations, work practice standards, and operation and maintenance requirements in 40 CFR Part 63, Subpart EEEEE. These deviations must be reported according to the requirements of §63.7751.

40 CFR Part 63 Subpart EEEEE, §63.7746(a)

- The must submit all of the notifications required by §§63.6(h)(4) and (5), 63.7(b) and (c); 63.8(e); 63.8(f)(4) and (6); 63.9(b) through (h) that apply to the facility by the specified dates.

40 CFR Part 63 Subpart EEEEE, §63.7750(a)

- The facility must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required by §63.7(b)(1).

40 CFR Part 63 Subpart EEEEE, §63.7750(d)

- Unless the Administrator has approved a different schedule, the facility must submit a semiannual compliance report to the permitting authority according to the requirements specified below:
  - (a) Each compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
  - (b) Each compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.
  - (c) For each iron and steel foundry that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of the dates specified above.

40 CFR Part 63 Subpart EEEEE, §63.7751(a)

- Each compliance report must include the information specified below, as applicable.
  - (a) Company name and address.
  - (b) Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
  - (c) Date of report and beginning and ending dates of the reporting period.

- (d) If there were no deviations from any emissions limitations (including operating limit), work practice standards, or operation and maintenance requirements, a statement that there were no deviations from the emissions limitations, work practice standards, or operation and maintenance requirements during the reporting period.
- (e) If there were no periods during which a continuous monitoring system (including a CPMS or CEMS) was inoperable or out-of-control as specified by §63.8(c)(7), a statement that there were no periods during which the CPMS was inoperable or out-of-control during the reporting period.
- (f) For each affected source or equipment for which there was a deviation from an emissions limitation (including an operating limit, work practice standard, or operation and maintenance requirement) that occurs at an iron and steel foundry during the reporting period, the compliance report must contain the information specified below. The requirements below include periods of startup, shutdown, and malfunction.
  - i. A list of the affected source or equipment and the total operating time of each emissions source during the reporting period.
  - ii. For each deviation from an emissions limitation (including an operating limit, work practice standard, or operation and maintenance requirement) that occurs at an iron and steel foundry during the reporting period, report:
    - A. The date, start time, duration (in hours), and cause of each deviation (characterized as either startup, shutdown, control equipment problem, process problem, other known cause, or unknown cause, as applicable) and the corrective action taken; and
    - B. An estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.
  - iii. A summary of the total duration (in hours) of the deviations that occurred during the reporting period by cause (characterized as startup, shutdown, control equipment problems, process problems, other known causes, and unknown causes) and the cumulative duration of deviations during the reporting period across all causes both in hours and as a percent of the total source operating time during the reporting period.
- (g) For each continuous monitoring system (including a CPMS or CEMS) used to comply with the emissions limitation or work practice standard in this subpart that was inoperable or out-of-control during any portion of the reporting period, you must include the information specified below. The requirements below include periods of startup, shutdown, and malfunction.
  - i. A brief description of the continuous monitoring system, including manufacturer and model number.
  - ii. The date of the latest continuous monitoring system certification or audit.
  - iii. A brief description and the total operating time of the affected source or equipment that is monitored by the continuous monitoring system during the reporting period.
  - iv. A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.
  - v. For each period for which the continuous monitoring system was inoperable or out-of-control during the reporting period, report:
    - A. The date, start time, and duration (in hours) of the deviation;
    - B. The type of deviation (inoperable or out-of-control); and
    - C. The cause of deviation (characterized as monitoring system malfunctions, non-monitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and unknown causes, as applicable) and the corrective action taken.
  - vi. A summary of the total duration (in hours) of the deviations that occurred during the reporting period by cause (characterized as monitoring system malfunctions, non-monitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and unknown causes) and the cumulative

duration of deviations during the reporting period across all causes both in hours and as a percent of the total source operating time during the reporting period.

40 CFR Part 63 Subpart EEEEE, §63.7751(b)

- The facility must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If the facility submits a compliance report for an iron and steel foundry along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emissions limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the facility may have to report deviations from permit requirements for an iron and steel foundry to the permitting authority.

40 CFR Part 63 Subpart EEEEE, §63.7751(d)

- The facility must submit all subsequent semiannual compliance reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>).

40 CFR Part 63 Subpart EEEEE, §63.7751(e)

- Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in paragraphs §63.7751(f)(1) through (3).

40 CFR Part 63 Subpart EEEEE, §63.7751(f)

- Within 60 days after the date of completing each continuous monitoring system (CMS) performance evaluation (as defined in §63.2), you must submit the results of the performance evaluation following the procedures specified in §63.7751(g)(1) through (3) of this section.

40 CFR Part 63 Subpart EEEEE, §63.7751(g)

- The facility must keep the following records:
  - (a) A copy of each notification and report that the facility submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance status that the facility submitted, according to the requirements of §63.10(b)(2)(xiv).
  - (b) Records of required maintenance performed on the air pollution control and monitoring equipment as required by §63.10(b)(2)(iii).
  - (c) Records of performance tests and performance evaluations as required by §63.10(b)(2)(viii).

40 CFR Part 63 Subpart EEEEE, §63.7752(a)

- The facility must keep the following records for each failure to meet an emissions limitation (including operating limit), work practice standard, or operation and maintenance requirement in this subpart.
  - (a) Date, start time, and duration of each failure.
  - (b) List of the affected sources or equipment for each failure, an estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.



(c) Actions taken to minimize emissions in accordance with §63.7710(a), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

40 CFR Part 63 Subpart EEEEE, §63.7752(d)

- The facility must keep records in a form suitable and readily available for expeditious review, according to the requirements of §63.10(b)(1).

40 CFR Part 63 Subpart EEEEE, §63.7753(a)

- As specified in §63.10(b)(1), the facility must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

40 CFR Part 63 Subpart EEEEE, §63.7753(b)

- The facility must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to the requirements in §63.10(b)(1). The facility can keep the records for the previous 3 years offsite.

40 CFR Part 63 Subpart EEEEE, §63.7753(c)

#### **Four (4) Electric Induction Furnaces (EIF) w/ Baghouse K and Nodularization – Ductile Treatment w/ Baghouse G**

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Preheated iron and steel scrap is transferred to one (1) of the four (4) EIF. The molten iron is then tapped into a treatment ladle containing magnesium to create ductile iron. Emissions from the furnaces are ducted to the shared BH-K (EP002), and the emissions from the nodularization operation (ductile treatment) are ducted to BH-G (EP003).

These units are subject to state regulations, 40 CFR Part 63, Subpart EEEEE, “*National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries*”, and 40 CFR Part 64, “*Compliance Assurance Monitoring*”.

#### 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)

##### **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 gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants be discharge to the open air.

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

- The particulate emissions from the four EIFs shall not exceed the lesser of the Anti-PSD combined limit of 0.46 lb/ton and 19.4 lb/hr (Air Permit 502-0011-X024 issued March 3, 2003) out of the baghouse stack or the process weight allowable.

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

or

$$E = 17.34P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

Where  $E$  is the emissions in pounds per hour (lb/hr) and  $P$  is the process weight per hour in tons per hour (tph). At maximum capacity of 35.4 tph, the combined process weight PM allowable for these units would be 30.68 lb/hr.

#### Rule 335-3-4-.04(1) & Rule 335-3-14-.04 (Anti-PSD)

The four (4) EIFs share BH-K with the two (2) pouring lines. The pouring lines would be required to meet the Anti-PSD of 0.46 lb/ton of PM when the pouring line(s) are operating simultaneously with the EIF(s).

- The particulate emissions from the Nodularization (Metal Treatment) Process with Baghouse G shall not exceed the lesser of the Anti-PSD limit of 0.26 lb/ton and 5.8 lb/hr (Air Permit 502-0011-X024 issued March 3, 2003) out of the baghouse stack or the process weight allowable.

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

$$E = 17.34P^{0.16} \text{ (} P \geq 30 \text{ tons/hr)}$$

Where  $E$  is the emissions in pounds per hour (lb/hr) and  $P$  is the process weight per hour in tons per hour (tph). At maximum capacity of 35.4 tph, the process weight PM allowable for this source would be 30.68 lb/hr.

Rule 335-3-4-.04(1) & Rule 335-3-14-.04 (Anti-PSD)

- The production of molten iron by the foundry's four EIFs shall not exceed 180,000 tons during any consecutive 12-month period (Air Permit No. 502-0011-X039 issued April 19, 2018).

Rule 335-3-14-.04 (Anti-PSD)

- For each electric induction metal melting furnace, no emissions shall be discharged into the atmosphere that exceed either the limit for particulate matter of 0.005 gr/dscf or, alternatively, the limit for total metal HAP of 0.0004 gr/dscf.

40 CFR Part 63 Subpart EEEEE, §63.7690(a)(1)(i) & (ii)

The four (4) EIFs share BH-K with the two (2) pouring lines. The pouring lines would be required to meet the limits in 40 CFR §63.7690(a)(1)(i)&(ii) of 0.005 gr/dscf for PM and 0.0004 gr/dscf for total metal HAP when the pouring line(s) are operating simultaneously with the EIF(s).

The Nodularization (Metal Treatment) Process is not considered an affected source under Subpart EEEEE.

Expected Emissions

- According to the application, the 4 EIFs with Baghouse K potential emissions for PM are based on Subpart EEEEE limits. PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates. The remaining pollutant, lead, is based on AP-42 Table 12.10-5.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP002 (BH – K)	PM	2.85	7.24
	PM <sub>10</sub>	1.14	2.90
	PM <sub>2.5</sub>	0.71	1.81
	Lead	0.09	0.23

<sup>1</sup>Based on 8,760 hours of operation.

- According to the application, the Nodularization Ductile Treatment with Baghouse G potential emissions for PM are based on the Anti-PSD limit. PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates. The remaining pollutant, VOC, is based on AP-42.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP003 (BH – G)	PM	3.19	8.10
	PM <sub>10</sub>	1.27	3.24
	PM <sub>2.5</sub>	0.80	2.03
	VOC	0.10	0.45

<sup>1</sup>Based on 8,760 hours of operation.

Compliance and Performance Test Methods and Procedures

- If testing is required, Method 5, 5B, 5D, 5F, or 5I, as applicable, of 40 CFR Part 60, Appendix A-3 shall be used in the determination of particulate matter.

Rule 335-3-1-.05 & 40 CFR Part 63 Subpart EEEEE, §63.7732(b)(1)(v)

- If testing is required, Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of the opacity of the stack emissions.

Rule 335-3-1-.05 & 40 CFR Part 63 Subpart EEEEE, §63.7732(d)(1)

- If testing is required, Method 29 of 40 CFR Part 60, Appendix A-8, shall be used in the determination of total metal HAP.

Rule 335-3-1-.05 & 40 CFR Part 63 Subpart EEEEE, §63.7732(c)(1)(v)

- The facility must conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP, VOHAP, and TEA emissions limitations in §63.7690 no less frequently than every 5 years and each time the facility elects to change an operating limit or to comply with a different alternative emissions limit, if applicable. The requirement to conduct performance tests every 5 years does not apply to an emissions source for which a continuous emissions monitoring system (CEMS) is used to demonstrate continuous compliance.

40 CFR Part 63 Subpart EEEEE, §63.7731(a)

- The facility must conduct each performance test according to the requirements in §63.7732(b) through (i). Each performance test must be conducted under conditions representative of normal operations. Normal operating conditions exclude periods of startup and shutdown. The facility may not conduct performance tests during periods of malfunction. The facility must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the facility shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

40 CFR Part 63 Subpart EEEEE, §63.7732(a)

Periodic Monitoring

- The permittee shall perform a daily visual check of the building(s) containing these units. The check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 15% opacity are observed at any time and not corrected within a 1 hour period, then a 30-minute Method 9 observation must be performed within 4 hours. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

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

- The permittee shall perform a visual check, once per day, of the baghouse associated with these units. The check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are observed at any time and not corrected within a 1 hour period, then a 30-minute Method 9 observation must be performed within 4 hours. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

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

- The permittee shall monitor and record the pressure drop across the baghouse once per day.

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

- The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed:
  - (a) Once per week check the hopper, fan, and cleaning cycle for proper operation.
  - (b) Once per week conduct a visual check of all hoods and ductwork.
  - (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

- For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, the facility must at all times monitor the relative change in PM loadings using a leak detection system according to the requirements in §63.7741(b).

40 CFR Part 63 Subpart EEEEE, §63.7740(b)

- For each baghouse, regardless of type, that is applied to meet any PM or total metal HAP emissions limitation, the facility must conduct inspections at their specified frequencies according to the requirements specified below:
  - (a) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
  - (b) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
  - (c) Check the compressed air supply for pulse-jet baghouses each day.
  - (d) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
  - (e) Check bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means.
  - (f) Make monthly visual checks of bag tension on reverse air and shaker-type baghouse to ensure that bags are not kinked (knead or bent) or lying on their sides. The facility does not have to make this check for shaker-type baghouse using self-tensioning (spring-loaded) devices.
  - (g) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
  - (h) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

40 CFR Part 63 Subpart EEEEE, §63.7740(c)

- For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must install, operate, and maintain a bag leak detection system according to the requirements below:
  - (a) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
  - (b) The bag leak detection system sensor must provide output of relative particulate matter loadings and the owner or operator 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).
  - (c) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over the alarm set point established in the operation and maintenance plan, and the alarm must be located such that it can be heard by the appropriate plant personnel.
  - (d) The initial adjustment of the system must, at 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).
  - (e) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time without approval from the Administrator. Except, once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonable effects including temperature and humidity according to the procedures in the operation and maintenance plan required by §63.7710(b).
  - (f) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector sensor must be installed downstream of the baghouse and upstream of any wet scrubber.
  - (g) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

40 CFR Part 63 Subpart EEEEE, §63.7741(b)

- The facility must operate each CPMS used to meet the requirements of this subpart according to the requirements specified below:
  - (a) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of three of the required four data points to constitute a valid hour of data.
  - (b) Each CPMS must have valid hourly data for 100 percent of every averaging period.
  - (c) Each CPMS must determine and record the hourly average of all recorded readings and the 3-hour average of all recorded readings.

40 CFR Part 63 Subpart EEEEE, §63.7741(f)

- Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the facility must monitor continuously (or collect data at all required intervals) any time a source of emissions is operating.

40 CFR Part 63 Subpart EEEEE, §63.7742(a)

- The facility may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emissions or operating levels or to fulfill a minimum data availability requirement, if applicable. The facility must use all the data collected during all other periods in assessing compliance.

40 CFR Part 63 Subpart EEEEE, §63.7742(b)



- A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

40 CFR Part 63 Subpart EEEEE, §63.7742(c)

- The facility shall inspect and maintain each baghouse according to the requirements of §63.7740(c)(1) through (8) and record all information needed to document conformance with these requirements; and

If the baghouse is equipped with a bag leak detection system, the facility shall maintain records of the times the bag leak detection system sounded, and for each valid alarm, the time the facility initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

40 CFR Part 63 Subpart EEEEE, §63.7743(c)

- For each capture system and control device for an emissions source subject to an emissions limit in §63.7690(a), the facility must demonstrate continuous compliance with the operation and maintenance requirements of §63.7710 by:
  - (a) Making monthly inspections of capture systems and initiating corrective action according to §63.7710(b)(1) and recording all information needed to document conformance with these requirements;
  - (b) Performing preventative maintenance for each control device according to the preventive maintenance plan required by §63.7710(b)(3) and recording all information needed to document conformance with these requirements;
  - (c) Operating and maintaining each bag leak detection system according to the site-specific monitoring plan required by §63.7710(b)(4) and recording all information needed to demonstrate conformance with these requirements; and
  - (d) Initiating and completing corrective action for a bag leak detection system alarm according to the corrective action plan required by §63.7710(b)(5) and recording all information needed to document conformance with these requirements.

40 CFR Part 63 Subpart EEEEE, §63.7745(a)

Compliance Assurance Monitoring

- 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 the following criteria:
  - (a) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
  - (b) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
  - (c) 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)

- These sources have particulate matter emission limitations set forth by ADEM Administrative Code r. 335-3-4-.04(1) and 335-3-14-.04 (Anti-PSD) [§64.2(a)(1)].
- These sources are controlled by a baghouse to comply with the particulate matter emission limits [§64.2(a)(2)].

- These sources have the potential to emit over 100 TPY of particulate matter without a control device [§64.2(a)(3)].
- See Appendix A for the Compliance Assurance Monitoring (CAM) Requirements.

#### Recordkeeping and Reporting

- 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 visual checks and Method 9 observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken.

##### Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- If a visible emission observation is required using the 40 CFR Part 60, Appendix A-4, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action take will be documented in a logbook.

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

- The facility shall maintain a record of all differential pressure readings performed to satisfy the monitoring requirements. This shall include all problems observed, excursions, and corrective actions taken.

##### Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- 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 & 40 CFR Part 64

- The facility shall maintain a record of all the calibrations of the magnehelic. This shall include all problems observed, excursions, and corrective actions taken.

##### Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- The facility shall maintain a record of total iron production. The total iron production shall be kept in a form of a monthly and 12-month rolling total.

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

- The facility must maintain records of the times the bag leak detection system sounded, and for each valid alarm, the time the facility initiated corrective action, the corrective action taken and the date on which corrective action was completed.

##### 40 CFR Part 63 Subpart EEEEE, §63.7743(c)(2)

- The facility must maintain a current copy of the operation and maintenance plans required by §63.7710(b) onsite and available for inspection upon request. The facility must keep the plans for the life of the iron and steel foundry or until the iron and steel foundry is longer subject to the requirements of 40 CFR Part 63, Subpart EEEEE.

40 CFR Part 63 Subpart EEEEE, §63.7745(b)

- The facility must report each instance in which it did not meet each emissions limitation in §63.7690 (including each operating limit) that applies. This requirement includes periods of startup, shutdown, and malfunction. The facility also must report each instance in which it did not meet each work practice standard in §63.7700 and each operation and maintenance requirement of §63.7710 that applies. These instances are deviations from the emissions limitations, work practice standards, and operation and maintenance requirements in 40 CFR Part 63, Subpart EEEEE. These deviations must be reported according to the requirements of §63.7751.

40 CFR Part 63 Subpart EEEEE, §63.7746(a)

- The must submit all of the notifications required by §§63.6(h)(4) and (5), 63.7(b) and (c); 63.8(e); 63.8(f)(4) and (6); 63.9(b) through (h) that apply to the facility by the specified dates.

40 CFR Part 63 Subpart EEEEE, §63.7750(a)

- The facility must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required by §63.7(b)(1).

40 CFR Part 63 Subpart EEEEE, §63.7750(d)

- Unless the Administrator has approved a different schedule, the facility must submit a semiannual compliance report to the permitting authority according to the requirements specified below:
  - (a) Each compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
  - (b) Each compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.
  - (c) For each iron and steel foundry that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of the dates specified above.

40 CFR Part 63 Subpart EEEEE, §63.7751(a)

- Each compliance report must include the information specified in §63.7751(b)(1) through (8), as applicable.

40 CFR Part 63 Subpart EEEEE, §63.7751(b)

- The facility must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If the facility submits a compliance report for an iron and steel foundry along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emissions limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the facility may have to report deviations from permit requirements for an iron and steel foundry to the permitting authority.

40 CFR Part 63 Subpart EEEEE, §63.7751(d)

- The facility must submit all subsequent semiannual compliance reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>).

40 CFR Part 63 Subpart EEEEE, §63.7751(e)

- Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in paragraphs §63.7751(f)(1) through (3).

40 CFR Part 63 Subpart EEEEE, §63.7751(f)

- Within 60 days after the date of completing each continuous monitoring system (CMS) performance evaluation (as defined in §63.2), you must submit the results of the performance evaluation following the procedures specified in §63.7751(g)(1) through (3) of this section.

40 CFR Part 63 Subpart EEEEE, §63.7751(g)

- The facility must keep the following records:
  - (a) A copy of each notification and report that the facility submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance status that the facility submitted, according to the requirements of §63.10(b)(2)(xiv).
  - (b) Records of required maintenance performed on the air pollution control and monitoring equipment as required by §63.10(b)(2)(iii).
  - (c) Records of performance tests and performance evaluations as required by §63.10(b)(2)(viii).

40 CFR Part 63 Subpart EEEEE, §63.7752(a)

- The facility must keep the following records for each failure to meet an emissions limitation (including operating limit), work practice standard, or operation and maintenance requirement in this subpart.
  - (a) Date, start time, and duration of each failure.
  - (b) List of the affected sources or equipment for each failure, an estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.
  - (c) Actions taken to minimize emissions in accordance with §63.7710(a), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

40 CFR Part 63 Subpart EEEEE, §63.7752(d)

- The facility must keep records in a form suitable and readily available for expeditious review, according to the requirements of §63.10(b)(1).

40 CFR Part 63 Subpart EEEEE, §63.7753(a)

- As specified in §63.10(b)(1), the facility must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

40 CFR Part 63 Subpart EEEEE, §63.7753(b)

- The facility must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to the requirements in §63.10(b)(1). The facility can keep the records for the previous 3 years offsite.

40 CFR Part 63 Subpart EEEEE, §63.7753(c)

**Pouring Lines 1 and 2 w/ Shared Baghouse K, Cooling Lines B & C w/ Roof Vents, Shared Baghouse BB & Shared Baghouse CC, and DISA Cooling Line AA with Pressure Pour w/ Shared Baghouse BB**

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Emissions from the two (2) pouring lines are ducted to the shared BH-K (EP002). A portion of emissions from the DISA Cooling Lines B & C are ducted through roof vents (EP005). Emissions from the DISA Cooling Line AA and Pressure Pour and a portion of the emissions from Cooling Line B are ducted to the shared BH-BB (EP006). The remaining emissions from Cooling Line C are ducted to the shared BH-CC (EP007).

These units are subject to state regulations, 40 CFR Part 63, Subpart EEEEE, “*National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries*”, and 40 CFR Part 64, “*Compliance Assurance Monitoring*”.

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)

**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 gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants be discharge to the open air.

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

- The particulate emissions from Pouring Lines 1 and 2 with shared Baghouse K shall not exceed the lesser of the Anti-PSD combined limit of 0.50 lb/ton and 11.03 lb/hr (27.14 tpy) (Air Permit 502-0011-X026 issued April 7, 2003) out of the baghouse stack or the process weight allowable.

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

or

$$E = 17.34P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

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) & Rule 335-3-14-.04 (Anti-PSD)

The pouring lines share a baghouse with the four (4) EIFs (Baghouse K). Therefore, the pouring lines would be subject to the Anti-PSD PM limit 0.46 lb/ton when the pouring lines and EIF(s) are operating at the same time.

- The particulate emissions from the Cooling Lines B and C exiting the roof vents shall not exceed the lesser of the Anti-PSD limit of 0.74 lb/ton and 14.0 lb/hr (34.5 TPY) (Air Permit 502-0011-X033 issued July 21, 2004) out of the roof vents or the process weight allowable.



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

or

$$E = 17.34P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

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) & Rule 335-3-14-.04(Anti-PSD)

- The particulate emissions from the Cooling Line B and DISA 250 Cooling Line AA with Pressure Pour with Shared Baghouse BB and emissions from Cooling Line C ducted to Baghouse CC shall not exceed the lesser of the Anti-PSD combined limit of 0.16 lb/ton and 3.4 lb/hr (14.9 TPY) (Air Permit 502-0011-X033 issued July 21, 2004) out of the out of the baghouse stacks or the process weight allowable.

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

or

$$E = 17.34P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

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) & Rule 335-3-14-.04(Anti-PSD)

BH-CC controls Cooling Line C and the Sand Cooling & Foundry System. Therefore, BH-CC would be required to meet the Anti-PSD limit of 3.0 lb/hr of PM when Cooling Line C and the Sand Cooling & Foundry System are operating simultaneously.

- For each pouring station, no emissions shall be discharged into the atmosphere that exceed either the limit for particulate matter of 0.010 gr/dscf or alternatively the limit for total metal HAP of 0.0008 gr/dscf.

40 CFR Part 63 Subpart EEEEE, §63.7690(a)(5)(i) & (ii)

The two (2) pouring lines share BH-K with the four (4) EIFs. Therefore, the pouring lines would be subject to the PM limit of 0.005 gr/dscf per §63.7690(a)(1)(i) and the total metal HAP limit of 0.0004 gr/dscf when the pouring line(s) and the EIF(s) are operating simultaneously.

Expected Emissions

- According to the application, the two DISA Pouring Lines with Baghouse K potential emissions for PM are based on Subpart EEEEE limits. PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates. The remaining pollutants are based on Casting Emission Reduction Program (CERP) Test Report #1411-318, and Michigan DEQ.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP002 (BH – K)	PM	2.85	12.47
	PM <sub>10</sub>	1.14	4.99
	PM <sub>2.5</sub>	0.71	1.81
	VOC	0.29	1.26
	NO <sub>x</sub>	0.02	0.09
	SO <sub>2</sub>	0.04	0.18
	Total HAP	8.10	35.48
	Xylene	1.14	5.00
	Toluene	1.59	6.96
	Formaldehyde	0.04	0.18

	Benzene	3.74	16.39
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<sup>1</sup>Based on 8,760 hours of operation.

- According to the application, the DISA Cooling Lines B & C with Roof Vent potential emissions for PM are based on the Anti-PSD limit. PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP005 (Roof Vent)	PM	14.00	34.50
	PM <sub>10</sub>	5.60	13.80
	PM <sub>2.5</sub>	1.40	8.63

<sup>1</sup>Based on 8,760 hours of operation.

- According to the application, the DISA Cooling Lines B and DISA 250 Cooling Line AA & Pressure Pour with Baghouse BB potential emissions for PM are based on the Anti-PSD limit. PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP006 (BH – BB)	PM	2.27	9.93
	PM <sub>10</sub>	0.91	3.97
	PM <sub>2.5</sub>	0.23	2.48

<sup>1</sup>Based on 8,760 hours of operation.

- According to the application, the Cooling Line C with Baghouse CC potential emissions for PM are based on the Anti-PSD limit. The potential emissions for PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP007 (BH – CC)	PM	3.00	7.39
	PM <sub>10</sub>	1.20	2.96
	PM <sub>2.5</sub>	0.75	0.74

<sup>1</sup>Based on 8,760 hours of operation.

#### Compliance and Performance Test Methods and Procedures

- If testing is required, Method 5, 5B, 5D, 5F, or 5I, as applicable, of 40 CFR Part 60, Appendix A-3 shall be used in the determination of particulate matter.

Rule 335-3-1-.05 & 40 CFR Part 63 Subpart EEEEE, §63.7732(b)(1)(v)

- If testing is required, Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of the opacity of the stack emissions.

Rule 335-3-1-.05 & 40 CFR Part 63 Subpart EEEEE, §63.7732(d)(1)

- If testing is required, Method 29 of 40 CFR Part 60, Appendix A-8, shall be used in the determination of total metal HAP.

Rule 335-3-1-.05 & 40 CFR Part 63 Subpart EEEEE, §63.7732(c)(1)(v)

- The facility must conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP, VOHAP, and TEA emissions limitations in §63.7690 no less frequently than every 5 years and each

time the facility elects to change an operating limit or to comply with a different alternative emissions limit, if applicable. The requirement to conduct performance tests every 5 years does not apply to an emissions source for which a continuous emissions monitoring system (CEMS) is used to demonstrate continuous compliance.

40 CFR Part 63 Subpart EEEEE, §63.7731(a)

- The facility must conduct each performance test according to the requirements in §63.7732(b) through (i). Each performance test must be conducted under conditions representative of normal operations. Normal operating conditions exclude periods of startup and shutdown. The facility may not conduct performance tests during periods of malfunction. The facility must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the facility shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

40 CFR Part 63 Subpart EEEEE, §63.7732(a)

Periodic Monitoring

- The permittee shall perform a daily visual check of the building(s) containing these units. The check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 15% opacity are observed at any time and not corrected within a 1 hour period, then a 30-minute Method 9 observation must be performed within 4 hours. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

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

- The permittee shall perform a visual check, once per day, of the baghouse associated with these units. The check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are observed at any time and not corrected within a 1 hour period, then a 30-minute Method 9 observation must be performed within 4 hours. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

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

- The permittee shall monitor and record the pressure drop across the baghouse once per day.

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

- The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed:
  - (a) Once per week check the hopper, fan, and cleaning cycle for proper operation.
  - (b) Once per week conduct a visual check of all hoods and ductwork.
  - (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

- For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, the facility must at all times monitor the relative change in PM loadings using a leak detection system according to the requirements in §63.7741(b).

40 CFR Part 63 Subpart EEEEE, §63.7740(b)

- For each baghouse, regardless of type, that is applied to meet any PM or total metal HAP emissions limitation, the facility must conduct inspections at their specified frequencies according to the requirements specified below:
  - (a) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
  - (b) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
  - (c) Check the compressed air supply for pulse-jet baghouses each day.
  - (d) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
  - (e) Check bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means.
  - (f) Make monthly visual checks of bag tension on reverse air and shaker-type baghouse to ensure that bags are not kinked (knead or bent) or lying on their sides. The facility does not have to make this check for shaker-type baghouse using self-tensioning (spring-loaded) devices.
  - (g) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
  - (h) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

40 CFR Part 63 Subpart EEEEE, §63.7740(c)

- For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must install, operate, and maintain a bag leak detection system according to the requirements below:
  - (a) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
  - (b) The bag leak detection system sensor must provide output of relative particulate matter loadings and the owner or operator 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).
  - (c) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over the alarm set point established in the operation and maintenance plan, and the alarm must be located such that it can be heard by the appropriate plant personnel.
  - (d) The initial adjustment of the system must, at 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).

- (e) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time without approval from the Administrator. Except, once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonable effects including temperature and humidity according to the procedures in the operation and maintenance plan required by §63.7710(b).
- (f) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector sensor must be installed downstream of the baghouse and upstream of any wet scrubber.
- (g) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

40 CFR Part 63 Subpart EEEEE, §63.7741(b)

- The facility must operate each CPMS used to meet the requirements of this subpart according to the requirements specified below:
  - (a) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of three of the required four data points to constitute a valid hour of data.
  - (b) Each CPMS must have valid hourly data for 100 percent of every averaging period.
  - (c) Each CPMS must determine and record the hourly average of all recorded readings and the 3-hour average of all recorded readings.

40 CFR Part 63 Subpart EEEEE, §63.7741(f)

- Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the facility must monitor continuously (or collect data at all required intervals) any time a source of emissions is operating.

40 CFR Part 63 Subpart EEEEE, §63.7742(a)

- The facility may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emissions or operating levels or to fulfill a minimum data availability requirement, if applicable. The facility must use all the data collected during all other periods in assessing compliance.

40 CFR Part 63 Subpart EEEEE, §63.7742(b)

- A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

40 CFR Part 63 Subpart EEEEE, §63.7742(c)

- The facility shall inspect and maintain each baghouse according to the requirements of §63.7740(c)(1) through (8) and record all information needed to document conformance with these requirements; and

If the baghouse is equipped with a bag leak detection system, the facility shall maintain records of the times the bag leak detection system sounded, and for each valid alarm, the time the facility initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

40 CFR Part 63 Subpart EEEEE, §63.7743(c)

- For each capture system and control device for an emissions source subject to an emissions limit in §63.7690(a), the facility must demonstrate continuous compliance with the operation and maintenance requirements of §63.7710 by:
  - (a) Making monthly inspections of capture systems and initiating corrective action according to §63.7710(b)(1) and recording all information needed to document conformance with these requirements;
  - (b) Performing preventative maintenance for each control device according to the preventive maintenance plan required by §63.7710(b)(3) and recording all information needed to document conformance with these requirements;
  - (c) Operating and maintaining each bag leak detection system according to the site-specific monitoring plan required by §63.7710(b)(4) and recording all information needed to demonstrate conformance with these requirements; and
  - (d) Initiating and completing corrective action for a bag leak detection system alarm according to the corrective action plan required by §63.7710(b)(5) and recording all information needed to document conformance with these requirements.

40 CFR Part 63 Subpart EEEEE, §63.7745(a)

#### Compliance Assurance Monitoring

- 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 the following criteria:
  - (a) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
  - (b) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
  - (c) 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)

- These sources have particulate matter emission limitations set forth by ADEM Administrative Code r. 335-3-4-.04(1) and 335-3-14-.04 (Anti-PSD) [§64.2(a)(1)].
- These sources are controlled by a baghouse to comply with the particulate matter emission limits [§64.2(a)(2)].
- These sources have the potential to emit over 100 TPY of particulate matter without a control device [§64.2(a)(3)].
- See Appendix A for the Compliance Assurance Monitoring (CAM) Requirements.

#### Recordkeeping and Reporting

- 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 visual checks and Method 9 observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- If a visible emission observation is required using the 40 CFR Part 60, Appendix A-4, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action take will be documented in a logbook.

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

- The facility shall maintain a record of all differential pressure readings performed to satisfy the monitoring requirements. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- 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 & 40 CFR Part 64

- The facility shall maintain a record of all the calibrations of the magnehelic. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- The facility must maintain records of the times the bag leak detection system sounded, and for each valid alarm, the time the facility initiated corrective action, the corrective action taken and the date on which corrective action was completed.

40 CFR Part 63 Subpart EEEEE, §63.7743(c)(2)

- The facility must maintain a current copy of the operation and maintenance plans required by §63.7710(b) onsite and available for inspection upon request. The facility must keep the plans for the life of the iron and steel foundry or until the iron and steel foundry is longer subject to the requirements of 40 CFR Part 63, Subpart EEEEE.

40 CFR Part 63 Subpart EEEEE, §63.7745(b)

- The facility must report each instance in which it did not meet each emissions limitation in §63.7690 (including each operating limit) that applies. This requirement includes periods of startup, shutdown, and malfunction. The facility also must report each instance in which it did not meet each work practice standard in §63.7700 and each operation and maintenance requirement of §63.7710 that applies. These instances are deviations from the emissions limitations, work practice standards, and operation and maintenance requirements in 40 CFR Part 63, Subpart EEEEE. These deviations must be reported according to the requirements of §63.7751.

40 CFR Part 63 Subpart EEEEE, §63.7746(a)

- The must submit all of the notifications required by §§63.6(h)(4) and (5), 63.7(b) and (c); 63.8(e); 63.8(f)(4) and (6); 63.9(b) through (h) that apply to the facility by the specified dates.

40 CFR Part 63 Subpart EEEEE, §63.7750(a)

- The facility must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required by §63.7(b)(1).

40 CFR Part 63 Subpart EEEEE, §63.7750(d)



- Unless the Administrator has approved a different schedule, the facility must submit a semiannual compliance report to the permitting authority according to the requirements specified below:
  - (a) Each compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
  - (b) Each compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.
  - (c) For each iron and steel foundry that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of the dates specified above.

40 CFR Part 63 Subpart EEEEE, §63.7751(a)

- Each compliance report must include the information specified in §63.7751(b)(1) through (8), as applicable.

40 CFR Part 63 Subpart EEEEE, §63.7751(b)

- The facility must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If the facility submits a compliance report for an iron and steel foundry along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emissions limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the facility may have to report deviations from permit requirements for an iron and steel foundry to the permitting authority.

40 CFR Part 63 Subpart EEEEE, §63.7751(d)

- The facility must submit all subsequent semiannual compliance reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>).

40 CFR Part 63 Subpart EEEEE, §63.7751(e)

- Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in paragraphs §63.7751(f)(1) through (3).

40 CFR Part 63 Subpart EEEEE, §63.7751(f)

- Within 60 days after the date of completing each continuous monitoring system (CMS) performance evaluation (as defined in §63.2), you must submit the results of the performance evaluation following the procedures specified in §63.7751(g)(1) through (3) of this section.

40 CFR Part 63 Subpart EEEEE, §63.7751(g)

- The facility must keep the following records:
  - (a) A copy of each notification and report that the facility submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance status that the facility submitted, according to the requirements of §63.10(b)(2)(xiv).

- (b) Records of required maintenance performed on the air pollution control and monitoring equipment as required by §63.10(b)(2)(iii).
- (c) Records of performance tests and performance evaluations as required by §63.10(b)(2)(viii).

40 CFR Part 63 Subpart EEEEE, §63.7752(a)

- The facility must keep the following records for each failure to meet an emissions limitation (including operating limit), work practice standard, or operation and maintenance requirement in this subpart.
  - (a) Date, start time, and duration of each failure.
  - (b) List of the affected sources or equipment for each failure, an estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.
  - (c) Actions taken to minimize emissions in accordance with §63.7710(a), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

40 CFR Part 63 Subpart EEEEE, §63.7752(d)

- The facility must keep records in a form suitable and readily available for expeditious review, according to the requirements of §63.10(b)(1).

40 CFR Part 63 Subpart EEEEE, §63.7753(a)

- As specified in §63.10(b)(1), the facility must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

40 CFR Part 63 Subpart EEEEE, §63.7753(b)

- The facility must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to the requirements in §63.10(b)(1). The facility can keep the records for the previous 3 years offsite.

40 CFR Part 63 Subpart EEEEE, §63.7753(c)

## Sand Cooler and Foundry Sand System w/ Shared Baghouse CC

New sand and sand from rotary shakeouts are conveyed to the Sand Cooler where it is aerated and cooled. The sand is remixed for re-use in sand molds. Emissions from the cooler and foundry sand system are ducted to the shared BH-CC (EP007).

These units are subject to state regulations and 40 CFR Part 64, “*Compliance Assurance Monitoring*”.

These units are not subject to 40 CFR Part 63, Subpart EEEEE, “*National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries*”, though the building housing these units is subject as described at the beginning of this analysis. Subpart EEEEE imposes requirements on mold and core making lines at new foundries and furan warm box systems at new or existing foundries. Grede operates an existing foundry. However, the sand system is not equipped with a furan warm box system. Therefore, Subpart EEEEE does not apply to the sand system.

### 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)

#### **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 gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants be discharge to the open air.

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

- The particulate emissions from the Sand Cooler and Foundry System shall not exceed the lesser of of 3.0 lb/hr (Air Permits 502-0011-X016 & -X017 issued April 7, 2003) or the process weight allowable.

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

or

$$E = 17.34P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

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) & Rule 335-3-14-.04 (Anti-PSD)

BH-CC controls Cooling Line C and the Sand Cooling & Foundry System. Therefore, BH-CC would be required to meet the Anti-PSD limit of 3.0 lb/hr of PM when Cooling Line C and the Sand Cooling & Foundry System are operating simultaneously.

### Expected Emissions

- According to the application, the Sand Cooler and Foundry System with Baghouse CC potential emission for PM is based on the Anti-PSD limit. PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP007 (BH – CC)	PM	3.00	7.39
	PM <sub>10</sub>	1.20	2.96
	PM <sub>2.5</sub>	0.75	0.74

<sup>1</sup>Based on 8,760 hours of operation.

#### Periodic Monitoring

- The permittee shall perform a visual check, once per day, of the associated baghouse with these units. The check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are observed and not corrected within a 1 hour period, then a Method 9 must be performed within 4 hours of the observation. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

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

- The permittee shall monitor and record the pressure drop across the baghouse once per day.

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

- The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed:
  - Once per week check the hopper, fan, and cleaning cycle for proper operation.
  - Once per week conduct a visual check of all hoods and ductwork.
  - 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:
  - Once per year inspect baghouse structure, access doors, door seals, and bags.
  - Once per year perform an internal inspection of the baghouse hoppers.
  - Record any repairs or observed problems.

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

#### Compliance Assurance Monitoring

- 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 the following criteria:
  - The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
  - The unit uses a control device to achieve compliance with any such emission limitation or standard; and

- (c) 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)

- These sources have particulate matter emission limitations set forth by ADEM Administrative Code r. 335-3-4-.04(1) and 335-3-14-.04 (Anti-PSD) [§64.2(a)(1)].
- These sources are controlled by a baghouse to comply with the particulate matter emission limits [§64.2(a)(2)].
- These sources have the potential to emit over 100 TPY of particulate matter without a control device [§64.2(a)(3)].
- See Appendix A for the Compliance Assurance Monitoring (CAM) Requirements.

Recordkeeping and Reporting

- 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 visual checks and Method 9 observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- If a visible emission observation is required using the 40 CFR Part 60, Appendix A-4, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action take will be documented in a logbook.

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

- The facility shall maintain a record of all differential pressure readings performed to satisfy the monitoring requirements. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- 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 & 40 CFR Part 64

- The facility shall maintain a record of all the calibrations of the magnehelic. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

## **Two (2) Rotary Shakeouts w/ Baghouse I**

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The two (2) rotary shakeout machines receive material from the cooling lines, where castings and sand are separated. The sand is captured, handled, and placed on return conveyors to the sand system. Emissions from the shakeout operations are ducted to the shared BH-I (EP008).

These units are subject to state regulations and 40 CFR Part 64, “*Compliance Assurance Monitoring*”.

These units are not subject to 40 CFR Part 63, Subpart EEEEE, “*National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries*”. Per §63.7682(a), automated shakeout lines are affected sources under this subpart. However, the standards for automated shakeout lines only apply for sources at new iron and steel foundries. Since this facility is an existing source, these standards do not apply to the rotary shakeouts.

### **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)**

#### **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 gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants be discharge to the open air.

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

- The particulate emissions from the Two (2) Rotary Shakeouts shall not exceed the lesser of the Anti-PSD combined limit of 3.4 lb/hr (Air Permits 502-0011-X018 & -X021 issued March 3, 2003) out of the baghouse stack or the process weight allowable.

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

or

$$E = 17.34P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

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) & Rule 335-3-14-.04 (Anti-PSD)**

### **Expected Emissions**

- According to the application, the Two Rotary Shakeouts with Baghouse I potential emission for PM is based on the Anti-PSD limit. PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates. The VOC emission is based on AP-42 and engineering estimates.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP008 (BH – I)	PM	3.40	14.90
	PM <sub>10</sub>	1.36	5.96
	PM <sub>2.5</sub>	0.85	1.49
	VOC	14.80	64.82

<sup>1</sup>Based on 8,760 hours of operation.

#### Compliance and Performance Test Methods and Procedures

- If testing is required, Method 5 of 40 CFR Part 60, Appendix A-3 shall be used in the determination of particulate matter.

##### Rule 335-3-1-.05

- If testing is required, Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of the opacity of the stack emissions.

##### Rule 335-3-1-.05

#### Periodic Monitoring

- The facility shall perform a visual check, once per day, of the baghouse associated with these units. The check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are observed at any time and not corrected within a 1 hour period, then a 30-minute Method 9 observation must be performed within 4 hours of the observation. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

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

- The permittee shall monitor and record the pressure drop across the baghouse once per day.

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

- The permittee shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed:
  - (a) Once per week check the hopper, fan, and cleaning cycle for proper operation.
  - (b) Once per week a visual check of all hoods and ductwork.
  - (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



- All dust handling systems (screw conveyors, silos, dumpsters, etc.) shall be inspected once per day to verify proper operation. Any repairs or observed problems shall be recorded.

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

Compliance Assurance Monitoring

- 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 the following criteria:
  - (a) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
  - (b) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
  - (c) 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)

- These sources have particulate matter emission limitations set forth by ADEM Administrative Code r. 335-3-4-.04(1) and 335-3-14-.04 (Anti-PSD) [§64.2(a)(1)].
- These sources are controlled by a baghouse to comply with the particulate matter emission limits [§64.2(a)(2)].
- These sources have the potential to emit over 100 TPY of particulate matter without a control device [§64.2(a)(3)].
- See Appendix A for the Compliance Assurance Monitoring (CAM) Requirements.

Recordkeeping and Reporting

- 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 visual checks and Method 9 observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- If a visible emission observation is required using the 40 CFR Part 60, Appendix A-4, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action take will be documented in a logbook.

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

- The facility shall maintain a record of all differential pressure readings performed to satisfy the monitoring requirements. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- 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 & 40 CFR Part 64

- The facility shall maintain a record of all the calibrations of the magnehelic. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

#### **Four (4) Core Machines w/ Gaylord Packed Bed Scrubber (Core Making)**

The core creation begins with core grade sand being mixed with resin and blown to form. Dimethylaminopropylamine (DMIPA) catalyst is added to activate hardening. The hardened cores are used in DI production. Particulate emissions are sent to the Gaylord Packed Bed Scrubber (EP012).

These units are subject to state regulations and 40 CFR Part 63 Subpart EEEEE, “*National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries*”.

#### **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)**

##### **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 gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants be discharge to the open air.

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

- The particulate emissions from the four core making machines shall not exceed the lesser of the Anti-PSD limit of 3.3 lb/hr (14.9 TPY) (Air Permit 502-0011-X029 issued March 3, 2003) out of the baghouse stack or the process weight allowable.

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

or

$$E = 17.34P^{0.160.62} \quad (P \geq 30 \text{ tons/hr})$$

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) & Rule 335-3-14-.04 (Anti-PSD)**

##### **TEA:**

Grede Brewton stated the core making process uses DMIPA. Therefore, the core making process would not be subject to any regulations involving TEA in 40 CFR Part 63, Subpart EEEEE.

##### **Work Practice Standards**

- For each core making line in a new or existing iron and steel foundry, the facility must use a binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation as determined by the Material Safety Data Sheet.

40 CFR Part 63 Subpart EEEEE, §63.7700(d)

#### Expected Emissions

- According to the application, the potential emissions for PM are based on the Anti-PSD limit. PM<sub>10</sub> and PM<sub>2.5</sub> emissions are based on engineering estimates. VOC emissions are based on factors from Michigan DEQ.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP012 (Gaylord Packed Bed Scrubber)	PM	3.30	14.90
	PM <sub>10</sub>	1.32	5.96
	PM <sub>2.5</sub>	0.83	1.49
	VOC	1.74	7.64

<sup>1</sup>Based on 8,760 hours of operation

#### Compliance and Performance Test Methods and Procedures

- If testing is required, Method 5 of 40 CFR Part 60, Appendix A-3 shall be used in the determination of particulate matter.

Rule 335-3-1-.05

- If testing is required, Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of the opacity of the stack emissions.

Rule 335-3-1-.05

#### Periodic Monitoring

- The facility shall perform a visual check, once per day, of the stack associated with these units. The check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are observed at any time and not corrected within a 1 hour period, then a 30-minute Method 9 observation must be performed within 4 hours of the observation. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

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

- The permittee shall monitor and record the scrubber column differential pressure and scrubbing solution pH once per day.

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

- The permittee shall perform a weekly inspection of the packed bed scrubber to verify proper operation. The following activities shall be performed:
  - Once per week check the scrubber, blower, and scrubbing solution pump for proper operation.
  - Once per week a visual check of all hoods and ductwork.

- (c) Record any repairs or observed problems.

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

- The permittee shall perform an annual inspection of the packed bed scrubber to verify proper operation. The following activities shall be performed:
  - (a) Once per year inspect scrubber structure, access doors, and door seals.
  - (b) Once per year perform an internal inspection of the scrubber column packing, scrubber blower, and scrubber solution pump.
  - (c) Record any repairs or observed problems.

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

### Compliance Assurance Monitoring

- 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 the following criteria:
  - (a) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
  - (b) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
  - (c) 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)

- These sources have particulate matter emission limitations set forth by ADEM Administrative Code r. 335-3-4-.04(1) and 335-3-14-.04 (Anti-PSD) [§64.2(a)(1)].
- These sources are controlled by a baghouse to comply with the particulate matter emission limits [§64.2(a)(2)].
- These sources do not have the potential to emit over 100 TPY of particulate matter without a control device [§64.2(a)(3)].
- CAM does not apply to these units.

### Recordkeeping and Reporting

- 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 differential pressure readings, solution pH readings, and inspections, to include visible observations and Method 9 observations performed to satisfy the periodic monitoring requirements. 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-4, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action take will be documented in a logbook.

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

- The facility must keep records of the chemical composition of all catalyst binder formulations applied in each furan warm box mold or core making line at a new or existing iron and steel foundry to demonstrate continuous compliance with the requirements in 40 CFR §63.7700(d).

40 CFR Part 63 Subpart EEEEE, §63.7744(b)

- The facility must report each instance in which it did not meet each emissions limitation in §63.7690 (including each operating limit) that applies. This requirement includes periods of startup, shutdown, and malfunction. The facility also must report each instance in which it did not meet each work practice standard in §63.7700 and each operation and maintenance requirement of §63.7710 that applies. These instances are deviations from the emissions limitations, work practice standards, and operation and maintenance requirements in 40 CFR Part 63, Subpart EEEEE. These deviations must be reported according to the requirements of §63.7751.

40 CFR Part 63 Subpart EEEEE, §63.7746(a)

- The must submit all of the notifications required by §§63.6(h)(4) and (5), 63.7(b) and (c); 63.8(e); 63.8(f)(4) and (6); 63.9(b) through (h) that apply to the facility by the specified dates.

40 CFR Part 63 Subpart EEEEE, §63.7750(a)

- The facility must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required by §63.7(b)(1).

40 CFR Part 63 Subpart EEEEE, §63.7750(d)

- Unless the Administrator has approved a different schedule, the facility must submit a semiannual compliance report to the permitting authority according to the requirements specified below:
  - (a) Each compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
  - (b) Each compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.
  - (c) For each iron and steel foundry that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of the dates specified above.

40 CFR Part 63 Subpart EEEEE, §63.7751(a)

- Each compliance report must include the information specified in §63.7751(b)(1) through (8), as applicable.

40 CFR Part 63 Subpart EEEEE, §63.7751(b)

- The facility must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If the facility submits a compliance report for an iron and steel foundry along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40

CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emissions limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the facility may have to report deviations from permit requirements for an iron and steel foundry to the permitting authority.

40 CFR Part 63 Subpart EEEEE, §63.7751(d)

- The facility must submit all subsequent semiannual compliance reports to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>).

40 CFR Part 63 Subpart EEEEE, §63.7751(e)

- Within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test following the procedures specified in paragraphs §63.7751(f)(1) through (3).

40 CFR Part 63 Subpart EEEEE, §63.7751(f)

- The facility must keep the following records:
  - (a) A copy of each notification and report that the facility submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance status that the facility submitted, according to the requirements of §63.10(b)(2)(xiv).
  - (b) Records of required maintenance performed on the air pollution control and monitoring equipment as required by §63.10(b)(2)(iii).
  - (c) Records of performance tests and performance evaluations as required by §63.10(b)(2)(viii).
  - (d) Records of the annual quantity of each chemical binder or coating material used to coat or make molds and cores, the Material Data Safety Sheet or other documentation that provides the chemical composition of each component, and the annual quantity of HAP used in these chemical binder or coating materials at the foundry as calculated from the recorded quantities and chemical compositions (from Material Data Safety Sheets or other documentation).

40 CFR Part 63 Subpart EEEEE, §63.7752(a)

- The facility must keep the following records for each failure to meet an emissions limitation (including operating limit), work practice standard, or operation and maintenance requirement in this subpart.
  - (a) Date, start time, and duration of each failure.
  - (b) List of the affected sources or equipment for each failure, an estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.
  - (c) Actions taken to minimize emissions in accordance with §63.7710(a), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

40 CFR Part 63 Subpart EEEEE, §63.7752(d)

- The facility must keep records in a form suitable and readily available for expeditious review, according to the requirements of §63.10(b)(1).

40 CFR Part 63 Subpart EEEEE, §63.7753(a)



- As specified in §63.10(b)(1), the facility must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

40 CFR Part 63 Subpart EEEEE, §63.7753(b)

- The facility must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to the requirements in §63.10(b)(1). The facility can keep the records for the previous 3 years offsite.

40 CFR Part 63 Subpart EEEEE, §63.7753(c)

## Snag Grinders and Degating Line, Rocker Shotblast, Continuous Shotblast, and Reclean Shotblast w/ Baghouse L

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After shakeout, castings are conveyed to degating operations. During the degating operations, bars, risers, and gates are removed. The degated castings are then conveyed to shotblasting operations. The emissions from the degating operations are ducted to the shared BH-L (EP013).

Following the degating operations, some castings are conveyed to the continuous or rocker shotblast unit. The castings are then tumbled and blasted with steel cast. Cleaned castings are then sorted and conveyed to grinding operations. The emissions from the continuous shotblast are ducted to the shared BH-L (EP013).

The reclean shotblast unit is utilized when finished castings require additional blasting/cleaning due to inadequacies or rust. Castings are placed in batch-type shotblast cleaning machine and tumbled and blasted with steel shot. Emissions from the reclean shotblast are ducted to the shared BH-L (EP013).

After the shotblasting operations, castings are conveyed to the grinding operation in order to achieve desired dimensions, physical shape, and surface finish. Also, any remaining gate material is removed. The emissions from the grinding operation are ducted to the shared BH-L (EP013).

These units are subject to state regulations and 40 CFR Part 64, “*Compliance Assurance Monitoring*”.

### 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)

#### **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 gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants be discharge to the open air.

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

- The particulate emissions from the Snag Grinders, De-gating Line, and Continuous, Rocker, and Reclean Shotblasters shall not exceed the lesser of the Anti-PSD combined limit of 12.9 lb/hr (27.19 TPY) out of the baghouse stack or the process weight allowable.

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

or

$$E = 17.34P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

Where  $E$  is the emissions in pounds per hour (lb/hr) and  $P$  is the process weight per hour in tons per hour (tph). At maximum capacity the combined process weight PM allowable for these units would be 23.39 lb/hr.

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

- The particulate emissions from the Snag Grinders and Degating Line shall not exceed the lesser of the Anti-PSD limit of 2.10 lb/hr (5.20 TPY) (Air Permit 502-0011-X020 issued March 3, 2003) out of the baghouse stack or the process weight allowable.

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

or

$$E = 17.34P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

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) & Rule 335-3-14-.04 (Anti-PSD)

- The particulate emissions from the Continuous, Rocker, and the Reclean Shotblasts and the Snag Grinders and Degating Line shall not exceed the lesser of the Anti-PSD limit of 0.37 lb/ton (Air Permit 502-0011-X038 issued January 5, 2017) out of the baghouse stack or the process weight allowable.

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

or

$$E = 17.34P^{0.16} \quad (P \geq 30 \text{ tons/hr})$$

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) & Rule 335-3-14-.04 (Anti-PSD)

- The 0.37 lb/ton limit was proposed to be determined by the tons of metal melted in the furnaces (see Engineering Analysis, dated November 22, 2016). Therefore, based on the maximum hourly melt capacity of 70,800 lb/hr and 180,000 ton/year (see Title V renewal application), the maximum allowable PM rate for these sources would be 13.1 lb/hr and 33.3 tpy. Therefore, when all units are operating, emissions from the shared baghouse shall not exceed 13.1 lb/hr. Note: This limit is a combination of the existing limits for these sources. No increase was authorized during this renewal.

Expected Emissions

According to the application, the Snag Grinders and Degating Line potential emissions for PM are based on AP-42 Table 12.10-7. The Continuous, Rocker, and Reclean Shotblasts potential emissions for PM are based on Anti-PSD limits. PM<sub>10</sub> and PM<sub>2.5</sub> are based on engineering estimates.

Source	Pollutant	Emission Rate	
		lb/hr	TPY <sup>1</sup>
EP013 (BH-L)	PM	13.1	33.3
	PM <sub>10</sub>	6.45	16.7
	PM <sub>2.5</sub>	1.29	8.33
EP013: Snag Grinders & De-gating Line (BH-L)	PM	2.10	5.20
	PM <sub>10</sub>	1.05	2.60
	PM <sub>2.5</sub>	0.53	1.30
	PM	6.66	9.44

EP013: Continuous Shotblast (BH-L)	PM <sub>10</sub>	3.33	4.72
	PM <sub>2.5</sub>	0.67	0.94
EP013: Rocker Shotblast (BH-L)	PM	3.70	9.45
	PM <sub>10</sub>	1.85	4.72
	PM <sub>2.5</sub>	0.37	0.94
EP013: Reclean Shotblast (BH-L)	PM	0.44	1.94
	PM <sub>10</sub>	0.22	0.97
	PM <sub>2.5</sub>	0.04	0.19

<sup>1</sup>Based on 8,760 hours of operation.

#### Compliance and Performance Test Methods and Procedures

- If testing is required, Method 5 of 40 CFR Part 60, Appendix A-3 shall be used in the determination of particulate matter.

##### Rule 335-3-1-.05

- If testing is required, Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of the opacity of the stack emissions.

##### Rule 335-3-1-.05

#### Periodic Monitoring

- The facility shall perform a visual check, once per day, of the associated baghouse with these units. The check shall be performed by a person familiar with Method 9. If estimated instantaneous visible emissions in excess of 10% opacity are observed at any time and not corrected within a 1 hour period, then a 30-minute Method 9 observation must be performed within 4 hours. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

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

- The facility shall monitor and record the pressure drop across the baghouse once per day.

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

- The facility shall perform a weekly inspection of the baghouse to verify proper operation. The following activities shall be performed:
  - (a) Once per week check the hopper, fan, and cleaning cycle for proper operation.
  - (b) Once per week conduct a visual check of all hoods and ductwork.
  - (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

##### Compliance Assurance Monitoring

- 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 the following criteria:
  - (a) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
  - (b) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
  - (c) 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)

- These sources have particulate matter emission limitations set forth by ADEM Administrative Code r. 335-3-4-.04(1) and 335-3-14-.04 (Anti-PSD) [§64.2(a)(1)].
- These sources are controlled by a baghouse to comply with the particulate matter emission limits [§64.2(a)(2)].
- These sources have the potential to emit over 100 TPY of particulate matter without a control device [§64.2(a)(3)].
- See Appendix A for the Compliance Assurance Monitoring (CAM) Requirements.

##### Recordkeeping and Reporting

- 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 visual checks and Method 9 observations performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken.

#### Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- If a visible emission observation is required using the 40 CFR Part 60, Appendix A-4, Method 9, the results will be documented using an ADEM visible emissions observation report, and the cause and corrective action take will be documented in a logbook.

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

- The facility shall maintain a record of all differential pressure readings performed to satisfy the monitoring requirements. This shall include all problems observed, excursions, and corrective actions taken.

#### Rule 335-3-16-.05(c)2 & 40 CFR Part 64

- 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 & 40 CFR Part 64

- The facility shall maintain a record of all the calibrations of the magnehelic. This shall include all problems observed, excursions, and corrective actions taken.

Rule 335-3-16-.05(c)2 & 40 CFR Part 64

## Diesel Emergency Generator Engines

There are two stationary reciprocating internal combustion engines (RICE) located at the facility. The following engines are utilized for emergency purposes only:

- Emergency Generator #1 (587 hp)
- Emergency Generator #2 (1050 hp)

There are three federal rules that are potentially applicable to sources such as these. They are as follows:

- 40 CFR Part 63, Subpart ZZZZ, “National Emission Standards for Hazardous Air Pollutant Emissions from Stationary Reciprocating Internal Combustion Engines”
- 40 CFR Part 60, Subpart IIII, “New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines”
- 40 CFR Part 60, Subpart JJJJ, “New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines”

The following chart shows the applicability status of these rules to each of the RICE:

Source	40 CFR Part 63, Subpart ZZZZ	40 CFR Part 60, Subpart IIII	40 CFR Part 60, Subpart JJJJ
Emergency Generator #1 (587 HP)	Yes	No	No
Emergency Generator #2 (1050 HP)	Yes	No	No

## 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)

### **Work Practices**

- If the engine operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), the Permittee shall use diesel fuel that meets the requirements in 40 CFR 1090.305 for nonroad diesel fuel.

40 CFR Part 63 Subpart ZZZZ, §63.6604(b)

- At all times the facility must operate and maintain the engines, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the facility to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.



- The facility must operate the emergency stationary RICE according to the requirements in §63.6640(f)(1) through (4). In order for the engines to be considered emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in §63.6640(f)(1) through (4), is prohibited. If the facility does not operate the engines according to the requirements in §63.6640(f)(1) through (4), the engines will not be considered emergency engines under this subpart and must meet all requirements for non-emergency engines.
  - (a) There is no time limit on the use of emergency stationary RICE in emergency situations.
  - (b) The facility may operate emergency stationary RICE for any combination of the purposes specified in §63.6640(f)(2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by §63.6640(f)(3) and (4) counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).
    - i. Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
    - ii. Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
    - iii. Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
  - (c) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

### Expected Emissions

Potential emissions are based on 500 hours of operation per year and AP-42 emission factors (Section 3.3 Tables 3.3-1 & 3.3-2 and Section 3.4 Tables 3.4-1 & 3.4-2).

<b>Potential Emissions Emergency Generator #1 (TPY)</b>							
<i>PM</i>	<i>PM<sub>10</sub></i>	<i>PM<sub>2.5</sub></i>	<i>NO<sub>x</sub></i>	<i>CO</i>	<i>SO<sub>2</sub></i>	<i>VOC</i>	<i>HAP</i>
0.36	0.36	0.36	4.38	0.94	0.29	0.36	0.02

<b>Potential Emissions Emergency Generator #2 (TPY)</b>							
<i>PM</i>	<i>PM<sub>10</sub></i>	<i>PM<sub>2.5</sub></i>	<i>NO<sub>x</sub></i>	<i>CO</i>	<i>SO<sub>2</sub></i>	<i>VOC</i>	<i>HAP</i>
0.70	0.70	0.70	8.53	1.84	0.56	0.70	0.03

#### Compliance and Performance Test Methods and Procedures

- If testing is required, Method 5 of 40 CFR Part 60, Appendix A-3 shall be used in the determination of particulate matter.

##### Rule 335-3-1-.05

- If testing is required, Method 9 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of the opacity of the stack emissions.

##### Rule 335-3-1-.05

- If testing is required, Method 6 or 6A of 40 CFR Part 60, Appendix A-4 shall be used in the determination of sulfur dioxide.

##### Rule 335-3-1-.05

- If testing is required, Method 7E of 40 CFR Part 60, Appendix A-4 shall be used in the determination of nitrogen dioxide.

##### Rule 335-3-1-.05

- If testing is required, Method 10 of 40 CFR Part 60, Appendix A-4 shall be used in the determination of carbon monoxide.

##### Rule 335-3-1-.05

- If testing is required, Method 25A of 40 CFR Part 60, Appendix A-7 shall be used in the determination of total hydrocarbons.

##### Rule 335-3-1-.05

- If testing is required, Method 320 or 323 of 40 CFR Part 63, Appendix A shall be used in the determination of formaldehyde.

##### Rule 335-3-1-.05

#### Periodic Monitoring

Monitoring shall be in the form of recordkeeping and submitting required reports.

#### Compliance Assurance Monitoring

- 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 the following criteria:
  - (a) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
  - (b) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
  - (c) 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)

- These sources are not subject to emission limitations [§64.2(a)(1)].
- These sources are uncontrolled [§64.2(a)(2)].
- These sources do not have the potential to emit over 100 TPY of criteria pollutants [§64.2(a)(3)].
- CAM does not apply to these units.

Recordkeeping and Reporting

- If the engine operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), the facility must submit an annual report according to the requirements of 40 CFR 63.6650(h).

40 CFR Part 63 Subpart ZZZZ, §63.6650(h)

- The facility shall keep records of the maintenance conducted on the engine in order to demonstrate that they operated and maintained the stationary RICE and after-treatment control device (if any) according to the maintenance plan.

40 CFR Part 63 Subpart ZZZZ, §63.6655(e)

- Records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1). The facility must keep each record readily accessible in hard copy or electronic form for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

40 CFR Part 63 Subpart ZZZZ, §63.6660(a)-(c)

Environmental Justice

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

## Recommendation

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Based on the above analysis and pending the resolution of any comments received during the 30 day public comment period and 45 day EPA review, I recommend issuing Grede II, LLC – Brewton’s MSOP renewal.



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Tyler Phillips  
Industrial Minerals Section  
Energy Branch  
Air Division

7/22/22

---

Date

# **APPENDIX A**

## **Compliance Assurance Monitoring (CAM) Requirements**

Compliance Assurance Monitoring (CAM) Plan for EP 002 with Baghouse K, EP 006 with Baghouse BB, EP 007 with Baghouse CC, EP 008 with Baghouse I, and EP 009 with Baghouse J

	Indicator 1	Indicator 2
I. Indicator	Visible Emissions	Established Collector Pressure Drop Range
Measurement Approach	Visual inspection of the baghouse stack	Baghouse magnehelic gauge
II. Indicator Range	While the unit is operating, an excursion is defined as instantaneous opacity greater than 10%. Excursions trigger an inspection, corrective action, and a reporting requirements. If an excursion is noted and not corrected within a period of one (1) hour, then a Method 9 must be performed within four (4) hours of the observation.	While unit is operating, an excursion is defined as differential pressure is less than 2.0 inches of H <sub>2</sub> O and greater than 8.0 inches of H <sub>2</sub> O. Excursions trigger an inspection, corrective action, recordkeeping and reporting.
III. Performance Criteria	Measurement is being made at the baghouse exhaust stack.	The magnehelic measures the pressure differential between the inlet and outlet of the baghouse.
A. Data Representativeness		
B. Verification of Operation Status	N/A	N/A
C. QA/QC Practices and Criteria	The baghouse exhaust stack opacity observer will be Method 9 trained.	The magnehelic gauge will be checked periodically in accordance with existing preventive maintenance procedures. The gauge is checked by removing the two connecting lines from the baghouse to insure it is properly standardized to zero and the pressure indicating needle is moving freely. Any malfunctioning gauge will be replaced immediately.
D. Monitoring Frequency	An observation will be performed daily.	An observation will be performed daily.
Data Collection Procedures	Observation will be recorded with date, time, results, and name of observer.	Observation will be recorded with date, time, results, and name of observer.
Averaging Period	Instantaneous	Instantaneous

Compliance Assurance Monitoring (CAM) Plan for Emission Point (EP) 003 with Baghouse G  
(Nodularization Operations – Magnesium Ductile Treatment)

	Indicator 1	Indicator 2
I. Indicator	Visible Emissions	Established Collector Pressure Drop Range
Measurement Approach	Visual inspection of the baghouse stack	Baghouse magnehelic gauge
II. Indicator Range	While the unit is operating, an excursion is defined as instantaneous opacity greater than 10%. Excursions trigger an inspection, corrective action, and a reporting requirements. If an excursion is noted and not corrected within a period of one (1) hour, then a Method 9 must be performed within four (4) hours of the observation.	While unit is operating, an excursion is defined as differential pressure is less than 3.0 inches of H <sub>2</sub> O and greater than 10.0 inches of H <sub>2</sub> O. Excursions trigger an inspection, corrective action, recordkeeping and reporting.
III. Performance Criteria		
A. Data Representativeness	Measurement is being made at the baghouse exhaust stack.	The magnehelic measures the pressure differential between the inlet and outlet of the baghouse.
B. Verification of Operation Status	N/A	N/A
C. QA/QC Practices and Criteria	The baghouse exhaust stack opacity observer will be Method 9 trained.	The magnehelic gauge will be checked periodically in accordance with existing preventive maintenance procedures. The gauge is checked by removing the two connecting lines from the baghouse to insure it is properly standardized to zero and the pressure indicating needle is moving freely. Any malfunctioning gauge will be replaced immediately.
D. Monitoring Frequency	An observation will be performed daily.	An observation will be performed daily.
Data Collection Procedures	Observation will be recorded with date, time, results, and name of observer.	Observation will be recorded with date, time, results, and name of observer.
Averaging Period	Instantaneous	Instantaneous

Compliance Assurance Monitoring (CAM) Plan for Emission Point (EP) 013 with Baghouse L  
(Snag Grinders & De-gating Line, and Continuous, Rocker, & Reclean Shotblast)

	Indicator 1	Indicator 2
I. Indicator	Visible Emissions	Exhaust Gas Stream Pressure Drop
Measurement Approach	Visual inspection of the baghouse stack	Baghouse magnehelic gauge
II. Indicator Range	While the unit is operating, an excursion is defined as instantaneous opacity greater than 10%. Excursions trigger an inspection, corrective action, and a reporting requirements. If an excursion is noted and not corrected within a period of one (1) hour, then a Method 9 must be performed within four (4) hours of the observation.	While unit is operating, an excursion is defined as differential pressure is less than 1.0 inches of H <sub>2</sub> O and greater than 8.0 inches of H <sub>2</sub> O. Excursions trigger an inspection, corrective action, recordkeeping and reporting.
III. Performance Criteria		
A. Data Representativeness	Measurement is being made at the baghouse exhaust stack.	The magnehelic measures the pressure differential between the inlet and outlet of the baghouse.
B. Verification of Operation Status	N/A	N/A
C. QA/QC Practices and Criteria	The baghouse exhaust stack opacity observer will be Method 9 trained.	The magnehelic gauge will be checked periodically in accordance with existing preventive maintenance procedures. The gauge is checked by removing the two connecting lines from the baghouse to insure it is properly standardized to zero and the pressure indicating needle is moving freely. Any malfunctioning gauge will be replaced immediately.
D. Monitoring Frequency	An observation will be performed daily.	An observation will be performed daily.
Data Collection Procedures	Observation will be recorded with date, time, results, and name of observer.	Observation will be recorded with date, time, results, and name of observer.
Averaging Period	Instantaneous	Instantaneous



# **APPENDIX B**

## **Environmental Justice**

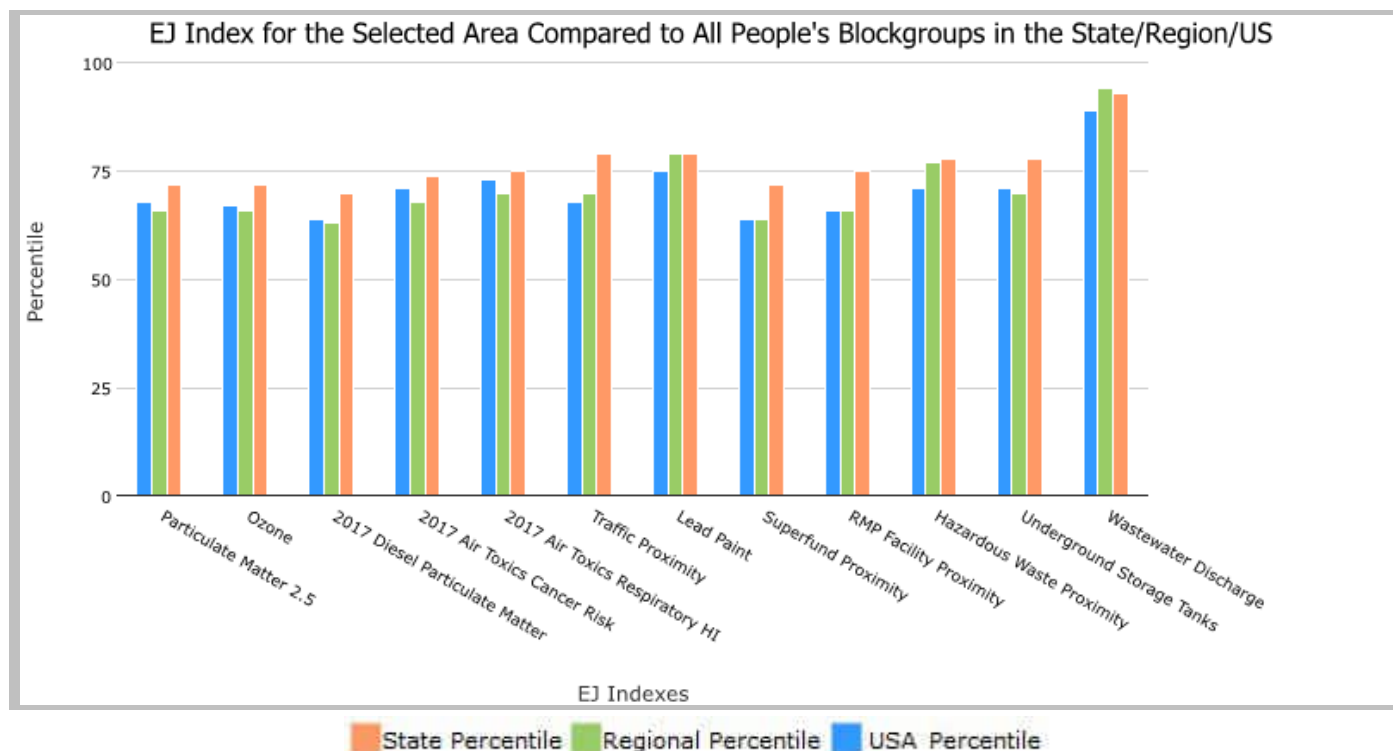
1 mile Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 1,300

Input Area (sq. miles): 3.14

GREDE II, LLC - BREWTON

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
<b>Environmental Justice Indexes</b>			
EJ Index for Particulate Matter 2.5	72	66	68
EJ Index for Ozone	72	66	67
EJ Index for 2017 Diesel Particulate Matter*	70	63	64
EJ Index for 2017 Air Toxics Cancer Risk*	74	68	71
EJ Index for 2017 Air Toxics Respiratory HI*	75	70	73
EJ Index for Traffic Proximity	79	70	68
EJ Index for Lead Paint	79	79	75
EJ Index for Superfund Proximity	72	64	64
EJ Index for RMP Facility Proximity	75	66	66
EJ Index for Hazardous Waste Proximity	78	77	71
EJ Index for Underground Storage Tanks	78	70	71
EJ Index for Wastewater Discharge	93	94	89



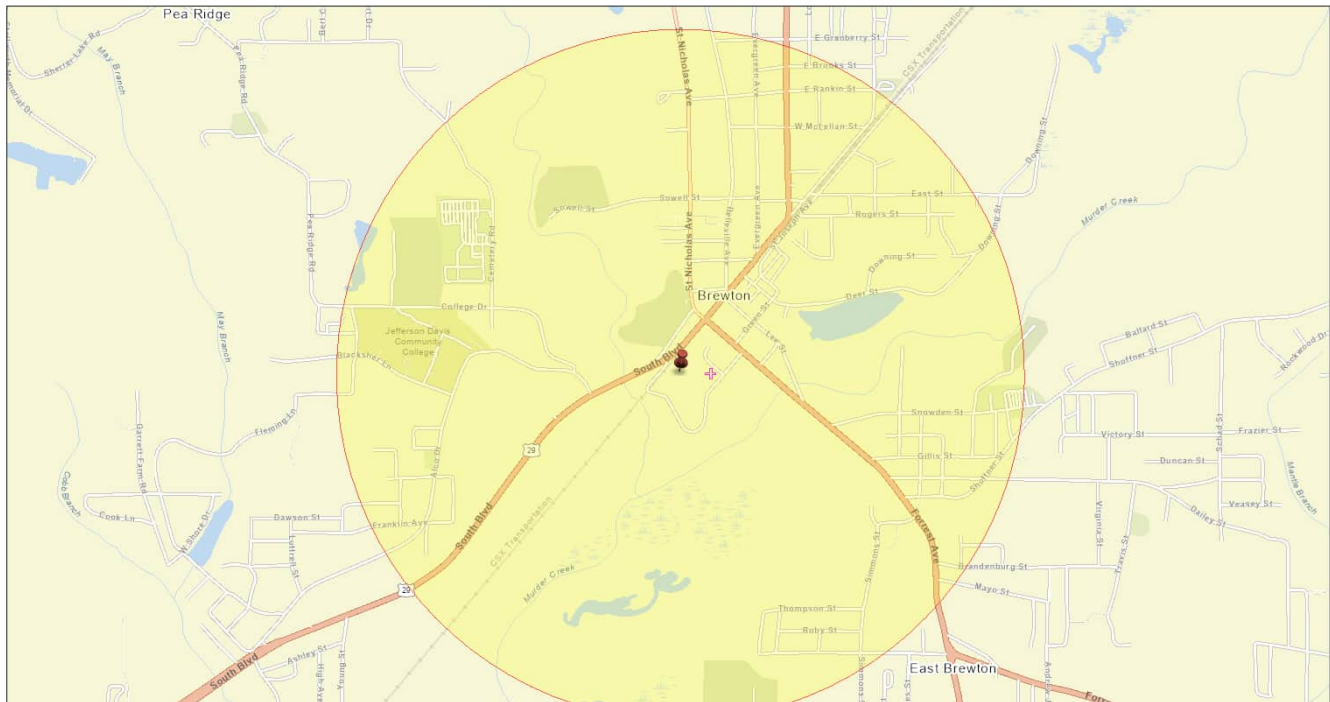
This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective 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 Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 1,300

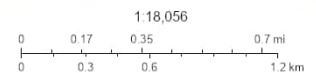
Input Area (sq. miles): 3.14

GREDE II, LLC - BREWTON



July 21, 2022

- GREDE II, LLC - BREWTON
- Search Result (point)



Esri Community Maps Contributors, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

#### Sites reporting to EPA

Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	1

## EJScreen Report (Version 2.0)



1 mile Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 1,300

Input Area (sq. miles): 3.14

GREDE II, LLC - BREWTON

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
<b>Pollution and Sources</b>							
Particulate Matter 2.5 ( $\mu\text{g}/\text{m}^3$ )	8.43	8.9	19	8.18	62	8.74	45
Ozone (ppb)	35.8	39.1	11	37.9	37	42.6	14
2017 Diesel Particulate Matter* ( $\mu\text{g}/\text{m}^3$ )	0.11	0.216	18	0.261	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	37	34	87	31	90-95th	29	90-95th
2017 Air Toxics Respiratory HI*	0.57	0.47	97	0.4	95-100th	0.36	95-100th
Traffic Proximity (daily traffic count/distance to road)	160	230	67	430	53	710	42
Lead Paint (% Pre-1960 Housing)	0.2	0.18	70	0.15	75	0.28	53
Superfund Proximity (site count/km distance)	0.023	0.054	33	0.083	35	0.13	20
RMP Facility Proximity (facility count/km distance)	0.22	0.41	60	0.6	48	0.75	41
Hazardous Waste Proximity (facility count/km distance)	0.69	0.83	61	0.62	74	2.2	49
Underground Storage Tanks (count/km <sup>2</sup> )	1.2	1.7	64	3.5	51	3.9	48
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.091	0.42	90	0.45	91	12	84
<b>Socioeconomic Indicators</b>							
Demographic Index	49%	36%	76	37%	72	36%	73
People of Color	48%	34%	73	39%	65	40%	63
Low Income	51%	37%	75	35%	78	31%	82
Unemployment Rate	11%	6%	82	6%	85	5%	86
Linguistically Isolated	0%	1%	71	3%	52	5%	45
Less Than High School Education	24%	14%	84	13%	86	12%	85
Under Age 5	5%	6%	40	6%	41	6%	39
Over Age 64	16%	17%	50	17%	54	16%	57

\*Diesel particulate 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](http://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.

July 21, 2022

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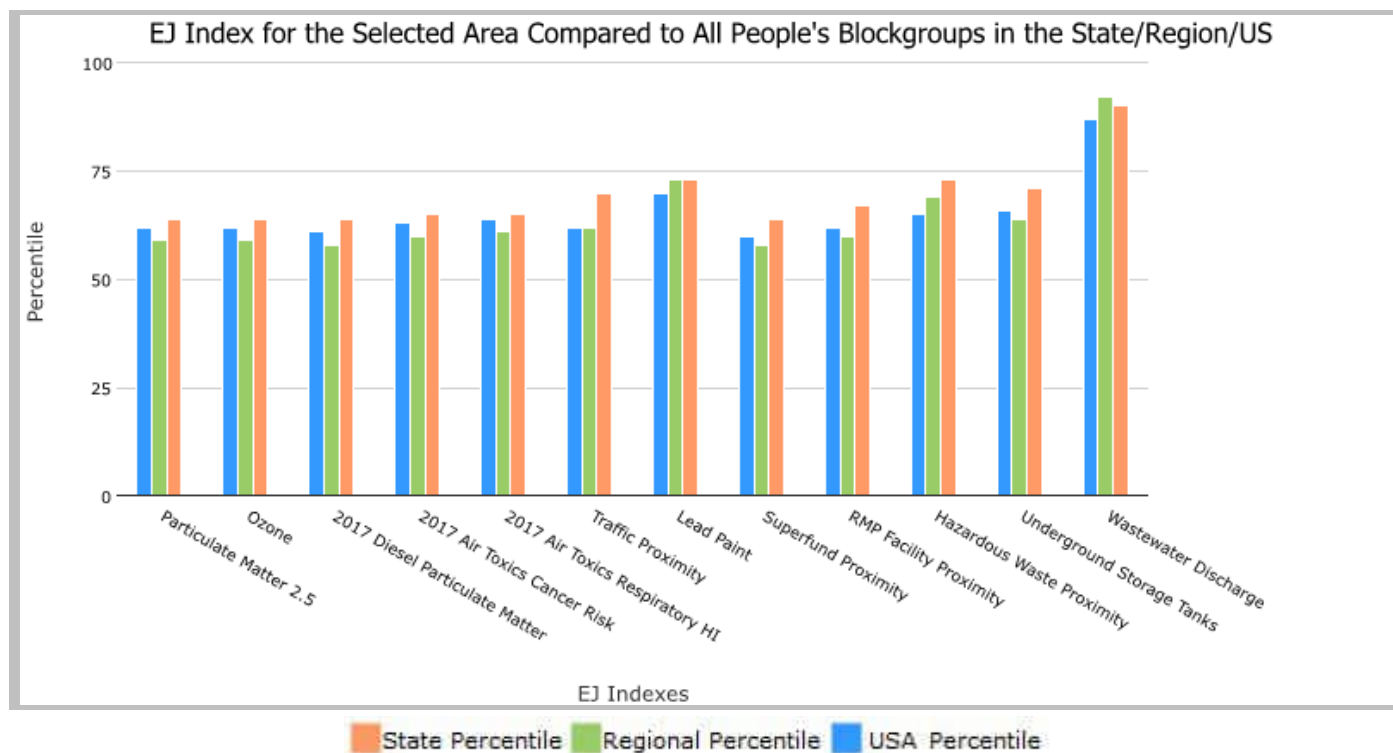
3 miles Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 8,075

Input Area (sq. miles): 28.27

GREDE II, LLC - BREWTON

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
<b>Environmental Justice Indexes</b>			
EJ Index for Particulate Matter 2.5	64	59	62
EJ Index for Ozone	64	59	62
EJ Index for 2017 Diesel Particulate Matter*	64	58	61
EJ Index for 2017 Air Toxics Cancer Risk*	65	60	63
EJ Index for 2017 Air Toxics Respiratory HI*	65	61	64
EJ Index for Traffic Proximity	70	62	62
EJ Index for Lead Paint	73	73	70
EJ Index for Superfund Proximity	64	58	60
EJ Index for RMP Facility Proximity	67	60	62
EJ Index for Hazardous Waste Proximity	73	69	65
EJ Index for Underground Storage Tanks	71	64	66
EJ Index for Wastewater Discharge	90	92	87



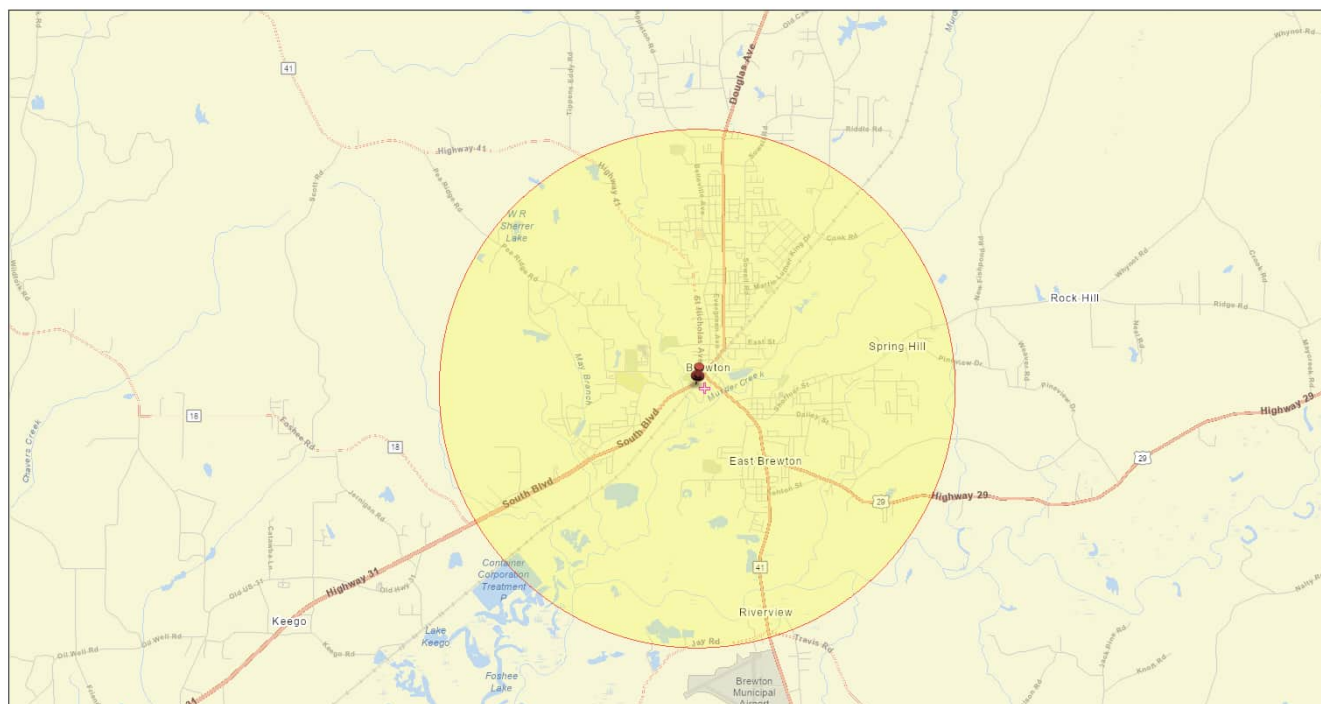
This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective 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 Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 8,075

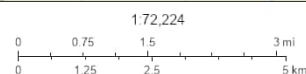
Input Area (sq. miles): 28.27

GREDE II, LLC - BREWTON



July 21, 2022

- GREDE II, LLC - BREWTON
- Search Result (point)



CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

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

## EJScreen Report (Version 2.0)



3 miles Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 8,075

Input Area (sq. miles): 28.27

GREDE II, LLC - BREWTON

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
<b>Pollution and Sources</b>							
Particulate Matter 2.5 ( $\mu\text{g}/\text{m}^3$ )	8.42	8.9	18	8.18	61	8.74	44
Ozone (ppb)	35.7	39.1	11	37.9	36	42.6	14
2017 Diesel Particulate Matter* ( $\mu\text{g}/\text{m}^3$ )	0.0967	0.216	12	0.261	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	36	34	82	31	90-95th	29	90-95th
2017 Air Toxics Respiratory HI*	0.56	0.47	96	0.4	95-100th	0.36	95-100th
Traffic Proximity (daily traffic count/distance to road)	140	230	62	430	50	710	39
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	32	0.083	35	0.13	20
RMP Facility Proximity (facility count/km distance)	0.19	0.41	54	0.6	42	0.75	35
Hazardous Waste Proximity (facility count/km distance)	0.48	0.83	55	0.62	67	2.2	43
Underground Storage Tanks (count/km <sup>2</sup> )	0.95	1.7	60	3.5	47	3.9	45
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.059	0.42	88	0.45	89	12	81
<b>Socioeconomic Indicators</b>							
Demographic Index	42%	36%	68	37%	64	36%	66
People of Color	43%	34%	69	39%	61	40%	60
Low Income	41%	37%	59	35%	63	31%	70
Unemployment Rate	10%	6%	78	6%	81	5%	83
Linguistically Isolated	1%	1%	72	3%	52	5%	46
Less Than High School Education	18%	14%	70	13%	75	12%	76
Under Age 5	5%	6%	40	6%	40	6%	39
Over Age 64	17%	17%	56	17%	59	16%	62

\*Diesel particulate 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](http://www.epa.gov/environmentaljustice)

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July 21, 2022

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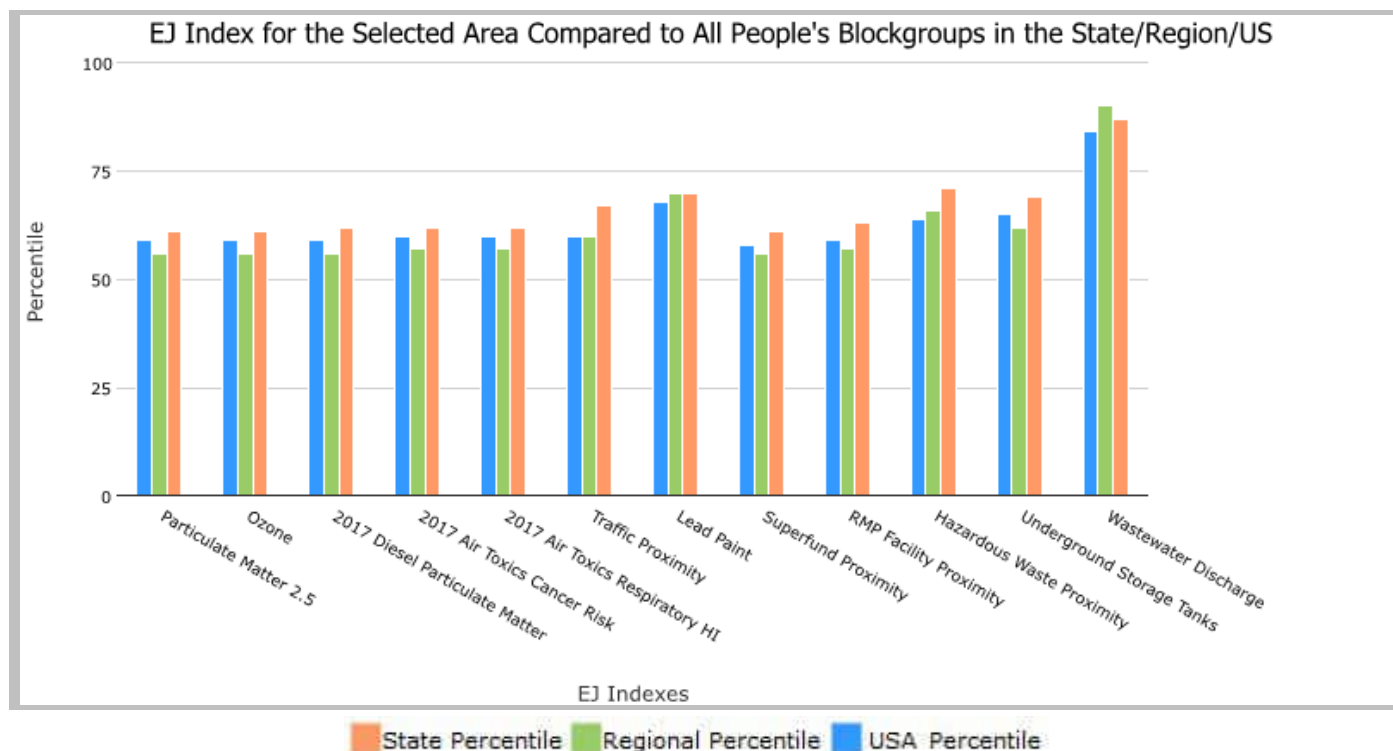
5 miles Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 10,290

Input Area (sq. miles): 78.53

GREDE II, LLC - BREWTON

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
<b>Environmental Justice Indexes</b>			
EJ Index for Particulate Matter 2.5	61	56	59
EJ Index for Ozone	61	56	59
EJ Index for 2017 Diesel Particulate Matter*	62	56	59
EJ Index for 2017 Air Toxics Cancer Risk*	62	57	60
EJ Index for 2017 Air Toxics Respiratory HI*	62	57	60
EJ Index for Traffic Proximity	67	60	60
EJ Index for Lead Paint	70	70	68
EJ Index for Superfund Proximity	61	56	58
EJ Index for RMP Facility Proximity	63	57	59
EJ Index for Hazardous Waste Proximity	71	66	64
EJ Index for Underground Storage Tanks	69	62	65
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.

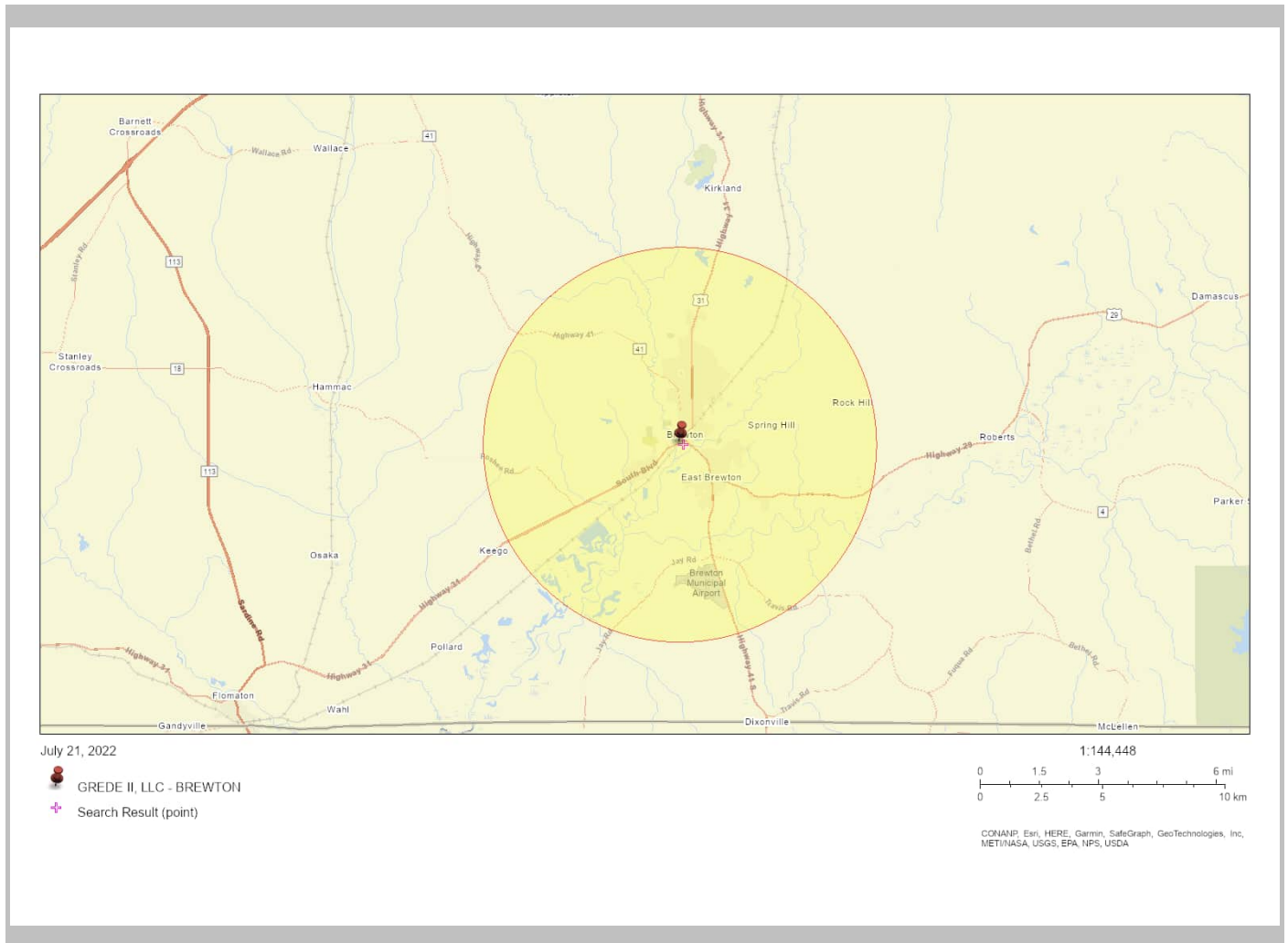


5 miles Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 10,290

Input Area (sq. miles): 78.53

**GREDE II, LLC - BREWTON**



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

## EJScreen Report (Version 2.0)



5 miles Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 10,290

Input Area (sq. miles): 78.53

GREDE II, LLC - BREWTON

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
<b>Pollution and Sources</b>							
Particulate Matter 2.5 ( $\mu\text{g}/\text{m}^3$ )	8.42	8.9	18	8.18	62	8.74	44
Ozone (ppb)	35.7	39.1	11	37.9	36	42.6	14
2017 Diesel Particulate Matter* ( $\mu\text{g}/\text{m}^3$ )	0.0953	0.216	11	0.261	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	35	34	78	31	90-95th	29	90-95th
2017 Air Toxics Respiratory HI*	0.55	0.47	95	0.4	95-100th	0.36	95-100th
Traffic Proximity (daily traffic count/distance to road)	130	230	60	430	49	710	38
Lead Paint (% Pre-1960 Housing)	0.14	0.18	59	0.15	67	0.28	46
Superfund Proximity (site count/km distance)	0.022	0.054	32	0.083	35	0.13	20
RMP Facility Proximity (facility count/km distance)	0.18	0.41	53	0.6	41	0.75	34
Hazardous Waste Proximity (facility count/km distance)	0.43	0.83	53	0.62	65	2.2	42
Underground Storage Tanks (count/km <sup>2</sup> )	0.91	1.7	59	3.5	46	3.9	44
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.058	0.42	88	0.45	89	12	81
<b>Socioeconomic Indicators</b>							
Demographic Index	39%	36%	65	37%	60	36%	62
People of Color	39%	34%	65	39%	57	40%	56
Low Income	39%	37%	55	35%	59	31%	67
Unemployment Rate	9%	6%	74	6%	77	5%	79
Linguistically Isolated	1%	1%	72	3%	52	5%	46
Less Than High School Education	18%	14%	69	13%	73	12%	75
Under Age 5	5%	6%	41	6%	42	6%	40
Over Age 64	18%	17%	61	17%	63	16%	66

\*Diesel particulate 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](http://www.epa.gov/environmentaljustice)

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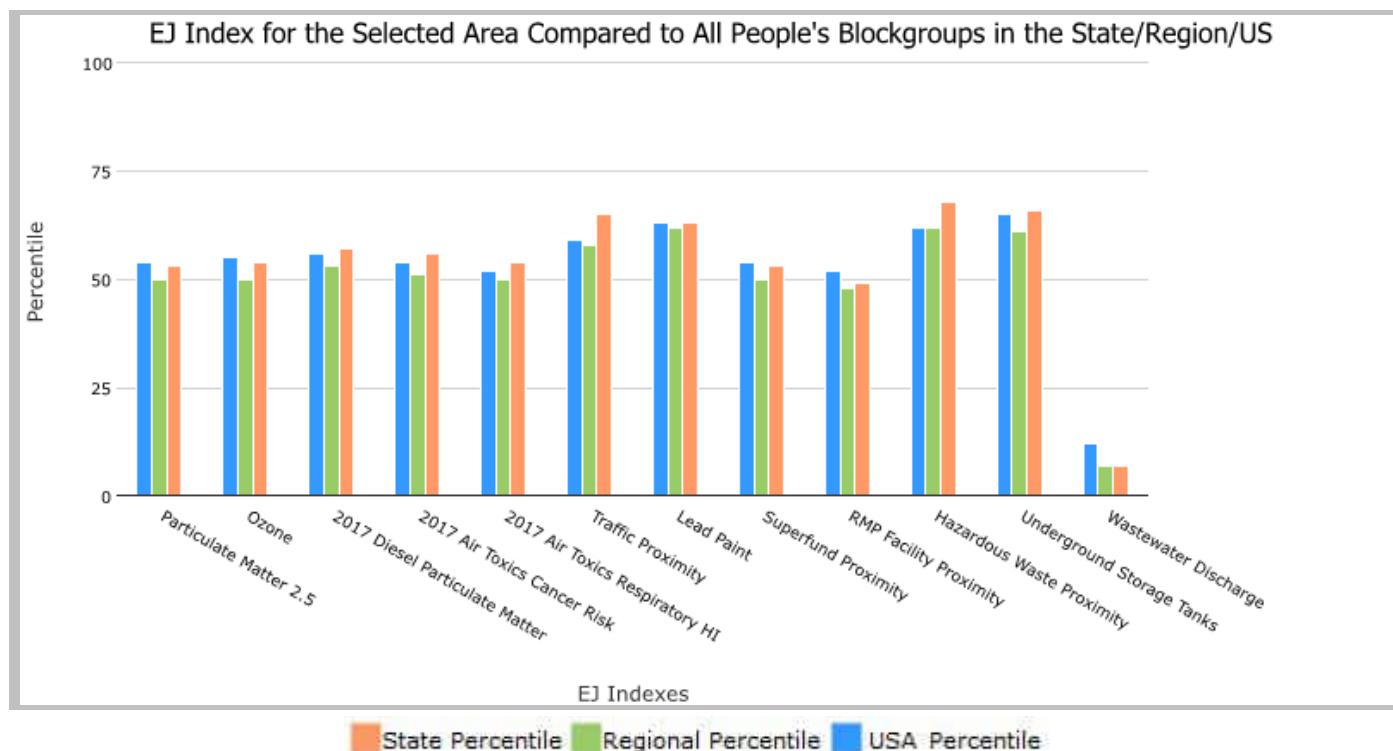
10 miles Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 15,248

Input Area (sq. miles): 314.03

GREDE II, LLC - BREWTON

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
<b>Environmental Justice Indexes</b>			
EJ Index for Particulate Matter 2.5	53	50	54
EJ Index for Ozone	54	50	55
EJ Index for 2017 Diesel Particulate Matter*	57	53	56
EJ Index for 2017 Air Toxics Cancer Risk*	56	51	54
EJ Index for 2017 Air Toxics Respiratory HI*	54	50	52
EJ Index for Traffic Proximity	65	58	59
EJ Index for Lead Paint	63	62	63
EJ Index for Superfund Proximity	53	50	54
EJ Index for RMP Facility Proximity	49	48	52
EJ Index for Hazardous Waste Proximity	68	62	62
EJ Index for Underground Storage Tanks	66	61	65
EJ Index for Wastewater Discharge	7	7	12



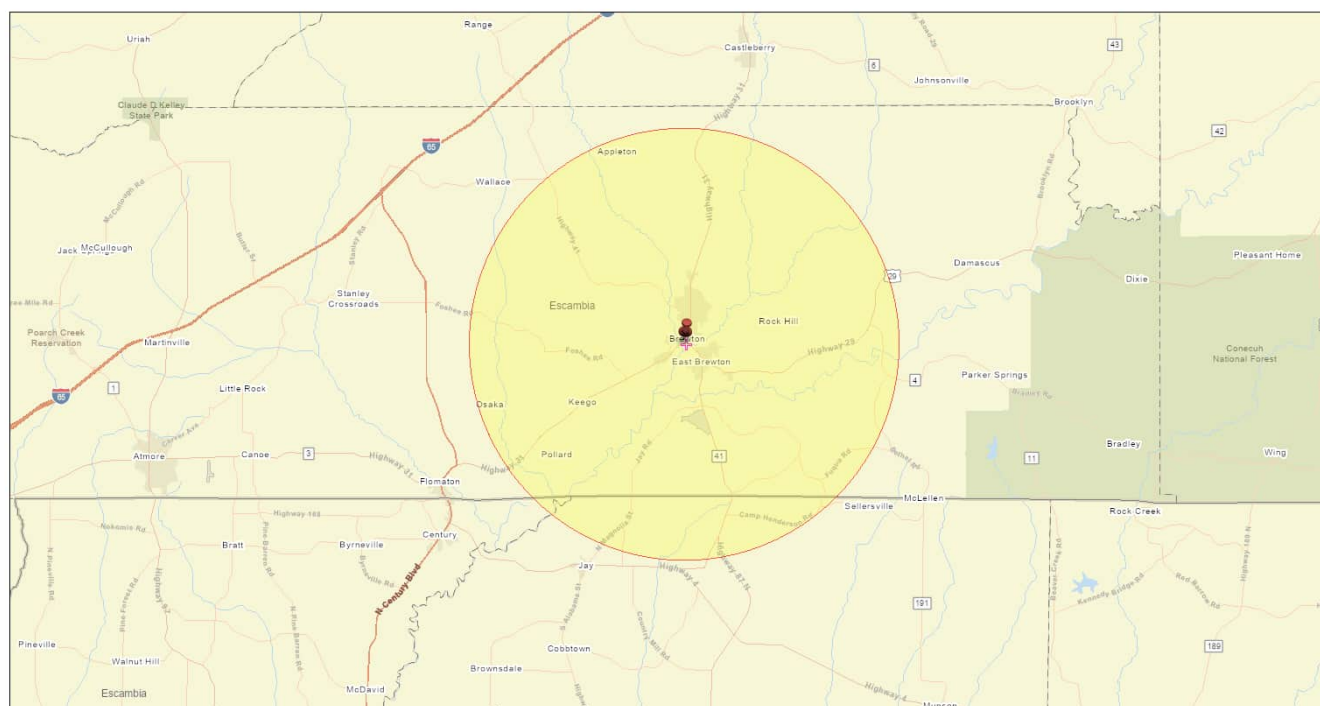
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**10 miles Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4**

**Approximate Population: 15,248**

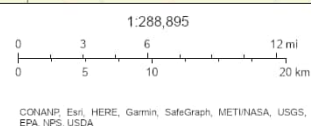
**Input Area (sq. miles): 314.03**

**GREDE II, LLC - BREWTON**



July 21, 2022

- GREDE II, LLC - BREWTON
- Search Result (point)



#### Sites reporting to EPA

Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	1

## EJScreen Report (Version 2.0)



10 miles Ring Centered at 31.101136,-87.073806, ALABAMA, EPA Region 4

Approximate Population: 15,248

Input Area (sq. miles): 314.03

GREDE II, LLC - BREWTON

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
<b>Pollution and Sources</b>							
Particulate Matter 2.5 ( $\mu\text{g}/\text{m}^3$ )	8.42	8.9	18	8.18	62	8.74	44
Ozone (ppb)	35.7	39.1	11	37.9	37	42.6	14
2017 Diesel Particulate Matter* ( $\mu\text{g}/\text{m}^3$ )	0.0928	0.216	10	0.261	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	34	34	73	31	80-90th	29	80-90th
2017 Air Toxics Respiratory HI*	0.54	0.47	94	0.4	95-100th	0.36	95-100th
Traffic Proximity (daily traffic count/distance to road)	90	230	52	430	42	710	32
Lead Paint (% Pre-1960 Housing)	0.13	0.18	56	0.15	64	0.28	44
Superfund Proximity (site count/km distance)	0.023	0.054	33	0.083	35	0.13	20
RMP Facility Proximity (facility count/km distance)	0.19	0.41	54	0.6	42	0.75	35
Hazardous Waste Proximity (facility count/km distance)	0.32	0.83	47	0.62	60	2.2	38
Underground Storage Tanks (count/km <sup>2</sup> )	0.63	1.7	52	3.5	40	3.9	39
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.068	0.42	89	0.45	90	12	82
<b>Socioeconomic Indicators</b>							
Demographic Index	34%	36%	57	37%	53	36%	56
People of Color	31%	34%	56	39%	48	40%	49
Low Income	38%	37%	54	35%	57	31%	65
Unemployment Rate	7%	6%	69	6%	71	5%	74
Linguistically Isolated	0%	1%	71	3%	52	5%	46
Less Than High School Education	17%	14%	66	13%	71	12%	73
Under Age 5	5%	6%	49	6%	49	6%	48
Over Age 64	18%	17%	64	17%	65	16%	68

\*Diesel particulate 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>.

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