



John R. Kasich, Governor  
 Mary Taylor, Lt. Governor  
 Craig W. Butler, Director

11/14/2018

Certified Mail

Palmira Farinha  
 Petmin Limited  
 600 Superior Avenue  
 Fifth Third Building, Suite 1300  
 Cleveland, OH 44114

No	TOXIC REVIEW
Yes	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED
Yes	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL  
 Facility ID: 0204012023  
 Permit Number: P0125024  
 Permit Type: Initial Installation  
 County: Ashtabula

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, The Star Beacon. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall  
 Permit Review/Development Section  
 Ohio EPA, DAPC  
 50 West Town Street, Suite 700  
 P.O. Box 1049  
 Columbus, Ohio 43216-1049

and Ohio EPA DAPC, Northeast District Office  
 2110 East Aurora Rd.  
 Twinsburg, OH 44087

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)963-1200.

Sincerely,

Michael E. Hopkins, P.E.  
 Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA Region 5 - *Via E-Mail Notification*  
 Ohio EPA-NEDO; Pennsylvania; Canada



**STAFF DETERMINATION FOR THE APPLICATION TO CONSTRUCT  
UNDER THE PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS  
FOR PETMIN LIMITED  
ASHTABULA, OHIO (ASHTABULA COUNTY)  
PTI NUMBER P0125024**

November 9, 2018

Ohio Environmental Protection Agency  
Division of Air Pollution Control  
Lazarus Government Center  
50 West Town Street, Suite 700  
Columbus, Ohio 43216

The Clean Air Act and regulations promulgated thereunder require that major air pollution sources undergoing construction or modification comply with all applicable Prevention of Significant Deterioration (PSD) provisions and nonattainment area New Source Review requirements. The federal PSD rules govern emission increases in attainment areas for major sources, which are sources with the potential to emit 250 tons per year or more of any pollutant regulated under the Clean Air Act, or 100 tons per year or more if the source is included in one of 28 source categories. In nonattainment areas, the definition of major source is one having at least 100 tons per year potential emissions. A major modification is one resulting in a contemporaneous increase in emissions which exceeds the significance level of one or more pollutants. Any changes in actual emissions within a five-year period are considered to be contemporaneous. In addition, Ohio now has incorporated the PSD and NSR requirements by rule under OAC 3745-31.

Both PSD and nonattainment rules require that certain analyses be performed before a facility can obtain a permit authorizing construction of a new source or major modification to a major source. The principal requirements of the PSD regulations are:

- 1) Best Available Control Technology (BACT) review - A detailed engineering review must be performed to ensure that BACT is being installed for the pollutants for which the new source is a major source.
- 2) Ambient Air Quality Review - An analysis must be completed to ensure the continued maintenance of the National Ambient Air Quality Standards (NAAQS) and that any increases in ambient air pollutant concentrations do not exceed the incremental values set pursuant to the Clean Air Act.

For nonattainment areas, the requirements are:

- 1) Lowest Achievable Emissions Rate (LAER) - New major sources must install controls that represent the lowest emission levels (highest control efficiency) that has been achieved in practice.
- 2) The emissions from the new major source must be offset by a reduction of existing emissions of the same pollutant by at least the same amount, and a demonstration must be made that the resulting air quality shows a net air quality benefit. This is more completely described in the Emission Offset Interpretative Ruling as found in Appendix S of 40 CFR Part 51.

- 3) The facility must certify that all major sources owned or operated in the state by the same entity are either in compliance with the existing State Implementation Plan (SIP) or are on an approved schedule resulting in full compliance with the SIP.

For rural ozone nonattainment areas, the requirements are:

- 1) LAER - New major sources must install controls that represent the lowest emissions levels (highest control efficiency) that has been achieved in practice.
- 2) The facility must certify that all major sources owned or operated in the state by the same entity are either in compliance with the existing SIP or are on an approved schedule resulting in full compliance with the SIP.

Finally, New Source Performance Standards (NSPS), SIP emission standards and public participation requirements must be followed in all cases.

### **Site Description**

Petmin Limited (Petmin) is proposing to construct a new nodular pig iron manufacturing facility. The Project will utilize direct reduced iron (DRI) reactor, gas-based direct reduction process, to produce 470,000 tons per year of pig iron. The Project will be located within the foot print of Kinder Morgan - Pinney Dock facility in the city of Ashtabula, Ashtabula County, Ohio. The facility will be a PSD/Title V major stationary source.

The area is designated as attainment for NSR-regulated criteria pollutants, including those triggering PSD review: nitrogen oxides (NO<sub>x</sub>), particular matter (PM), PM with a diameter equal to or less than 10 micrometers (PM<sub>10</sub>), PM with a diameter equal to or less than 2.5 micrometers (PM<sub>2.5</sub>). Emissions of sulfur dioxide (SO<sub>2</sub>) carbon monoxide (CO) and volatile organic compounds (VOC) will be less than PSD applicability thresholds, but will be regulated under best available technology (BAT) in the Permit-to-Install (PTI). Emissions of greenhouse gases (GHGs) exceeded the PSD applicability threshold and will be subject to PSD review.

### **Facility Description**

The Project will produce nodular pig iron (merchant pig iron) using the DRI process along with an electric arc furnace (EAF) for purifying the metal. Taconite pellets are unloaded from lake vessels and stored at Kinder Morgan - Pinney dock, who will be responsible for loading pellets into a hopper. Petmin's process begins when taconite pellets are transported via conveyor system to the screening building. The pellets are sized, fines are removed. The screened pellets are transported via enclosed conveyor system to the EAF building. The pellets are coated in a cementitious slurry and are fed into the DRI reactor. Heated, recirculating, reducing gas reacts with the pellets, producing metallic iron. The hot DRI pellets are loaded and liquified in the EAF. The liquified DRI is polished by removing impurities using fluxes, achieving the chemistry for nodular iron. The EAF is tapped. The nodular pig iron is loaded into a ladle. Once loaded, it's transported to the caster, where pigs are cast.

The process includes the generation of byproducts. Taconite fines are stored in bins, later transported off-site. Remet (off-spec DRI) is stockpiled, later reintroduced back into the process. Slag created at the EAF will be handled by separate company who will transport it offsite for further processing. A portion of the recirculating reducing gas will be transported to another company who will recover CO<sub>2</sub> emissions.

**New Source Review (NSR)/PSD Applicability**

The emissions units will generate NSR-regulated emissions of PM/PM<sub>10</sub>/PM<sub>2.5</sub>, CO, NO<sub>x</sub>, VOC and SO<sub>2</sub> and GHGs. A PSD analysis is required for pollutant emissions exceeding the PSD threshold levels. Nonattainment NSR is not applicable, due to the attainment status of the area. Of the pollutants emitted by the proposed source, all but CO, VOC and SO<sub>2</sub> will result in a net increase in annual emissions above PSD major source or significant emission rate levels. Table 1 below summarizes pollutant changes and emissions allowed under the draft PTI (also see the permit application).

**TABLE 1**  
PRELIMINARY POLLUTANT EMISSION RATES  
**Petmin Limited**

Air Pollutant	Total PTE/Allowable (tpy)	Project Net Increase (tpy)	D/NSR Threshold (tpy)
CO	88.23	88.23	250
NO <sub>x</sub>	427.89	427.89	40
PM <sub>10</sub>	26.57	26.57	15
PM <sub>2.5</sub> *	9.5	9.5	10
VOC	14.28	14.28	40
SO <sub>2</sub>	1.76	1.76	40
GHGs/CO <sub>2</sub> e	190,489	190,489	75,000

\*NO<sub>x</sub> is a precursor for PM<sub>10</sub>/PM<sub>2.5</sub>

**Control Technology Review**

As part of the application for any source regulated under the PSD requirements, an analysis must be conducted that demonstrates that Best Available Control Technology (BACT) will be employed by the source. The facility is subject to PSD regulations which mandate a case-by-case BACT analysis be performed for PSD triggering pollutants. The application uses a "top-down" approach to evaluate the latest demonstrated control techniques and select the appropriate controls.

**BACT Evaluation Steps:**

- Identify all available potential control options;
- Eliminate technically infeasible options;
- Rank remaining technologies by control effectiveness;
- Evaluate the feasible controls by performance and cost analysis; and
- Select the most effective control based on energy, environmental and economic impacts (generally, the feasible technology that is also considered to be cost effective).

**Summary of BACT Analysis**

There are similar installations in operation and included in the RBL. The following tables show the results of the BACT analysis, including technologies identified (see application for further details).

**TABLE 1**

**Summary of BACT/BAT Emission Limits and Control Technologies for the startup boiler, emissions unit B001:**

Pollutant	Emission Limits	Control Technology
PM <sub>10</sub> /PM <sub>2.5</sub>	1.13E-1 lb/hr (filterable and	Good combustion practices and the use of

	condensable) and 0.49 ton per rolling, 12-month period.	natural gas
NO <sub>x</sub>	The low NO <sub>x</sub> burner is designed to meet 4.18E-02 lb/MMBtu.  6.34E-1 lb/hr and 2.78 tons per rolling, 12-month period.	Low-NO <sub>x</sub> burners, good combustion practices and the use of natural gas
GHGs	1,784 lbs/hr and 7,814 tons per rolling, 12-month period.	Good combustion practices and the use of natural gas

**TABLE 2**

**Summary of BACT/BAT Emission Limits and Control Technologies for the unpaved roadways and parking areas, emissions unit F001:**

Pollutant	Emission Limits	Control Technology
Fugitive PM <sub>10</sub> Fugitive PM <sub>2.5</sub>	0.21 ton/year. 0.02 ton/year.	Use of wet suppression and commercial dust suppressants

**TABLE 3**

**Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the process gas preheater, emissions unit P001:**

Pollutant	Emission Limits	Control Technology
PM <sub>10</sub> /PM <sub>2.5</sub>	1.63 lbs/hr (filterable and condensable) and 7.14 tons per rolling, 12-month period.	Good combustion practices and the use of natural gas
NO <sub>x</sub>	The burner is designed to meet 6.40E-02 lb of NO <sub>x</sub> /MMBtu.  14.01 lbs/hr and 61.36 tons per rolling, 12-month period.	Low NO <sub>x</sub> burners, use of natural gas and good combustion practices
GHGs	25,830.2 lbs/hr and 113,136 tons per rolling, 12-month period.	Good combustion practices and the use of natural gas

**TABLE 4**

**Summary of BACT/BAT Emission Limits and Control Technologies for black start generator, emissions unit P007:**

Pollutant	Emission Limits	Control Technology
PM <sub>10</sub> /PM <sub>2.5</sub>	0.015 gram/bhp-hr (filterable), 5.22E-3 lb/hr and 2.61E-4 ton/year.	Tier IV engine Good combustion practices Limited operation
NO <sub>x</sub>	0.30 gram/bhp-hr, 1.04E-1 lb/hr and 5.2E-3 ton/year.	Tier IV engine Tier IV NSPS standards certified by engine manufacturer.

		Limited operation
GHGs	522.1 grams/bhp-hr, 181.7 lbs/hr and 9.09 tons/year.	Tier IV engine Good combustion practices Limited operation

**TABLE 5**

**Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the quenching & wastewater treatment with flare, emissions unit P008:**

Pollutant	Emission Limits	Control Technology
PM <sub>10</sub> /PM <sub>2.5</sub>	2.57E-2 lb/hr (filterable and condensable) and 1.13E-1 ton per rolling, 12-month period.	Good combustion practices and the use of natural gas
NO <sub>x</sub>	2.35E-1 lb/hr and 1.03 tons per rolling, 12-month period.	Good combustion practices and the use of natural gas
GHGs	405.72 lbs/hr and 1,777 tons per rolling, 12-month period.	Good combustion practices and the use of natural gas

**TABLE 6**

**Summary of BACT/BAT Emission Limits and Control Technologies for the EAF, emissions unit P901:**

Pollutant	Emission Limits	Control Technology
PM <sub>10</sub>	0.074 lb/ton of merchant pig iron (MPI).	The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM <sub>10</sub> /PM <sub>2.5</sub> emissions.
PM <sub>2.5</sub>	0.0061 lb/ton of MPI.	The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM <sub>10</sub> /PM <sub>2.5</sub> emissions.
PM <sub>10</sub> / PM <sub>2.5</sub>	Visible emissions of fugitive dust from this emissions unit shall not exceed six (6) percent opacity as a six-minute average.  Visible particulate emissions from any stack serving this emissions unit shall not exceed three (3) percent opacity as a 6-minute average.	The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM <sub>10</sub> /PM <sub>2.5</sub> emissions.
NO <sub>x</sub>	1.4 lbs/ton of MPI.	The NO <sub>x</sub> limit of 1.52 lbs/ton of DRI. Direct Evacuation Control
GHGs (CO <sub>2</sub> e)	186.41 lbs/ton of MPI.	Good combustion practices

**TABLE 7**

**Summary of BACT/BAT Emission Limits and Control Technologies for material handling operations, emissions unit P902:**

Pollutant	Emission Limits	Control Technology
Fugitive PM <sub>10</sub>	0.87 ton per rolling, 12-month period.	Outdoor material handling operations: covered conveyors and transfer points
Fugitive PM <sub>2.5</sub>	0.25 ton per rolling, 12-month period.	
Stack PM <sub>10</sub>	0.01 ton per rolling, 12-month period.	Indoor material handling operations at the screen building: use baghouse with a design efficiency of 99.9% for PM <sub>10</sub> /PM <sub>2.5</sub>
Stack PM <sub>2.5</sub>	0.01 ton per rolling, 12-month period.	
Stack PM <sub>10</sub>	0.01 ton per rolling, 12-month period.	Indoor material handling operations at the EAF building: use baghouse with a design efficiency of 99.9% for PM <sub>10</sub> /PM <sub>2.5</sub>
Stack PM <sub>2.5</sub>	0.01 ton per rolling, 12-month period.	

**TABLE 8**

**Summary of BACT/BAT Emission Limits and Control Technologies for each emergency generator, emissions units P005 and P006:**

Pollutant	Emission Limits	Control Technology
PM <sub>10</sub> /PM <sub>2.5</sub>	0.022 gram/bhp-hr (filterable only), 0.15 lb/hr and 0.01 ton/year.	Tier IV engine Good combustion practices Limited operation
NO <sub>x</sub>	0.50 gram/bhp-hr, 3.45 lbs/hr and 0.17 ton/year.	Tier IV engine Tier IV NSPS standards certified by engine manufacturer. Emergency use.
GHGs	526.6 grams/bhp-hr, 3632.0 lbs/hr and 181.60 tons/year.	Tier IV engine Good combustion practices

**TABLE 9**

**Summary of Proposed BACT/BAT Emission Limits and Control Technologies for each ladle dryer / preheater, emissions units P002, P003 and P005:**

Pollutant	Emission Limits	Control Technology
PM <sub>10</sub> /PM <sub>2.5</sub>	1.1E-1 lb/hr (filterable and condensable) and 4.9E-1 ton per rolling, 12-month period.	Good combustion practices and the use of natural gas
NO <sub>x</sub>	1.41E-01 lb/MMBtu, 2.12 lbs/hr and 9.29 tons per rolling, 12-month period.	Good combustion practices and the use of natural gas
GHGs	1,764 lbs/hr and 7,726 tons per rolling, 12-month period.	Good combustion practices and the use of natural gas



## **Modeling Review**

Petmin U.S.A. (Petmin) contracted with AYER Quality Engineering, LLC (AYER) to conduct air dispersion modeling for carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), particulate matter with a diameter equal to or less than 10 microns (PM<sub>10</sub>), and particulate matter with a diameter equal to or less than 2.5 microns (PM<sub>2.5</sub>). This portion of the document represents the conclusions of the review of the air dispersion modeling submittal accompanying the application, including several revisions.

Potential annual emissions for the proposed project are shown in Table 4 of the Application, and are replicated here:

CO: 88.23 TPY

NO<sub>x</sub>: 427.89 TPY

PM<sub>10</sub>: 26.57 TPY

PM<sub>2.5</sub>: 9.50 TPY

SO<sub>2</sub>: 4.53 TPY

Based on these potential emissions from the proposed facility, the project triggers Federal Prevention of Significant Deterioration (PSD) modeling requirements for its emissions of NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. An analysis of the project's impacts on soils, vegetation and visibility, have been included. Modeling is not required for greenhouse gases, and quantitative analyses have been included to account for chemical transformation of NO<sub>x</sub> and VOC to ozone as well as the secondary formation of PM<sub>2.5</sub> from chemical precursors.

AYER used the AERMOD (version 18081) dispersion model to show compliance with all relevant PSD increments, National Ambient Air Quality Standards (NAAQS), and Ohio's Generally Acceptable Incremental Impacts (GAIL). AYER also submitted quantitative analyses of secondary PM<sub>2.5</sub> and ozone formation potential to show compliance with PM<sub>2.5</sub> and ozone NAAQS and PSD Increments consistent with recent USEPA guidance.

## **Modeling Information**

This project is proposed to be located in Ashtabula County, OH. The coordinates of the of the proposed facility, represented in the Universal Transverse Mercator (UTM) coordinate system, are approximately 517,363 m East, 4,639,234 m North in UTM Zone 17 (NAD83).

All modeled concentrations were calculated in micrograms per cubic meter (µg/m<sup>3</sup>). No deposition or depletion were modeled for any pollutant or averaging period. The latest version of AERMOD was used in all modeling analyses. Complex terrain and building downwash parameters were considered in the modeling.

Five years of meteorological data have been used in accordance with Ohio Engineering Guide #69: Guideline on Air Quality Models. AYER used five years (2013-2017) of surface meteorological data from the Erie International Airport (WBAN# 14860) and five years of upper air data collected at the Buffalo Niagara International Airport (WBAN# 14733). Meteorological data was processed by Ohio EPA modeling staff. Missing surface data were substituted with data collected at the National Weather Service meteorological station located at the Wheeling/Ohio County Airport (KHLG, WBAN# 14894).

## **Ambient Air Quality Monitoring Requirements**

Significant Monitoring Concentrations (SMCs) represent a modeled impact that may compel the facility to conduct additional air quality monitoring prior to construction, if it is determined that existing monitors are not representative or have less than one year of complete data. For the Petmin project, the modeled impacts for NO<sub>2</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub> were below their respective SMCs, thus no additional action would be required. Lastly, the project's ozone precursor emissions exceeded the threshold established for preconstruction ozone

monitoring. Ohio EPA determined that the existing ozone monitor located in Ashtabula County, Ohio was sufficient to satisfy preconstruction monitoring requirements.

**RESULTS**

**Class I**

The proposed facility is located approximately 348 kilometers from the nearest Class I area. The Q/D screening procedure described in Federal Land Managers' Air Quality Related Work Group guidance (FLAG 2010) was performed. The Q/D value obtained was 1.3, significantly less than the FLM's recommendation of 10. Therefore, it was determined that a Class I AQRV analysis was not needed for the proposed facility.

**Class II**

**PSD Significant Impact Level (SIL)**

Ohio EPA analyzed the submitted modeling analysis of the significant impact of criteria pollutants (NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>), and compared the modeled concentrations with the appropriate SIL resulting from modeled potential emissions. SILs were exceeded for both 1-hour and annual NO<sub>2</sub>. Therefore, a full interactive modeling analysis was necessary, inclusive of NAAQS, PSD Increment, and GAI standards, for NO<sub>2</sub>. By modeling below the SIL for the other criteria pollutants, the facility effectively demonstrated that its air quality impacts of those pollutants will be insignificant.

**PSD Increment and GAI**

It is Ohio EPA practice that any new source will not consume more than one-half of the available PSD increment. Exceptions to this policy are granted on a case-by-case basis when modeled results are more than 50% but less than 83% of the increment. The results of the increment modeling are replicated here as Table 1:

**Table 1: PSD Increment and GAI model results.**

Pollutant/Averaging Period	Modeled Results (µg/m <sup>3</sup> )	PSD Increment (µg/m <sup>3</sup> )	GAI (µg/m <sup>3</sup> )	Exceeds GAI?
NO2 1-hour	132.5	NA	188	NO
NO2 Annual	6.09	25	12.5	NO

All pollutants were below GAI values. No PSD increment was exceeded for any pollutant or averaging period.

**National Ambient Air Quality Standards**

For those pollutants and averaging periods for which initial SIL screen modeling demonstrated modeled concentrations above the SIL, it must be demonstrated that the proposed project will not cause an exceedance of the NAAQS, inclusive of interactive sources and conservative background concentrations. The results of the NAAQS modeling analysis are shown in Table 2, below

**Table 2: NAAQS Modeling Results**

Pollutant/Averaging Period	NAAQS ( $\mu\text{g}/\text{m}^3$ )	Modeled Results ( $\mu\text{g}/\text{m}^3$ )	Background Concentration ( $\mu\text{g}/\text{m}^3$ )	Total Impact ( $\mu\text{g}/\text{m}^3$ )	Exceeds NAAQS?
NO <sub>2</sub> 1-hr	188	162.32	Variable	<b>162.32</b>	<b>NO</b>
NO <sub>2</sub> Annual	100	31.57	Variable	<b>31.57</b>	<b>NO</b>

Cumulative modeling indicated no exceedance of any NAAQS, inclusive of off-site sources and conservative background concentrations.

Secondary PM<sub>2.5</sub> Formation Analysis

Pursuant to USEPA guidance for addressing secondary formation of PM<sub>2.5</sub> in a compliance demonstration under the PSD program, AYER submitted an analysis of secondary PM<sub>2.5</sub> formation based on the SO<sub>2</sub> and NO<sub>x</sub> emissions from the facility. Ohio EPA reviewed the analysis submitted and is in agreement that secondary PM<sub>2.5</sub> formation will not contribute to an exceedance of any PM<sub>2.5</sub> standard. AYER assessed the project's impacts using the December 2, 2016 and February 23, 2017 Draft Modeled Emission Rates for Precursors (MERPs) Tier 1 assessment techniques.

Ozone Formation Analysis

AYER applied the above Draft MERPs methodology to ozone and determined that secondarily formed ozone from this project will be insignificant.

**Air Toxics Modeling**

No air toxics modeling was necessary for this project based on potentials to emit.

**Soils, Vegetation, and Visibility Analyses**

EPA Air Quality Criteria documents were reviewed by AYER for information on pollutants and adverse effects on the type of vegetation and soils in the area. No adverse impact upon soils or vegetation is expected. The modeled concentrations are below secondary NAAQS limits. Ohio EPA concurs with the findings that the proposed project will not adversely impact soils and vegetation.

A visibility analysis was conducted using the VISCREEN model at the nearby State Game Lands #314 in Erie County, Pennsylvania. No visibility impairment was demonstrated.

**Conclusion**

Based upon review of the Permit to Install application and supporting documentation provided by the applicant, the Ohio EPA staff has determined the installation will comply with all applicable State and Federal environmental regulations and that the requirements for BACT are satisfied. Therefore, the Ohio EPA staff recommends that this permit be issued to Petmin Limited to construct the nodular pig iron facility.



PUBLIC NOTICE PUBLIC HEARING  
Issuance of Draft Air Pollution PSD PTI Permit  
Petmin Limited

Issue Date: 11/14/2018  
Permit Number: P0125024  
Permit Type: PSD PTI  
Facility ID: 0204012023  
Facility Location: Petmin Limited  
1149 East 5<sup>th</sup> St.  
Ashtabula, OH 44004

Facility Description: Merchant pig iron production facility with a startup boiler, electric arc furnace, process gas heater, 3 ladle preheaters, 2 emergency generators, black start generator, quencher flare, material handling and roadways.

The Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio has issued a draft action of an air pollution control PSD installation permit for the facility at the location identified above on the date indicated.

Air dispersion modeling was performed to show allowable emission levels will not cause or contribute to an exceedance of any National Ambient Air Quality Standard (NAAQS). The maximum air pollutant concentrations and averaging periods that are expected from this facility are the following in micrograms per cubic meter: 162.32 nitrogen dioxide, 1-hour, and 31.57 nitrogen dioxide, annual. The expected maximum concentrations of CO, sulfur dioxide, PM <2.5 micron, PM <10 micron, and VOCs are considered insignificant.

A public hearing on the draft air permit is scheduled for Thursday December 20, 2018 at the Lakeside High School, 6600 Sanborn Road, Ashtabula, Ohio 44004. An information session will commence at 6:00 pm followed by a public hearing to accept comments on the draft permit. A presiding officer will be present and may limit oral testimony to ensure that all parties are heard.

All interested persons are entitled to attend or be represented and give written or oral comments on the draft permit at the hearing. Written comments on the draft permit must be received by the close of the business day on January 4, 2019. Comments received after this date will not be considered to be a part of the official record. Written comments may be submitted at the hearing or sent to: Tony Becker of the Ohio EPA Northeast District Office, 2110 E. Aurora Rd., Twinsburg, Ohio 44087.

The permit may be obtained at: <http://epa.ohio.gov/dapc/newpermits/issued> by clicking on "Electronic Copies of Issued Permits" and entering the permit number. Physical copies of the permit or copies of supporting records may be inspected and copied at the Ohio EPA Northeast District Office, located at the above address, telephone number (330) 963-1200.

Persons interested in joining Ohio EPA's mailing list concerning this or similar actions may contact Paul Braun at [paul.braun@epa.ohio.gov](mailto:paul.braun@epa.ohio.gov), or 614-644-3734.





**DRAFT**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Petmin Limited**

Facility ID:	0204012023
Permit Number:	P0125024
Permit Type:	Initial Installation
Issued:	11/14/2018
Effective:	To be entered upon final issuance







**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
Petmin Limited

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**Draft Permit-to-Install**  
Petmin Limited  
**Permit Number:** P0125024  
**Facility ID:** 0204012023

**Effective Date:** To be entered upon final issuance

## Authorization

Facility ID: 0204012023  
Facility Description: Merchant Pig Iron Production  
Application Number(s): A0060637, A0062176  
Permit Number: P0125024  
Permit Description: Initial PTI to convert iron ore pellets to merchant pig iron, including the installation of a process gas heater, electric arc furnace, startup boiler, black start generator, emergency generators, ladle preheaters, quenching & wastewater treatment, material handling and roadways.  
Permit Type: Initial Installation  
Permit Fee: \$6,100.00 *DO NOT send payment at this time, subject to change before final issuance*  
Issue Date: 11/14/2018  
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

Petmin Limited  
1149 E 5th St  
Ashtabula, OH 44004

of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northeast District Office  
2110 East Aurora Rd.  
Twinsburg, OH 44087  
(330)963-1200

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Craig W. Butler  
Director



## Authorization (continued)

Permit Number: P0125024

Permit Description: Initial PTI to convert iron ore pellets to merchant pig iron, including the installation of a process gas heater, electric arc furnace, startup boiler, black start generator, emergency generators, ladle preheaters, quenching & wastewater treatment, material handling and roadways.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>B001</b>
Company Equipment ID:	Startup boiler
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>F001</b>
Company Equipment ID:	Plant Roadways
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P001</b>
Company Equipment ID:	Process gas heater
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P007</b>
Company Equipment ID:	Black Start Generator
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P008</b>
Company Equipment ID:	Quenching & wastewater treatment
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P901</b>
Company Equipment ID:	EMAF
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P902</b>
Company Equipment ID:	Material Handling
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

**Group Name: Emergency Generators**

<b>Emissions Unit ID:</b>	<b>P005</b>
Company Equipment ID:	Emergency Generator #1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P006</b>
Company Equipment ID:	Emergency Generator #2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Draft Permit-to-Install**  
Petmin Limited  
**Permit Number:** P0125024  
**Facility ID:** 0204012023

**Effective Date:** To be entered upon final issuance

**Group Name: Ladle Preheaters**

<b>Emissions Unit ID:</b>	<b>P002</b>
Company Equipment ID:	Ladle preheat and dry
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P003</b>
Company Equipment ID:	Ladle preheat (backup)
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P004</b>
Company Equipment ID:	Ladle drying station
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Draft Permit-to-Install**  
Petmin Limited  
**Permit Number:** P0125024  
**Facility ID:** 0204012023  
**Effective Date:** To be entered upon final issuance

## **A. Standard Terms and Conditions**

## **1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A.2.a), Severability Clause
  - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A.9., Reporting Requirements
  - (5) Standard Term and Condition A.10., Applicability
  - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A.14., Public Disclosure
  - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A.16., Fees
  - (10) Standard Term and Condition A.17., Permit Transfers

## **2. Severability Clause**

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

## **3. General Requirements**

- a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

#### **4. Monitoring and Related Record Keeping and Reporting Requirements**

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Northeast District Office.



- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northeast District Office. The written reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
  - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the Ohio EPA DAPC, Northeast District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
  - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## **5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Northeast District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

## **6. Compliance Requirements**

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted local air agency, and/or any other individual or organization specifically identified as an

additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c) The permittee shall submit progress reports to the Ohio EPA DAPC, Northeast District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

## **7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

**8. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

**9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northeast District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northeast District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**10. Applicability**

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s) not exempt from the requirement to obtain a Permit-to-Install.

**11. Construction of New Sources(s) and Authorization to Install**

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the

Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

## **12. Permit-To-Operate Application**

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.

**13. Construction Compliance Certification**

The applicant shall identify the following dates in the "Air Services" facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

**14. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

**15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**16. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed. The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

**18. Risk Management Plans**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

**19. Title IV Provisions**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.



**Draft Permit-to-Install**  
Petmin Limited  
**Permit Number:** P0125024  
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## **B. Facility-Wide Terms and Conditions**



**Draft Permit-to-Install**  
Petmin Limited  
**Permit Number:** P0125024  
**Facility ID:** 0204012023

**Effective Date:** To be entered upon final issuance

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) None.



**Draft Permit-to-Install**  
Petmin Limited  
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## **C. Emissions Unit Terms and Conditions**



**1. B001, Startup boiler**

**Operations, Property and/or Equipment Description:**

Startup boiler, natural gas fired with maximum heat input of 15.17 MMBtu/hr.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)b.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) June 30, 2008	<b>Monthly emission limitations:</b>  Carbon monoxide (CO) emissions shall not exceed 0.46 ton per month averaged over a 12-month, rolling period.  Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.0042 ton per month averaged over a 12-month, rolling period.  Volatile organic compounds (VOC) emissions shall not exceed 0.030 ton per month averaged over a 12-month, rolling period.  See b)(2)a and b)(2)b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO, SO <sub>2</sub> , VOC, PM <sub>10</sub> , PM <sub>2.5</sub> and NO <sub>x</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons per year.  See b)(2)c.
c.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM <sub>10</sub> ) and particulate matter emissions less than or equal to 2.5

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>microns in aerodynamic diameter (PM<sub>2.5</sub>) shall not exceed 1.13E-1 lb/hr (filterable and condensable) and 0.49 ton per rolling, 12-month period.</p> <p>Carbon dioxide equivalent (CO<sub>2e</sub>) emissions shall not exceed 1,784 lbs/hr and 7,814 tons per rolling, 12-month period.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 6.34E-1 lb/hr and 2.78 tons per rolling, 12-month period.</p> <p><b>Source design characteristic:</b>            The burner is designed to meet 4.18E-02 lb of NO<sub>x</sub>/MMBtu.</p>
d.	OAC rule 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.
e.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a 6-minute average, except as provided by the rule.
f.	OAC rule 3745-18-06(A)	This emissions unit is exempt from this rule when natural gas is the only fuel burned.
g.	40 CFR Part 60, Subpart Dc	<p>This emissions unit is not subject to the emission limitations listed in 40 CFR Part 60, Subpart Dc as long as natural gas is the only fuel burned.</p> <p>See b)(2)d, d)(2) and e)(1).</p>
h.	40 CFR Part 63, Subpart JJJJJJ	This emissions unit is not subject to the requirements in this Subpart, because it is a gas-fired boiler as defined by the Subpart.

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.



- b. The BAT emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
  - c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) as part of the Ohio SIP.
  - d. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency (U.S. EPA), 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency (Ohio EPA).
- c) Operational Restrictions
- (1) The permittee shall burn only natural gas in this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
- (1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
  - (2) The permittee shall record and maintain records of the amount of each fuel combusted during each calendar month.
- e) Reporting Requirements
- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emission Limitation:  
CO emissions shall not exceed 0.46 ton per month averaged over a 12-month, rolling period.  
  
Applicable Compliance Method:  
Compliance may be determined by the following equation:  
$$E = A * B * C * (1/D) * (1/F)$$
  
E = CO emission rate, in ton per month averaged over a 12-month, rolling period;  
A = emission factor, 8.24E-02 lb of CO/MMBtu, AP-42 Section 1.4, July 98;



B = 15.17 MMBtu/hr, heat input;  
C = 8760 hours/year;  
D = 2000 lbs/ton; and  
F = 12 months/year.

b. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 0.0042 ton per month averaged over a 12-month, rolling period.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A*B*C*(1/D)*(1/F)$$

E = SO<sub>2</sub> emission rate, in ton per month averaged over a 12-month, rolling period;

A = emission factor, 5.88E-04 lb of SO<sub>2</sub>/MMBtu, AP-42 Section 1.4, July 98;

B = 15.17 MMBtu/hr, Heat input;

C = 8760 hours/year;

D = 2000 lbs/ton; and

F = 12 months/year.

c. Emission Limitation:

VOC emissions shall not exceed 0.030 ton per month averaged over a 12-month, rolling period.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A*B*C*(1/D)*(1/F)$$

E = VOC emission rate, in ton per month averaged over a 12-month, rolling period;

A = emission factor, 5.39E-03 lb of VOC/MMBtu, AP-42 Section 1.4, July 98;

B = 15.17 MMBtu/hr, heat input;

C = 8760 hours/year;

D = 2000 lbs/ton; and

F = 12 months/year.

d. Emission Limitation:

PM<sub>10</sub> and PM<sub>2.5</sub> emissions shall not exceed 1.13E-1 lb/hr (filterable and condensable) and 0.49 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance may be determined by the following equation:



$$E = A*B$$

where:

E = PM<sub>10</sub>/PM<sub>2.5</sub> emission rate, in lbs/hr;

A = emission factor, 7.45E-03 lb of PE/PM<sub>10</sub>/MMBtu, AP-42 Section 1.4, July 98 (filterable and condensable); and

B = 15.17 MMBtu/hr, heat input.

Compliance with the annual PM<sub>10</sub>/PM<sub>2.5</sub> emission limitation (0.49 ton per rolling, 12-month period) may be determined by multiplying the maximum hourly allowable emission limitation of 1.13E-1 lb/hr by the maximum number of hours in a 12-month, rolling period (8760 hrs/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

e. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 6.34E-1 lb/hr and 2.78 tons per rolling, 12-month period.

Source Design Characteristic:

The burner is designed to meet 4.18E-02 lb of NO<sub>x</sub>/MMBtu.

The source design characteristic was established based on the information provided by the permittee in permit application #A0060637.

Applicable Compliance Method:

Compliance may be determined by the following equations:

$$E = A*B$$

where:

E = NO<sub>x</sub> emission rate, in lbs/hr;

A = emission factor, 4.18E-02 lb of NO<sub>x</sub>/MMBtu - burner manufacturer; and

B = 15.17 MMBtu/hr, heat input.

Compliance with the annual NO<sub>x</sub> emission limitation (2.78 ton per rolling, 12-month period) may be determined by multiplying the maximum hourly allowable emission limitation of 6.34E-1 lb/hr by the maximum number of hours in a 12-month, rolling period (8760 hrs/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

f. Emission Limitation:

CO<sub>2</sub>e emissions shall not exceed 1,784 lbs/hr and 7,814 tons per rolling, 12-month period.



Applicable Compliance Method:

Compliance may be determined by the following equations:

$$E = A * B$$

where:

E = CO<sub>2</sub>e emission rate, in lbs/hr;

A = emission factor, 1.176E+02 lbs of CO<sub>2</sub>e/MMBtu, AP-42 Section 1.4, July 98;  
and

B = 15.17 MMBtu/hr, heat input.

Compliance with the annual CO<sub>2</sub>e emission limitation (7,814 ton per rolling, 12-month period) may be determined by multiplying the maximum hourly allowable emission limitation of 1,784 lbs/hr by the maximum number of hours in a 12-month, rolling period (8760 hr/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

g. Emission Limitation:

Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

g) Miscellaneous Requirements

- (1) None.

**2. F001, Plant Roadways**

**Operations, Property and/or Equipment Description:**

Unpaved plant roadways and parking areas

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)b.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)a. and b)(2)b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM <sub>10</sub> or PM <sub>2.5</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons per year. See b)(2)c.
c.	OAC rule 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	0.21 ton/year of fugitive particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM <sub>10</sub> )  0.02 ton/yr of fugitive particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter (PM <sub>2.5</sub> )  Develop and implement a site-specific work practice plan designed as described in paragraph d)(1) below to minimize or eliminate fugitive dust emissions. See b)(2)d.
d.	OAC rule 3745-17-07(B)(5)	There shall be no visible particulate matter emissions from any unpaved roadways and parking areas except for a period of time not to exceed thirteen (13) minutes during any 60-minute observation period.
e.	OAC rule 3745-17-08(B)	See b)(2)d. through b)(2)f.

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for PM<sub>10</sub> and PM<sub>2.5</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.
- b. The BAT emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) as part of the Ohio SIP.
- d. The permittee shall employ best available control measures on all unpaved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's application, the permittee has committed to treat the unpaved roadways and parking areas by commercial dust suppressants and/or watering at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- e. The permittee shall promptly remove, in such a manner as to minimize or prevent re-suspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
- f. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Work Practice Plan

The permittee shall develop and implement a site-specific work practice plan designed to minimize or eliminate fugitive dust from the permittees unpaved roadways and parking areas. This work practice plan shall include, at a minimum, the following elements:

- a. An identification of each roadway or parking area, or segment of roadway or parking area, for which the plan applies. The permittee can select whether to develop a plan based on segments or entire roads.



- b. A determination of the frequency that each roadway, parking area or segment will be inspected to determine if additional control measures are needed. The frequency of inspection can either be common for all segments of the roadway or parking areas or may be identified separately for various segments of the roadway or parking areas.
- c. The identification of the record keeping form/record that will be used to track the inspection and treatment of the roadways. This form/record should include, at a minimum, the following elements:
  - i. Roadway, parking area, or segment inspected;
  - ii. Date inspected;
  - iii. Name of employee responsible for inspection
  - iv. Result of the inspection (needs treated or does not need treated);
  - v. A description of why no treatment was needed;
  - vi. Date treated;
  - vii. Name of employee responsible for roadway, parking area, or segment treatment; and
  - viii. Method used to treat the roadway, parking area, or segment.
- d. A description of how and where the records shall be maintained.

The permittee shall begin using the Work Practice Plan within 30 days from the date Ohio EPA approved the initial plan. As needs warrant, the permittee can modify the Work Practice Plan. The permittee shall submit a copy of proposed revisions to the Work Practice Plan to the Ohio EPA Northeast District Office for review and approval. The permittee can begin using the revised Work Practice Plan once the Ohio EPA Northeast District Office has approved its use.

(2) Work Practice Plan Inspections

Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas at frequencies described in the Work Practice Plan. The purpose of the inspections is to determine the need for implementing control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

(3) Work Practice Plan Record Keeping

The permittee shall maintain records of the following information:

- a. The records required to be collected under the Work Practice Plan, and
- b. The date and reason any element of the Work Practice Plan was not implemented.

The permittee shall maintain these records in accordance to the Standard Terms and Conditions of Part A of this permit.

e) Reporting Requirements

- (1) Within 90 days prior to startup, the permittee shall submit their proposed Work Practice Plan to the Ohio EPA through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit semiannual deviation reports that identify any of the following occurrences:
  - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
  - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

0.21 ton/year of fugitive PM<sub>10</sub>; 0.02 ton/yr of fugitive PM<sub>2.5</sub>

Applicable Compliance Method:

Compliance with fugitive PM<sub>10</sub> and PM<sub>2.5</sub> limitations shall be determined by using the emission factor equations in Section 13.2.2, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 12/03) for unpaved

roadways. These emission limits were based on the following assumptions by the permittee:

98 miles traveled per year for Slag Pot Carriers;

1,347 miles traveled per year for Slag Trucks;

236 miles traveled per year for Fines Trucks;

2514 miles per year for CO<sub>2</sub> Trucks; and

95% control efficiency for PM<sub>10</sub>, and PM<sub>2.5</sub> emissions.

b. Emission Limitation:

There shall be no visible particulate matter emissions from any unpaved roadways and parking areas except for a period of time not to exceed thirteen (13) minutes during any 60-minute observation period.

Applicable Compliance Method:

If required, compliance with the visible particulate matter emission limitation listed above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

g) Miscellaneous Requirements

(1) None.

**3. P001, Process gas heater**

**Operations, Property and/or Equipment Description:**

Process gas preheater, natural gas, indirect fired with maximum heat input of 218.9 MMBtu/hr, emissions are vented to a stack.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	<b>Source design characteristic:</b> The burner is designed to meet 5.00E-02 lb of CO/MMBtu.  See b)(2)a.
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	<b>Monthly emission limitations:</b> Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 3.64E-1 ton per month averaged over a 12-month, rolling period.  Volatile organic compounds (VOC) emissions shall not exceed 4.3E-1 ton per month averaged over a 12-month, rolling period.  See b)(2)b. and b)(2)c.
c.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO, SO <sub>2</sub> , VOC, PM <sub>10</sub> and PM <sub>2.5</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons per year.  See b)(2)d.
d.	OAC rule 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM <sub>10</sub> ) and particulate matter emissions less than or equal to 2.5

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>microns in aerodynamic diameter (PM<sub>2.5</sub>) shall not exceed 1.63 lbs/hr (filterable and condensable) and 7.14 ton per rolling, 12-month period.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 14.01 lbs/hr and 61.36 tons per rolling, 12-month period.</p> <p><b>Source design characteristic:</b>            The burner is designed to meet 6.40E-02 lb of NO<sub>x</sub>/MMBtu.</p> <p>Carbon dioxide equivalent (CO<sub>2e</sub>) emissions shall not exceed 25,830.2 lbs/hr and 113,136 tons per rolling, 12-month period.</p>
e.	OAC rule 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.
f.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a 6-minute average, except as provided by the rule.
g.	OAC rule 3745-18-06(E)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
h.	OAC rule 3745-110-03(K)(20)	Exemption. See b)(2)e.

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for NO<sub>x</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.
- b. Compliance with the requirements of this rule for SO<sub>2</sub>, VOC, PM<sub>10</sub> and PM<sub>2.5</sub>, emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.
- c. The BAT emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).



- d. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) as part of the Ohio SIP.
  - e. The requirements of this rule do not apply since the emissions unit is subject to a BACT limitation for NO<sub>x</sub>.
- c) Operational Restrictions
- (1) The permittee shall burn only natural gas and process gas in this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
- (1) For each day during which the permittee burns a fuel other than natural gas and process gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- e) Reporting Requirements
- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and process gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Source design characteristic:

The burner is designed to meet 5.00E-02 lb of CO/MMBtu.

The source design characteristic was established based on the information provided by the permittee in permit application #A0060637.

The permittee shall demonstrate compliance with the emission limitation of 5.00E-02 lb/MMBtu through performance tests conducted in accordance with the provisions in term f)(2) below.
    - b. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 3.64E-1 ton per month averaged over a 12-month, rolling period.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A*B*C*(1/D)*(1/F)$$



**Effective Date:** To be entered upon final issuance

E = SO<sub>2</sub> emission rate, in ton per month averaged over a 12-month, rolling period;  
A = emission factor, 4.56E-03 lb of SO<sub>2</sub>/MMBtu, EF developed by the equipment manufacturer, based on a mass balance of gas sulfur contents, as provided in permit application #A0062176;  
B = 218.9 MMBtu/hr, heat input;  
C = 8760 hours/year;  
D = 2000 lbs/ton; and  
F = 12 months/year.

c. Emission Limitation:

VOC emissions shall not exceed 4.3E-1 ton per month averaged over a 12-month, rolling period.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A*B*C*(1/D)*(1/F)$$

E = VOC emission rate, in ton per month averaged over a 12-month, rolling period;  
A = emission factor, 5.39E-03 lb of VOC/MMBtu, AP-42 Section 1.4, July 98;  
B = 218.9 MMBtu/hr, heat input;  
C = 8760 hours/year;  
D = 2000 lbs/ton; and  
F = 12 months/year.

d. Emission Limitations:

PM<sub>10</sub> and PM<sub>2.5</sub> emissions shall not exceed 1.63 lbs/hr (filterable and condensable) and 7.14 ton per rolling, 12-month period.

Applicable Compliance Methods:

Compliance may be determined by the following equations:

$$E = A*B$$

where:

E = PM<sub>10</sub>/PM<sub>2.5</sub> emission rate, in lbs/hr;  
A = emission factor, 7.45E-03 lb of PE/PM<sub>10</sub>/MMBtu, AP-42 Section 1.4, July 98 (filterable and condensable); and  
B = 218.9 MMBtu/hr, heat input.

Compliance with the annual PM<sub>10</sub> and PM<sub>2.5</sub> emission limitation (7.14 ton per rolling, 12-month period) may be determined by multiplying the maximum hourly allowable emission limitation of 1.63 lbs/hr by the maximum number of hours in a



12-month, rolling period (8760 hrs/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

e. Emission Limitations:

NO<sub>x</sub> emissions shall not exceed 6.40E-02 lb/MMBtu, 14.01 lbs/hr, and 61.36 tons per rolling, 12-month period.

Source Design Characteristic:

The burner is designed to meet 6.40E-02 lb of NO<sub>x</sub>/MMBtu.

The source design characteristic was established based on the information provided by the permittee in permit application #A0060637.

Applicable Compliance Methods:

Compliance may be determined by the following equations:

$$E = A*B$$

where:

E = NO<sub>x</sub> emission rate, in lbs/hr;  
A = emission factor, 6.40E-02 lb of NO<sub>x</sub>/MMBtu; and  
B = 218.9 MMBtu/hr, heat input.

Compliance with the annual NO<sub>x</sub> emissions limitation (61.36 ton per rolling 12-month period) may be determined by multiplying the maximum hourly allowable emissions limitation of 14.01 lbs/hr by the maximum number of hours in a 12-month rolling period (8760 hr/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emissions limitation, then the permittee will be in compliance with the annual emissions limitation.

The permittee shall demonstrate compliance with the emission limitations of 6.40E-02 lb/MMBtu and 14.01 lbs/hr through performance tests conducted in accordance with the provisions in term f)(2) below.

f. Emission Limitations:

CO<sub>2</sub>e emissions shall not exceed 25,830.2 lbs/hr and 113,136 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance may be determined by the following equations:

$$E = A*B$$

where:





E = CO<sub>2</sub>e emission rate, in lbs/hr;  
A = emission factor, 1.176E+02 lbs of CO<sub>2</sub>e/MMBtu, AP-42 Section 1.4, July 98;  
and  
B = 218.9 MMBtu/hr, heat input.

Compliance with the annual CO<sub>2</sub>e emissions limitation (113,136 ton per rolling 12-month period) may be determined by multiplying the maximum hourly allowable emissions limitation of 25,830.2 lbs/hr by the maximum number of hours in a 12-month rolling period (8760 hr/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emissions limitation, then the permittee will be in compliance with the annual emissions limitation.

g. Emission Limitation:

Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 6-months after startup of the process gas preheater emissions unit P001.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable CO and NO<sub>x</sub> emission limits.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitations:

for CO: Method 10 of 40 CFR Part 60, Appendix A; and  
for NO<sub>x</sub>: Methods 7 or 7E of 40 CFR Part 60, Appendix A.

Methods 1 through 4 of 40 CFR Part 60, Appendix A

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. During the emission testing, the emissions unit shall be operated under operational conditions approved in advance by the Ohio EPA Northeast District Office. Operational conditions that may need to be approved include, but are not

limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the Ohio EPA Northeast District Office that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

g) Miscellaneous Requirements

- (1) None.

**4. P007, Black Start Generator**

**Operations, Property and/or Equipment Description:**

Black start generator, 158 HP diesel engine.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)b.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) June 30, 2008	<p><b>Source design characteristic:</b>            The engine is designed to meet the carbon monoxide (CO) emissions limit of 3.7 grams/bhp-hr.</p> <p>The engine is designed to meet the volatile organic compounds (VOC) emissions limit of 0.14 gram/bhp-hr.</p> <p><b>Monthly emission limitation:</b>            Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 6.7E-6 ton per month averaged over a 12-month, rolling period.</p> <p>See b)(2)a and b)(2)b.</p>
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	<p>The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO, VOC, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons per year.</p> <p>See b)(2)c.</p>
c.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	<p>Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM<sub>10</sub>) and particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter (PM<sub>2.5</sub>)</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>shall not exceed 0.015 gram/bhp-hr (filterable), 5.22E-3 lb/hr and 2.61E-4 ton/year.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 0.30 gram/bhp-hr, 1.04E-1 lbs/hr and 5.2E-3 ton/year.</p> <p>Carbon dioxide (CO<sub>2</sub>) emissions shall not exceed 522.1 grams/bhp-hr, 181.7 lbs/hr and 9.09 tons/year.</p> <p>See c)(4) and c)(5).</p>
d.	OAC rule 3745-17-11(B)(5)(a)	The emission limitation specified by this rule is less stringent than the emission limitation for PE pursuant to 40 CFR Part 60, Subpart IIII.
e.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a 6-minute average, except as provided by the rule.
f.	OAC rule 3745-18-06(B)	Exemption due to having a maximum heat input less than 10 MMBtu/hr.
g.	OAC rule 3745-110-03(K)(16) and (K)(20)	Exemption.  See b)(2)d.
h.	40 CFR Part 60, Subpart A (40 CFR 60.1 - 60.19)	Table 8 to Subpart IIII of 40 CFR Part 60 – Applicability of General Provisions to Subpart IIII shows which parts of the General Provisions in 40 CFR 60.1 - 60.19 apply.
i.	40 CFR Part 60, Subpart IIII Tier IV Standards	<p>The exhaust emissions from this engine shall not exceed:</p> <p>0.015 gram PM/bhp-hr          0.30 gram NO<sub>x</sub>/bhp-hr          0.14 gram VOC (NMHC)/bhp-hr          3.7 grams CO/bhp-hr</p> <p>Smoke emission limitations:</p> <p>As specified in 40 CFR 1039.105(a)(3), Tier IV engines are exempted from the smoke emission limitations when the particulate emission limitation is below 0.05 gram/bhp-hr (0.07 g/KWh) because</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		an engine of such low PM level has inherently low smoke emission.
j.	40 CFR 60.4207(b) 40 CFR 80.510(b)	The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.  See terms b)(2)h, c)(2), d)(1), and e)(1)a.
k.	40 CFR Part 63, Subpart ZZZZ	A new area source operating in compliance with 40 CFR Part 60, Subpart IIII is the demonstration of compliance for 40 CFR Part 63, Subpart ZZZZ.

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.
- b. The BAT emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) as part of the Ohio SIP.
- d. The requirements of this rule do not apply since:
  - i. NO<sub>x</sub> emissions are restricted to less than 25 tons per year; and
  - ii. the emissions unit is subject to a BACT limitation for NO<sub>x</sub>.
- e. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency (U.S. EPA), 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency (Ohio EPA).
- f. The stationary compression ignition (CI) internal combustion engine (ICE) is subject to and shall be operated in compliance with the requirements of 40 CFR Part 60, Subpart IIII, the standards of performance for stationary CI ICE.
- g. The stationary CI ICE has been or shall be purchased certified by the manufacturer, for its useful life\*, to emission standards as stringent as those identified in 40 CFR 60.4201(a) and found in 40 CFR 1039.101, Tables 1, for engines greater than or equal to 75 horsepower (56 kilowatt) and less than 175

horsepower (130 kilowatt), and to the opacity standards found in 40 CFR 1039.105.

\* “useful life” defined in Miscellaneous Requirements section

- h. The quality of the diesel fuel burned in this emissions unit shall meet the following specifications on an “as received” basis:
  - i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0015 pound sulfur dioxide/MMBtu actual heat input; and 15 ppm sulfur or 0.0015% sulfur by weight; and
  - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

Compliance with the above-mentioned specifications shall be determined by purchase orders specifying that each shipment of oil received is ULSD compliant.

c) **Operational Restrictions**

- (1) The stationary CI ICE and any control device shall be installed, operated, and maintained according to the manufacturer’s emission-related written instructions and the permittee shall only change those emission-related settings that are allowed by the manufacturer. The CI ICE must also be installed and operated to meet the applicable requirements from 40 CFR Part 89, Control of Emissions from New and In-use Non-road CI ICE; and Part 1068, the General Compliance Provisions for Engine Programs. The permittee shall operate and maintain the stationary CI ICE to achieve the emissions standards established in 40 CFR 60.4204 over the entire life of the engine(s).
- (2) Diesel fuel burned in the CI, ICE shall not exceed the limit for sulfur as specified by 40 CFR 80.510(b), i.e., the maximum sulfur content of diesel fuel shall not exceed 15 ppm or 0.0015% sulfur by weight.
- (3) If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached.
- (4) The permittee shall install a non-resettable hour meter prior to startup of the engine.
- (5) The permittee shall operate this emissions unit for not more than 100 hours in a calendar year.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of each purchase order that identifies the total quantity of diesel oil received and a specification that each shipment of oil received is ULSD compliant. These records shall be retained for a minimum of 5 years and shall be available for inspection by the Director or his/her representative.

- (2) The permittee shall maintain the manufacturer's certification, that demonstrates compliance with the emission standards in Table 1 of 40 CFR 1039.101 and the opacity standards in 40 CFR 1039.105, on site or at a central location for all facility CI ICE; and the certification shall be made available for review upon request. If the manufacturer's certification is not kept on site, the permittee shall maintain a log for the location of each ICE and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the certificate identification number. The manufacturer's operations manual and any written instructions or procedures developed by the permittee and approved by the manufacturer shall be maintained at the same location as the ICE.
  - (3) If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the permittee shall keep records of the date, time, and any corrective action(s) taken in response to the notification from the backpressure monitor, that the high backpressure limit of the engine has been approached or exceeded.
  - (4) The permittee shall maintain monthly log of the number of hours the engine is in operation, recorded through the non-resettable hour meter.
- e) Reporting Requirements
- (1) The permittee shall submit a quarterly deviation report identifying the following:
    - a. any period of time (date and number of hours) that the quality of oil burned in this emissions unit did not meet the requirements established in 40 CFR 80.510(b), based upon the required fuel records; and the amount of non-compliant fuel burned on each such occasion;
    - b. if the stationary CI Internal combustion engine is equipped with a diesel particulate filter, any period of time (date and number of hours) that the engine exceeded high backpressure limit of the engine; and any corrective action(s) taken on each such occasion; and
    - c. any exceedance of the annual 100-hour limitation for operating this emissions unit, as documented by the non-resettable hour meter and operating log.
- f) Testing Requirements
- (1) Compliance with the Emission Limitations and/or Control Requirements specified in Section b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Opacity Limitation:

Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

b. Emission Limitations:

PM (PM<sub>10</sub> + PM<sub>2.5</sub>) emissions shall not exceed 0.015 gram/bhp-hr (0.02 gram/KW-hr) (filterable), 5.22E-3 lb/hr and 2.61E-4 ton/year.

Applicable Compliance Methods:

Compliance with the emission limitation (0.015 gram PM (PM<sub>10</sub> + PM<sub>2.5</sub>)/bhp-hr) shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram/bhp-hr limit is the emission limitation from Table 1 of 40 CFR 1039.101, the Tier 4 exhaust emission standards for diesel engines greater than or equal to 75 horsepower (56 kilowatt) and less than 175 horsepower (130 kilowatt).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(2) below.

Compliance with the hourly emission limitation (5.22E-3 lb/hr, filterable) may be determined by the following equation:

$$E = A*B*(1/C)$$

where:

E = PM (PM<sub>10</sub> + PM<sub>2.5</sub>) emission rate, in lb/hr;  
A = emission limit, 0.015 gram/bhp-hr, Tier IV certified engine;  
B = horse power rating of the engine (158 HP); and  
C = 454 grams/lb.

Compliance with the annual PM (PM<sub>10</sub> + PM<sub>2.5</sub>) emission limitation (2.61E-4 ton/year, filterable) may be determined by multiplying the maximum hourly allowable emission limitation of 5.22E-3 lb/hr by 100 hours/year and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

c. Emission Limitations:

NO<sub>x</sub> emissions shall not exceed 0.30 gram/bhp-hr (0.40 gram/KW-hr), 1.04E-1 lb/hr and 5.2E-3 ton/year.





Applicable Compliance Method:

Compliance with the emission limitation (0.30 gram NO<sub>x</sub>/bhp-hr) shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram/bhp-hr limit is the emission limitation from Table 1 of 40 CFR 1039.101, the Tier 4 exhaust emission standards for diesel engines greater than or equal to 75 horsepower (56 kilowatt) and less than 175 horsepower (130 kilowatt).

If required, the permittee shall demonstrate compliance with the emission limitation through performance tests conducted in accordance with the provisions in term f)(2) below.

Compliance with the hourly emission limitation (1.04E-1 lb/hr) may be determined by the following equation:

$$E = A*B*(1/C)$$

where:

- E = NO<sub>x</sub> emission rate, in lb/hr;
- A = emission limit, 0.30 gram/bhp-hr, Tier IV certified engine;
- B = horse power rating of the engine (158 HP); and
- C = 454 grams/lb.

Compliance with the annual NO<sub>x</sub> emission limitation (5.2E-3 tons/year) may be determined by multiplying the maximum hourly allowable emission limitation of 1.04E-1 lb/hr by 100 hours/year and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

d. Emission Limitation:

VOC (NMHC) emissions shall not exceed 0.14 gram/bhp-hr (0.19 gram/KW-hr).

Applicable Compliance Method:

Compliance with the emission limitation shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram/bhp-hr limit is the emission limitation from Table 1 of 40 CFR 1039.101, the Tier 4 exhaust emission standards for diesel engines greater than or equal to 75 horsepower (56 kilowatt) and less than 175 horsepower (130 kilowatt).

If required, the permittee shall demonstrate compliance with the emission limitation through performance tests conducted in accordance with the provisions in term f)(2) below.

e. Emission Limitation:

CO emissions shall not exceed 3.7 grams/bhp-hr (5.0 grams/kW-hr).

Applicable Compliance Method:

Compliance with the emission limitation shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram/bhp-hr limit is the emission limitation from Table 1 of 40 CFR 1039.101, the Tier 4 exhaust emission standards for diesel engines greater than or equal to 75 horsepower (56 kilowatt) and less than 175 horsepower (130 kilowatt).

If required, the permittee shall demonstrate compliance with the emission limitation through performance tests conducted in accordance with the provisions in term f)(2) below.

f. Sulfur Content Limitations for Diesel Fuel:

The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.

Applicable Compliance Method:

Compliance shall be demonstrated through the record keeping requirements for the sulfur content of each shipment of diesel oil received. If meeting the standards in 40 CFR 80.510(b), this calculates to approximately 0.0015 lb SO<sub>2</sub>/MMBtu.

g. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 6.7E-6 ton per month averaged over a 12-month, rolling period.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = 1.01 * A * B * C * (1/D) * (1/F)$$

E = SO<sub>2</sub> emission rate, in ton per month averaged over a 12-month, rolling period;

1.01 = SO<sub>2</sub> emission factor, in lb/MMBtu;

A = % sulfur content of the fuel used (0.0015);

B = 1.375E-1 MMBtu/gal, heat content;

C = 770 gal/year, fuel usage (equivalent to 100 hours/year);

D = 2000 lbs/ton; and

F = 12 months/year.



The SO<sub>2</sub> emission factor was obtained from AP-42, section 3.4, Table 3.4-1, dated October 1996.

h. Emission Limitations:

CO<sub>2</sub> emissions shall not exceed 522.1 grams/bhp-hr, 181.7 lbs/hr and 9.09 tons/year.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A$$

where:

E = CO<sub>2</sub> emission rate, in grams of CO<sub>2</sub>/bhp-hr; and

A = emission factor, 522.1 grams of CO<sub>2</sub>/bhp-hr (1.15 lb/hp-hr), AP-42 Section 3.3, Table 3.3-1, October 96.

Compliance with the hourly emission limitation (181.7 lbs/hr) may be determined by the following equation:

$$E = A*B*(1/C)$$

where:

E = CO<sub>2</sub> emission rate, in lbs/hr;

A = emission factor, 522.1 grams of CO<sub>2</sub>/bhp-hr (1.15 lb/hp-hr), AP-42 Section 3.3, Table 3.3-1, October 96;

B = horse power rating of the engine (158 HP); and

C = 454 grams/lb.

Compliance with the annual CO<sub>2</sub> emission limitation (9.09 tons/year) may be determined by multiplying the maximum hourly allowable emission limitation of 181.7 lbs/hr by 100 hours/year and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

(2) If it is determined by the Ohio EPA that a compliance demonstration is required through performance testing, it shall be conducted using one of the following test methods or procedures:

a. in accordance with 40 CFR 60.4212 emission, conduct the exhaust emissions testing using the in-use testing procedures found in 40 CFR Part 1039, Subpart F, measuring the emissions of the regulated pollutants as specified in 40 CFR 1065.

g) Miscellaneous Requirements

- (1) *Useful life* means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for useful life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g).

**5. P008, Quenching & wastewater treatment**

**Operations, Property and/or Equipment Description:**

Quenching & wastewater treatment, equipped with a flare.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) June 30, 2008	<p><b>Source design characteristic:</b> The flare is designed with a control efficiency of ninety-eight (98) percent for carbon monoxide (CO) emissions.</p> <p><b>Monthly emission limitations:</b> Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 3.33E-4 ton per month averaged over a 12-month, rolling period.</p> <p>Volatile organic compounds (VOC) emissions shall not exceed 1.76E-1 ton per month averaged over a 12-month, rolling period.</p> <p>See b)(2)a and b)(2)b.</p>
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	<p>The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO, SO<sub>2</sub>, VOC, PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons per year.</p> <p>See b)(2)c.</p>
c.	OAC rule 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM <sub>10</sub> ) and particulate matter emissions less than or equal to 2.5

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>microns in aerodynamic diameter (PM<sub>2.5</sub>) shall not exceed 2.57E-2 lb/hr (filterable and condensable) and 1.13E-1 ton per rolling, 12-month period.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 2.35E-1 lb/hr and 1.03 tons per rolling, 12-month period.</p> <p>Carbon dioxide equivalent (CO<sub>2e</sub>) emissions shall not exceed 405.72 lbs/hr and 1,777 tons per rolling, 12-month period.</p>
d.	OAC rule 3745-17-11	See b)(2)e.
e.	OAC rule 3745-17-07(A)(1)	See b)(2)f.
f.	OAC rule 3745-18-06(E)(2)	See b)(2)g.
g.	OAC rule 3745-110-03(K)(16) and (K)(20)	Exempt. See b)(2)d.

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.
- b. The BAT emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) as part of the Ohio SIP.
- d. The requirements of this rule do not apply since:
  - i. NO<sub>x</sub> emissions are restricted to less than 25 tons per year; and
  - ii. the emissions unit is subject to a BACT limitation for NO<sub>x</sub>.
- e. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(22), is equal to zero.
- f. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h),

because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

- g. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- h. The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas and/or process gas in this emissions unit.
- (2) A pilot flame shall be maintained at all times in the flare's pilot light burner. The presence of the pilot flame shall be monitored using a thermocouple or other equivalent device to detect the presence of a flame.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or process gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (2) The permittee shall record all periods of time during which there was no pilot flame or the flare was inoperable.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when fuel other than natural gas and/or process gas was/were burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (2) The permittee shall submit quarterly deviation reports that identify all periods of time during which the pilot flame was not functioning properly or the flare was not maintained as required in this permit. The reports shall include the date, time, and duration of each such period.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Source design characteristic:

The flare is designed with a control efficiency of ninety-eight (98) percent for carbon monoxide (CO) emissions.

The source design characteristic was established based on the information provided by the permittee in permit application #A0060637.

b. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 3.33E-4 ton per month averaged over a 12-month, rolling period

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A*B*C*(1/D)*(1/F)$$

E = SO<sub>2</sub> emission rate, in ton per month averaged over a 12-month, rolling period;

A = emission factor (EF), 2.37E-4 lb of SO<sub>2</sub>/MMBtu, EF developed by the equipment manufacturer, based on a mass balance of gas sulfur contents, as provided in permit application #A0062176;

B = 3.45 MMBtu/hr, average heat input (based on projected operation of 200 hr/yr SU/SD; 8570 hr/yr pilot only);

C = 8760 hours/year;

D = 2000 lbs/ton; and

F = 12 months/year.

c. Emission Limitation:

VOC emissions shall not exceed 1.76E-1 ton per month averaged over a 12-month, rolling period.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A*B*C*(1/D)*(1/F)$$

E = VOC emission rate, in ton per month averaged over a 12-month, rolling period;

A = emission factor, 1.40E-1 lb of VOC/MMBtu, AP-42 Section 13.5, December 16;

B = 3.45 MMBtu/hr, heat input;

C = 8760 hours/year;

D = 2000 lbs/ton; and

F = 12 months/year.

d. Emission Limitations:

PM<sub>10</sub> and PM<sub>2.5</sub> emissions shall not exceed 2.57E-2 lb/hr (filterable and condensable) and 1.13E-1 ton per rolling, 12-month period.





Applicable Compliance Methods:

Compliance may be determined by the following equations:

$$E = A*B$$

where:

E = PM<sub>10</sub>/PM<sub>2.5</sub> emission rate, in lb/hr;

A = emission factor, 7.45E-03 lb of PE/PM<sub>10</sub>/MMBtu, AP-42 Section 1.4, July 98 (filterable and condensable); and

B = 3.45 MMBtu/hr, heat input.

Compliance with the annual PM<sub>10</sub> and PM<sub>2.5</sub> emission limitation (1.13E-1 ton per rolling, 12-month period) may be determined by multiplying the maximum hourly allowable emission limitation of 2.57E-2 lb/hr by the maximum number of hours in a 12-month, rolling period (8760 hrs/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

e. Emission Limitations:

NO<sub>x</sub> emissions shall not exceed 2.35E-1 lb/hr and 1.03 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance may be determined by the following equations:

$$E = A*B$$

where:

E = NO<sub>x</sub> emission rate, in lb/hr;

A = emission factor, 6.80E-02 lb of NO<sub>x</sub>/MMBtu, AP-42 Section 13.5, December 16; and

B = 3.45 MMBtu/hr, heat input.

Compliance with the annual NO<sub>x</sub> emissions limitation (1.03 tons per rolling 12-month period) may be determined by multiplying the maximum hourly allowable emissions limitation of 2.35E-1 lbs/hr by the maximum number of hours in a 12-month rolling period (8760 hr/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emissions limitation, then the permittee will be in compliance with the annual emissions limitation.

f. Emission Limitations:

CO<sub>2e</sub> emissions shall not exceed 405.72 lbs/hr and 1,777 tons per rolling, 12-month period.



Applicable Compliance Methods:

Compliance may be determined by the following equations:

$$E = A * B$$

where:

E = CO<sub>2</sub>e emission rate, in lbs/hr;

A = emission factor, 1.176E+02 lbs of CO<sub>2</sub>e/MMBtu, AP-42 Section 1.4, July 98;  
and

B = 3.45 MMBtu/hr, heat input.

Compliance with the annual CO<sub>2</sub>e emissions limitation (1,777 ton per rolling 12-month period) may be determined by multiplying the maximum hourly allowable emissions limitation of 405.72 lbs/hr by the maximum number of hours in a 12-month rolling period (8760 hr/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emissions limitation, then the permittee will be in compliance with the annual emissions limitation.

g) Miscellaneous Requirements

- (1) None.

**6. P901, EAF**

**Operations, Property and/or Equipment Description:**

Electric Arc Furnace, including smelting, tapping, pouring, and casting.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	<b>Source design characteristic:</b> The EAF is designed to meet 9.00E-02 lb of carbon monoxide (CO)/ton of merchant pig iron (MPI) produced.  See b)(2)a.
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	<b>Source design characteristic:</b> The EAF is designed to meet 2.3E-02 lb of volatile organic compound (VOC)/ton of MPI produced.  See b)(2)b and b)(2)c.
c.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC and PM <sub>2.5</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons per year.  See b)(2)d.
d.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM <sub>10</sub> ) shall not exceed 0.074 lb/ton of MPI produced.  Particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter (PM <sub>2.5</sub> ) shall not exceed 0.0061 lb/ton of MPI produced.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p><b>Source design characteristic:</b>            The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM<sub>10</sub>/PM<sub>2.5</sub> emissions.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 1.4 lbs/ton of MPI produced.</p> <p>Carbon dioxide equivalent (CO<sub>2e</sub>) emissions shall not exceed 186.41 lbs/ton of MPI produced.</p> <p>Visible emissions of fugitive dust from this emissions unit shall not exceed six (6) percent opacity as a 6-minute average.</p> <p>Visible particulate emissions from any stack serving this emissions unit shall not exceed three (3) percent opacity as a 6-minute average.</p>
e.	OAC rule 3745-17-07(B)(3)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant OAC rules 3745-31-10 through 20.
f.	OAC rule 3745-17-07(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant OAC rules 3745-31-10 through 20.
g.	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant OAC rules 3745-31-10 through 20.
h.	OAC rule 3745-17-07(A)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant OAC rules 3745-31-10 through 20.

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for NO<sub>x</sub> and PM<sub>10</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.

- b. Compliance with the requirements of this rule for PM<sub>2.5</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.
  - c. The BAT emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
  - d. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) as part of the Ohio SIP.
  - e. The emissions from this emissions unit shall be vented to the EAF baghouse at all times the emissions unit is in operation.
- c) Operational Restrictions
- (1) None.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack (EAF baghouse egress) and for any visible emissions of fugitive dust from the egress points (i.e., EAF building, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
    - a. the location and color of the emissions;
    - b. whether the emissions are representative of normal operations;
    - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
    - d. the total duration of any visible emissions incident; and
    - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across each baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across each baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable pressure drop for each baghouse shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range is established to demonstrate compliance.

Whenever any of the monitored values for pressure drop deviates from the limit(s) or range(s) established in accordance with this permit for screen building baghouse or EAF baghouse, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

- a. all days during which any visible particulate emissions were observed from any stack (EAF baghouse egress) serving this emissions unit;
- b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., EAF building) serving this emissions unit; and
- c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

(2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

- a. each period of time (start time and date, and end time and date) when the pressure drop across each baghouse (EAF baghouse) was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
- b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
- c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
- d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
- e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

CO emissions shall not exceed 9.00E-02 lb/ton of MPI produced.

PM<sub>10</sub> emissions shall not exceed 7.4E-02 lb/ton of MPI produced.

PM<sub>2.5</sub> emissions shall not exceed 6.1 E-03 lb/ton of MPI produced.

NO<sub>x</sub> emissions shall not exceed 1.4 lbs/ton of MPI produced.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(2) below.

b. Emission Limitation:

VOC emissions shall not exceed 2.3E-02 lb/ton of MPI produced.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A$$

where:

E = VOC emission rate, in lb/ton of MPI produced; and  
A = emission factor, 2.3E-02 lb/ton, AP-42 Section 12.5.1-8, April 09.

c. Emission Limitation:

CO<sub>2e</sub> emissions shall not exceed 186.41 lbs/ton of MPI produced.

Applicable Compliance Method:

Compliance may be determined by the following equation:



$$E = A$$

where:

E = CO<sub>2</sub>e emission rate, in lbs of CO<sub>2</sub>e/ton of MPI; and  
A = emission factor, 186.41 lbs of CO<sub>2</sub>e/ton of MPI, EF developed by the equipment manufacturer, as provided in permit application #A0062176.

d. Emission Limitation:

Visible emissions of fugitive dust from this emissions unit shall not exceed six (6) percent opacity as a 6-minute average.

Applicable Compliance Method:

If required, compliance with the visible particulate emission limitation for fugitive dust shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and OAC rule 3745-17-03(B)(3).

e. Emission Limitation:

Visible particulate emissions from any stack serving this emissions unit shall not exceed three (3) percent opacity as a 6-minute average.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 6-months after startup of the EAF, emissions unit P901.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable CO, PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub> emission limitations.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitations:

for CO: Method 10 of 40 CFR Part 60, Appendix A;

for PM<sub>10</sub>: Method 201 or 201A and 202 of 40 CFR Part 51, Appendix M;

for PM<sub>2.5</sub>: Method 201A and 202 of 40 CFR Part 51, Appendix M;

for NO<sub>x</sub>: Methods 7 or 7E of 40 CFR Part 60, Appendix A; and

Methods 1 through 4 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. During the emission testing, the emissions unit shall be operated under operational conditions approved in advance by the Ohio EPA Northeast District Office. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the Ohio EPA Northeast District Office that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
  - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).
  - f. Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.
- g) Miscellaneous Requirements
- (1) None.

**7. P902, Material Handling**

**Operations, Property and/or Equipment Description:**

Raw materials handling, including screening and transfer via conveyor system.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)b.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)a and b)(2)b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM <sub>10</sub> and PM <sub>2.5</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons per year.  See b)(2)c.
c.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	<b>Outdoor material handling operations:</b>  0.87 ton/year of fugitive particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM <sub>10</sub> )  0.25 ton/year of fugitive particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter (PM <sub>2.5</sub> )  See b)(2)d.  <b>Indoor material handling operations at the screen building:</b>  <b>Source design characteristic:</b> The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM <sub>10</sub> /PM <sub>2.5</sub> emissions.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>PM<sub>10</sub> emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.</p> <p>PM<sub>2.5</sub> emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.</p> <p><b>Indoor material handling operations at the EAF building:</b></p> <p><b>Source design characteristic:</b>          The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM<sub>10</sub>/PM<sub>2.5</sub> emissions.</p> <p>PM<sub>10</sub> emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.</p> <p>PM<sub>2.5</sub> emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.</p> <p>See b)(2)e.</p>
d.	OAC rule 3745-17-07(B)(1)	Visible emissions of fugitive dust from this emissions unit shall not exceed twenty (20) percent opacity as a three-minute average.
e.	OAC rule 3745-17-08(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant OAC rules 3745-31-10 through 20.
f.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a six-minute average, except as provided by the rule.
g.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant OAC rules 3745-31-10 through 20.

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for PM<sub>10</sub> and PM<sub>2.5</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.
- b. The BAT emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) as part of the Ohio SIP.
- d. The following material handling operations for this emissions unit are subject to OAC rules 3745-17-07(B)(1), 3745-17-08(B) and 3745-31-10 through 20:
  - i. outdoor material transfer by conveyors; and
  - ii. outdoor material transfer at conveyor to conveyor transfer points.
- e. The following material handling operations for this emissions unit are subject to OAC rules 3745-17-07(A)(1), 3745-17-11, 3745-17-07(B)(1) and 3745-31-10 through 20 (for the baghouse emissions).
  - i. indoor materials screening;
  - ii. indoor material transfer by conveyors; and
  - iii. indoor material transfer at conveyor to conveyor transfer points.

The emissions from the above material handling operations from this emissions unit shall be vented to the baghouse(s) at all times the emissions unit is in operation.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from each stack (screen building baghouse egress and EAF baghouse egress) and for any visible emissions of fugitive dust from the egress points (i.e., outdoor conveyors and transfer points, screen building, EAF building, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;

- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across each baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across each baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable pressure drop for each baghouse shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range is established to demonstrate compliance.

Whenever any of the monitored values for pressure drop deviates from the limit(s) or range(s) established in accordance with this permit for the screen building baghouse or the EAF baghouse, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across each baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

- a. all days during which any visible particulate emissions were observed from any stack (screen building baghouse egress and EAF baghouse egress) serving this emissions unit;
- b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., outdoor conveyors and transfer points, screen building, EAF building, etc.) serving this emissions unit; and
- c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

(2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

- a. each period of time (start time and date, and end time and date) when the pressure drop across each baghouse (screen building baghouse or EAF

baghouse) was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;

- b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
- c. each incident of deviation described in “a” or “b” (above) where a prompt investigation was not conducted;
- d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
- e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitations (outdoor material handling operations):

Fugitive PM<sub>10</sub> emissions shall not exceed 0.87 ton/year.

Fugitive PM<sub>2.5</sub> emissions shall not exceed 0.25 ton/year.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A*B*C*(1/D)*(1 - CE/100)$$

where:

E = PM<sub>10</sub> and PM<sub>2.5</sub> emission rates, in tons/yr;

A = emission factors: 1.10E-03 lb/ton of PM<sub>10</sub>, 3.11E-04 lb/ton of PM<sub>2.5</sub>, AP-42 Section 11.19.2, August 04 (conveyor transfer points);

B = maximum 12-month rolling throughput, in tons/yr, 788,000 tons/year;

C = number of transfer points: 10;

D = 2000 lbs/ton; and



CE = control efficiency for the application of water, 80% (RACM).

Repeat this equation for each pollutant: PM<sub>10</sub> and PM<sub>2.5</sub>.

b. Emission Limitations (indoor material handling operations at the screen building):

The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM<sub>10</sub>/PM<sub>2.5</sub> emissions.

PM<sub>10</sub> emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

PM<sub>2.5</sub> emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

Source design characteristic:

The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM<sub>10</sub>/PM<sub>2.5</sub> emissions.

The source design characteristic was established based on the information provided by the permittee in permit application #A0060637.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = (A*B*C + D*B)*(1/F)*(1 - (DE/100))$$

where:

E = PM<sub>10</sub> and PM<sub>2.5</sub> emission rates, in ton per rolling, 12-month period;

A = emission factors: 1.10E-03 lb/ton of PM<sub>10</sub>, 3.11E-04 lb/ton of PM<sub>2.5</sub>, AP-42 Section 11.19.2, August 04 (conveyor transfer points);

B = maximum 12-month rolling throughput, in tons/yr, 788,000 tons/year;

C = number of transfer points, 8;

D = emission factors: 8.7E-03 lb/ton of PM<sub>10</sub>, 5.9E-04 lb/ton of PM<sub>2.5</sub>, AP-42 Section 11.19.2, August 04 (screening);

F = 2000 lbs/ton; and

DE = design efficiency of the baghouse, 99.9%.

Repeat this equation for each pollutant: PM<sub>10</sub> and PM<sub>2.5</sub>.

If required, the permittee shall demonstrate compliance with these emission limitations through emission tests performed in accordance with the following methods:

for PM<sub>10</sub>: Method 201 or 201A and 202 of 40 CFR Part 51, Appendix M; and  
for PM<sub>2.5</sub>: Method 201A and 202 of 40 CFR Part 51, Appendix M.



Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

c. Emission Limitations (indoor material handling operations at the EAF building):

The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM<sub>10</sub>/PM<sub>2.5</sub> emissions.

PM<sub>10</sub> emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

PM<sub>2.5</sub> emissions from the stack serving this emissions unit shall not exceed 0.01 ton per rolling, 12-month period for indoor material handling operations.

Source design characteristic:

The baghouse is designed with a control efficiency of ninety-nine and nine tenths (99.9) percent for PM<sub>10</sub>/PM<sub>2.5</sub> emissions.

The source design characteristic was established based on the information provided by the permittee in permit application #A0060637.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = (A*B*C + D*B)*(1/F)*(1 - (DE/100))$$

where:

- E = PM<sub>10</sub> and PM<sub>2.5</sub> emission rates, in ton per rolling, 12-month period;
- A = emission factors: 1.10E-03 lb/ton of PM<sub>10</sub>, 3.11E-04 lb/ton of PM<sub>2.5</sub>, AP-42 Section 11.19.2, August 04 (conveyor transfer points);
- B = maximum 12-month rolling throughput, in tons/yr, 788,000 tons/year;
- C = number of transfer points, 16;
- D = emission factors: 8.7E-03 lb/ton of PM<sub>10</sub>, 5.9E-04 lb/ton of PM<sub>2.5</sub>, AP-42 Section 11.19.2, August 04 (screening);
- F = 2000 lbs/ton; and
- DE = design efficiency of the baghouse, 99.9%.

Repeat this equation for each pollutant: PM<sub>10</sub> and PM<sub>2.5</sub>.

If required, the permittee shall demonstrate compliance with these emission limitations through emission tests performed in accordance with the following methods:

for PM<sub>10</sub>: Method 201 or 201A and 202 of 40 CFR Part 51, Appendix M; and  
for PM<sub>2.5</sub>: Method 201A and 202 of 40 CFR Part 51, Appendix M.



Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. Emission Limitation:

Visible emissions of fugitive dust from this emissions unit shall not exceed twenty (20) percent opacity as a three-minute average.

Applicable Compliance Method:

If required, compliance with the visible particulate emission limitation for fugitive dust shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and OAC rule 3745-17-03(B)(3).

e. Emission Limitation:

Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

g) Miscellaneous Requirements

- (1) None.

**8. Emissions Unit Group -Emergency Generators: P005 and P006**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P005	Emergency generator, 3131 HP diesel engine.
P006	Emergency generator, 3131 HP diesel engine.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

(1) b)(1)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	<b>Applicable Rules/Requirements</b>	<b>Applicable Emissions Limitations/Control Measures</b>
a.	OAC rule 3745-31-05(A)(3) June 30, 2008	<p><b>Source design characteristic:</b>            The engine is designed to meet the carbon monoxide (CO) emissions limit of 2.6 grams/bhp-hr.</p> <p>The engine is designed to meet the volatile organic compounds (VOC) emissions limit of 0.14 gram/bhp-hr.</p> <p><b>Monthly emission limitation:</b>            Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 5.0E-4 ton per month averaged over a 12-month, rolling period.</p> <p>See b)(2)a and b)(2)b.</p>
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	<p>The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO, VOC, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons per year.</p> <p>See b)(2)c.</p>
c.	OAC rule 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM <sub>10</sub> ) and particulate matter

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>emissions less than or equal to 2.5 microns in aerodynamic diameter (PM<sub>2.5</sub>) shall not exceed 0.022 gram/bhp-hr (filterable), 0.15 lb/hr and 0.01 ton/year.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 0.50 gram/bhp-hr, 3.45 lbs/hr and 0.17 ton/year.</p> <p>Carbon dioxide (CO<sub>2</sub>) emissions shall not exceed 526.6 gram/bhp-hr, 3632.0 lbs/hr and 181.60 tons/year.</p>
d.	OAC rule 3745-17-11(B)(5)(b)	<p>Particulate emissions shall not exceed 0.062 lb/mmBtu of actual heat input.</p> <p>The emission limitation specified by this rule is less stringent than the emission limitation for PE pursuant to OAC rule 3745-31-05(F).</p>
e.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a 6-minute average, except as provided by the rule.
f.	OAC rule 3745-18-06(B)	Exemption due to having a maximum heat input less than 10 MMBtu/hr.
g.	OAC rule 3745-110-03(K)(16) and (K)(20)	Exemption. See b)(2)d.
h.	40 CFR Part 60, Subpart A (40 CFR 60.1 - 60.19)	Table 8 to Subpart III of 40 CFR Part 60 – Applicability of General Provisions to Subpart III shows which parts of the General Provisions in 40 CFR 60.1 - 60.19 apply.
i.	40 CFR Part 60, Subpart III Tier II Standards	<p>The exhaust emissions from this engine shall not exceed:</p> <p>0.15 gram PM/bhp-hr          4.8 grams NO<sub>x</sub> + NMHC/bhp-hr          2.6 grams CO/bhp-hr</p> <p>Smoke emission limitations:</p> <p>20% opacity during the acceleration mode</p> <p>15% opacity during the lugging mode</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>50% opacity during the peaks in either the acceleration or lugging modes</p> <p>The emission limitations for PM and NO<sub>x</sub> specified by this rule are less stringent than the emission limitations established under OAC rule 3745-31-05(F).</p> <p>The emission limitation for CO specified by this rule is equivalent to the emission limitation established under OAC rule 3745-31-05(F).</p> <p>The smoke emission limitations specified by this rule are identical to the smoke emission limitations specified in 40 CFR 1039.105 for Tier IV engines. Tier IV engines are exempted from the smoke emission limitations when the particulate emission limitation is below 0.05 gram/bhp-hr (0.07 g/KWh) because an engine of such low PM level has inherently low smoke emission.</p>
j.	40 CFR 60.4207(b) 40 CFR 80.510(b)	<p>The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.</p> <p>See terms b)(2)h, c)(2), d)(1), and e)(1)a.</p>
k.	OAC rule 3745-31-05(F)	<p>The permittee shall install and operate a certified Tier IV engine.</p> <p>The exhaust emissions from this engine shall not exceed:</p> <p>0.022 gram PM/bhp-hr            0.50 gram NO<sub>x</sub>/bhp-hr            0.14 gram VOC (NMHC)/bhp-hr            2.6 grams CO/bhp-hr</p> <p>Per 40 CFR 1039.105, Tier IV engines with PM emission standards at or below 0.05 gram/bhp-hr (0.07 g/kWh) are exempted from smoke emission standards.</p>
l.	40 CFR Part 63, Subpart ZZZZ	A new area source operating in compliance with 40 CFR Part 60, Subpart



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		IIII is the demonstration of compliance for 40 CFR Part 63, Subpart ZZZZ.

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.
- b. The BAT emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) as part of the Ohio SIP.
- d. The requirements of this rule do not apply since:
  - i. NO<sub>x</sub> emissions are restricted to less than 25 tons per year; and
  - ii. the emissions unit is subject to a BACT limitation for NO<sub>x</sub>.
- e. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency (U.S. EPA), 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency (Ohio EPA).
- f. The emergency stationary compression ignition (CI) internal combustion engine (ICE) is subject to and shall be operated in compliance with the requirements of 40 CFR Part 60, Subpart IIII, the standards of performance for stationary CI ICE.
- g. The emergency stationary CI ICE has been or shall be purchased certified by the manufacturer to emission standards as stringent as those identified in 40 CFR 60.4202(b)(2) and found in Tier 2 of 40 CFR 89.112, Table 1, for engines greater than or equal to 750 horsepower (560 kilowatt) and certified to the opacity standards found in 40 CFR 89.113.
- h. The quality of the diesel fuel burned in this emissions unit shall meet the following specifications on an “as received” basis:
  - i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0015 pound sulfur dioxide/MMBtu actual heat input; and 15 ppm sulfur or 0.0015% sulfur by weight; and
  - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

Compliance with the above-mentioned specifications shall be determined by purchase orders specifying that each shipment of oil received is ULSD compliant.

- i. The emergency stationary ICE shall meet the following criteria, as applicable:
  - i. The stationary ICE shall be operated to provide electrical power or mechanical work during an emergency situation, to include power for critical networks or equipment at the facility when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or where the stationary ICE is used to pump water for a fire or flood, etc.;
  - ii. The stationary ICE may be operated under limited circumstances for emergency demand response or periods where there is a deviation of voltage or frequency of 5% or more above the standard and as specified in 40 CFR 60.4211(f); and
  - iii. The stationary ICE may operate as part of a financial arrangement with another entity in situations as allowed in 40 CFR 60.4211(f)(2)(ii) or (iii) and 40 CFR 60.4211(f)(3)(i).

The emergency stationary ICE must comply with the applicable requirements specified in 40 CFR 60.4211(f) in order to be considered emergency stationary ICE under 40 CFR Part 60, Subpart IIII.

c) Operational Restrictions

- (1) The emergency stationary CI ICE and any control device shall be installed, operated, and maintained according to the manufacturer's emission-related written instructions and the permittee shall only change those emission-related settings that are allowed by the manufacturer. The CI ICE must also be installed and operated to meet the applicable requirements from 40 CFR Part 89 and 40 CFR 1039, 'Control of Emissions from New and In-use Non-road CI ICE' and 40 CFR Part 1068, 'General Compliance Provisions for Highway, Stationary, and Nonroad Programs'. The permittee shall operate and maintain the stationary CI ICE to achieve the emission standards established in 40 CFR 60.4205 and the emission standards established in this permit over the entire life of the engine(s).
- (2) Diesel fuel burned in the CI, ICE shall not exceed the limit for sulfur as specified by 40 CFR 80.510(b), i.e., the maximum sulfur content of diesel fuel shall not exceed 15 ppm or 0.0015% sulfur by weight.
- (3) The permittee shall install a non-resettable hour meter prior to startup of the engine. Non-emergency situations, maintenance checks and readiness testing of the emergency ICE shall be limited to 100 hours per year; however, there is no time limit on operations during emergency situations. The permittee may petition the Director for approval of additional hours for maintenance checks and readiness testing. Any operation of the emergency ICE during anything other than emergency situations, non-emergency situations for 50 hours per year as described in c)(4) and maintenance or readiness testing is prohibited.



- (4) The emergency stationary ICE must be operated according to the following requirements in order to be considered an emergency stationary ICE under 40 CFR Part 60, Subpart IIII, otherwise it shall meet all of the requirements for non-emergency engines.
- a. The emergency stationary ICE may be used at the facility in emergency situations with no restriction on time.
  - b. The emergency stationary ICE may be operated for any combination of the following purposes for a maximum of 100 hours per calendar year:
    - i. The emergency stationary ICE may be used at the facility in non-emergency situations for 50 hours per year but cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial agreement except where meeting all of the conditions identified in 40 CFR 60.4211(f)(3)(i).
    - ii. The emergency stationary ICE 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. Maintenance and testing of the emergency ICE may exceed 100 hours per calendar year, if the permittee maintains records indicating that federal, state, or local standards require the additional hours or the permittee may petition the Director for approval of additional hours for maintenance checks and readiness testing.
    - iii. The emergency stationary ICE may be operated for emergency demand response for periods during which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, 40 CFR 60.17), 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.
    - iv. The emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5% or greater below standard voltage or frequency.

In order to qualify for the emergency standards the permittee shall only operate the emergency stationary RICE during emergencies, for maintenance and testing, for emergency demand response, for 50 hours per year for non-emergencies situations, and as allowed in 40 CFR 60.4211(f).

d) **Monitoring and/or Recordkeeping Requirements**

- (1) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of each purchase order that identifies the total quantity of diesel oil received and a specification that each shipment of oil received is ULSD compliant.

These records shall be retained for a minimum of 5 years and shall be available for inspection by the Director or his/her representative.

- (2) The permittee shall maintain the manufacturer's certification, to the applicable Tier 2 emission standards in Table 1 of 40 CFR 89.112 or Tier emission standards equivalent or more stringent than emission standards in Table 1 of 40 CFR 89.112, on site or at a central location for all facility ICE and it shall be made available for review upon request. If the manufacturer's certification is not kept on site, the permittee shall maintain a log for the location of each ICE and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the identification number of the certificate. The manufacturer's operations manual and any written instructions or procedures developed by the permittee and approved by the manufacturer shall be maintained at the same location as the ICE.
  - (3) The permittee shall maintain records or a log for the operation of the engine in emergency and non-emergency service, as recorded through the non-resettable hour meter. The permittee shall keep the following information for the emergency CI stationary ICE:
    - a. the number of hours the engine is in operation, recorded through the non-resettable hour meter;
    - b. the number of hours spent in emergency operation;
    - c. the number of hours spent in non-emergency operation;
    - d. the number of hours in maintenance checks and readiness testing; and
    - e. what classified the operation as an emergency.
  - (4) If the engine is used for emergency response demand, for periods of deviation of voltage or frequency, or as part of a financial arrangement with another entity, as specified in 40 CFR 60.4211(f)(2)(ii) or (iii) or 40 CFR 60.4211(f)(3), the permittee must keep records of:
    - a. the notification of the emergency situation;
    - b. the date(s) of each emergency situation; and
    - c. the start time and end time of engine operation for these purposes.
- e) Reporting Requirements
- (1) The permittee shall submit a quarterly deviation report identifying the following:
    - a. any period of time (date and number of hours) that the quality of oil burned in this emissions unit did not meet the requirements established in 40 CFR 80.510(b), based upon the required fuel records; and the amount of non-compliant fuel burned on each such occasion; and

- b. any exceedance of the annual 100-hour (or otherwise approved for additional hours) limitation on maintenance checks and readiness testing, as documented by the non-resettable hour meter and operations log.
- (2) The permittee shall submit an annual report, including the information identified in 40 CFR 60.4214(d) for each emergency stationary ICE that is employed for one of the following purposes:
- a. operates or is contractually obligated to have the engine(s) available for more than 15 hours per calendar year for emergency demand response or to supply power during periods where there is a deviation of voltage or frequency of 5% or more below the standard voltage or frequency; or
  - b. operates the engine(s) in non-emergency situations as identified in 40 CFR 60.4211(f)(3), including the supply of power as part of a financial agreement with another entity, where these conditions can be met.
- (3) The annual report required by 40 CFR 60.4214(d) must contain the following information:
- a. the company name and address where the engine is located;
  - b. the date of the report and beginning and ending dates of the reporting period;
  - c. the engine horse power and model year;
  - d. the latitude and longitude of the engine in decimal degrees reported to the fifth decimal place;
  - e. the number of hours of operation in emergency and non-emergency service, including the time of operations for maintenance checks and readiness testing, as recorded by the non-resettable hour meter;
  - f. the hours of operation for the purposes of emergency demand response, including the date, start time, and end time;
  - g. the hours of operation for the purposes of supplying power during periods where there was a deviation of voltage or frequency of 5% or greater below standard voltage or frequency, including the date, start time, and end time;
  - h. the number of hours the engine is contractually obligated to be available for the purposes of emergency demand response or deviations from normal voltage or frequency, as specified in 40 CFR 60.4211(f)(2)(ii) and (iii);
  - i. the hours of operation in non-emergency situations and used to supply power as part of a financial arrangement with another entity, in accordance with 40 CFR 60.4211(f)(3)(i), including the date, start time, and end time;
  - j. identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine; and

- k. any deviation from the requirements to operate for the purpose of emergency demand response or as part of a financial arrangement with another entity, in accordance with 40 CFR 60.4211(f)(2)(ii) or (f)(3)(i).

The first annual report must cover the calendar year or part of the calendar year for which the engine started operations and must be submitted no later than March 31 of the following calendar year. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

In addition to submitting the annual report to the Northeast District office of the Ohio EPA, the annual report must also be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 60.4.

f) Testing Requirements

- (1) Compliance with the Emission Limitations and/or Control Requirements specified in Section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Opacity Limitation:

Visible particulate emissions from any stack serving this emissions unit shall not exceed twenty (20) percent opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

b. Emission Limitations:

PM (PM<sub>10</sub> + PM<sub>2.5</sub>) emissions shall not exceed 0.022 gram/bhp-hr (0.03 gram/KW-hr) (filterable), 0.15 lb/hr and 0.01 ton/year.

Applicable Compliance Methods:

Compliance with the emission limitation (0.022 gram PM (PM<sub>10</sub> + PM<sub>2.5</sub>)/bhp-hr) shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram/bhp-hr limit is the emission limitation from Table 1 of 40 CFR 1039.101, the Tier 4 exhaust emission standards for diesel engines greater than 750 horsepower (560 kilowatts), application – generator sets.



If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(2) below.

Compliance with the hourly emission limitation (0.15 lb/hr, filterable) may be determined by the following equation:

$$E = A*B*(1/C)$$

where:

E = PM (PM<sub>10</sub> + PM<sub>2.5</sub>) emission rate, in lb/hr;  
A = emission limit, 0.022 gram/bhp-hr, Tier IV certified engine;  
B = horse power rating of the engine (3,131 HP); and  
C = 454 grams/lb.

Compliance with the annual PM (PM<sub>10</sub> + PM<sub>2.5</sub>) emission limitation (0.01 ton/year, filterable) may be determined by multiplying the maximum hourly allowable emission limitation of 0.15 lb/hr by 100 hours/year and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

c. Emission Limitations:

NO<sub>x</sub> emissions shall not exceed 0.50 gram/bhp-hr (0.67 gram/KW-hr), 3.45 lbs/hr and 0.17 ton/year.

Applicable Compliance Method:

Compliance with the emission limitation (0.50 gram NO<sub>x</sub>/bhp-hr) shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram/bhp-hr limit is the emission limitation from Table 1 of 40 CFR 1039.101, the Tier 4 exhaust emission standards for diesel engines greater than 750 horsepower (560 kilowatts), application – generator sets.

If required, the permittee shall demonstrate compliance with the emission limitation through performance tests conducted in accordance with the provisions in term f)(2) below.

Compliance with the hourly emission limitation (3.45 lbs/hr) may be determined by the following equation:

$$E = A*B*(1/C)$$

where:

E = NO<sub>x</sub> emission rate, in lbs/hr;  
A = emission limit, 0.50 gram/bhp-hr, Tier IV certified engine;



B = horse power rating of the engine (3,131 HP); and  
C = 454 grams/lb.

Compliance with the annual NO<sub>x</sub> emission limitation (0.17 tons/year) may be determined by multiplying the maximum hourly allowable emission limitation of 3.45 lbs/hr by 100 hours/year and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

d. Emission Limitation:

VOC (NMHC) emissions shall not exceed 0.14 gram/bhp-hr (0.19 gram/KW-hr).

Applicable Compliance Method:

Compliance with the emission limitation shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram/bhp-hr limit is the emission limitation from Table 1 of 40 CFR 1039.101, the Tier 4 exhaust emission standards for diesel engines greater than 750 horsepower (560 kilowatts), application – generator sets.

If required, the permittee shall demonstrate compliance with the emission limitation through performance tests conducted in accordance with the provisions in term f)(2) below.

e. Emission Limitation:

CO emissions shall not exceed 2.6 grams/bhp-hr (3.5 grams CO/kW-hr).

Applicable Compliance Method:

Compliance with the emission limitation shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram/bhp-hr limit is the emission limitation from Table 1 of 40 CFR 1039.101, the Tier 4 exhaust emission standards for diesel engines greater than 750 horsepower (560 kilowatts), application – generator sets.

If required, the permittee shall demonstrate compliance with the emission limitation through performance tests conducted in accordance with the provisions in term f)(2) below.

f. Sulfur Content Limitations for Diesel Fuel:

The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.

Applicable Compliance Method:

Compliance shall be demonstrated through the record keeping requirements for the sulfur content of each shipment of diesel oil received. If meeting the



standards in 40 CFR 80.510(b), this calculates to approximately 0.0015 lb SO<sub>2</sub>/MMBtu.

g. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 5.0E-4 ton per month averaged over a 12-month, rolling period.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = 1.01 * A * B * C * (1/D) * (1/F)$$

E = SO<sub>2</sub> emission rate, in ton per month averaged over a 12-month, rolling period;

1.01 = SO<sub>2</sub> emission factor, in lb/MMBtu;

A = % sulfur content of the fuel used (0.0015);

B = 1.375E-1 MMBtu/gal, heat content;

C = 5,800 gal/year, fuel usage (equivalent to 100 hours/year);

D = 2000 lbs/ton; and

F = 12 months/year.

h. Emission Limitation:

CO<sub>2</sub> emissions shall not exceed 526.6 gram/bhp-hr, 3632.0 lbs/hr and 181.60 tons/year.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A$$

where:

E = CO<sub>2</sub> emission rate, in grams of CO<sub>2</sub>/bhp-hr;

A = emission factor, 526.6 grams of CO<sub>2</sub>/bhp-hr (1.16 lb/hp-hr), AP-42 Section 3.4, Table 3.4-1, October 96.

Compliance with the hourly emission limitation (3632.0 lbs/hr) may be determined by the following equation:

$$E = A * B * (1/C)$$

where:

E = CO<sub>2</sub> emission rate, in lbs/hr;

A = emission factor, 526.6 grams of CO<sub>2</sub>/bhp-hr (1.16 lb/hp-hr), AP-42 Section 3.4, Table 3.4-1, October 96;

B = horse power rating of the engine (3,131 HP); and

C = 454 grams/lb.

Compliance with the annual CO<sub>2</sub> emission limitation (181.60 tons/year) may be determined by multiplying the maximum hourly allowable emission limitation of 3632.0 lbs/hr by 100 hours/year and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

- (2) If it is determined by the Ohio EPA that a compliance demonstration is required through performance testing, it shall be conducted using one of the following test methods or procedures:
  - a. in accordance with 40 CFR 60.4212, conduct the exhaust emissions testing using the in-use testing procedures found in 40 CFR Part 1039, Subpart F, measuring the emissions of the regulated pollutants as specified in 40 CFR 1065; or
  - b. in accordance with 40 CFR 60.4213, conduct exhaust emissions testing using the test methods identified in 40 CFR Part 60, Subpart IIII, Table 7.
- g) Miscellaneous Requirements
  - (1) None.



**9. Emissions Unit Group -Ladle Preheaters: P002, P003 and P004**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P002	Ladle dryer / preheater, natural gas fired with maximum heat input of 15.00 MMBtu/hr, emissions are vented to the EAF baghouse.
P003	Ladle dryer / preheater, natural gas fired with maximum heat input of 15.00 MMBtu/hr, emissions are vented to the EAF baghouse.
P004	Ladle dryer / preheater, natural gas fired with maximum heat input of 15.00 MMBtu/hr, emissions are vented to the EAF baghouse.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

(1) b)(1)b.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	<b>Applicable Rules/Requirements</b>	<b>Applicable Emissions Limitations/Control Measures</b>
a.	OAC rule 3745-31-05(A)(3) June 30, 2008	<p><b>Source design characteristic:</b> The burner is designed to meet 3.44E-02 lb of CO/MMBtu.</p> <p><b>Monthly emissions limitations:</b> Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 3.22E-3 ton per month averaged over a 12-month, rolling period.</p> <p>Volatile organic compounds (VOC) emissions shall not exceed 2.95E-2 ton per month averaged over a 12-month, rolling period.</p> <p>See b)(2)a. and b)(2)b.</p>
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO, SO <sub>2</sub> , VOC, PM <sub>10</sub> , PM <sub>2.5</sub> and NO <sub>x</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons per year.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)c.
c.	OAC rule 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	<p>Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM<sub>10</sub>) and particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter (PM<sub>2.5</sub>) shall not exceed 1.12E-1 lb/hr (filterable and condensable) and 4.9E-1 ton per rolling, 12-month period.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 2.12 lbs/hr, and 9.29 tons per rolling, 12-month period.</p> <p><b>Source design characteristic:</b>          The burner is designed to meet 1.41E-01 lb of NO<sub>x</sub>/MMBtu.</p> <p>Carbon dioxide equivalent (CO<sub>2e</sub>) emissions shall not exceed 1,764 lbs/hr and 7,726 tons per rolling, 12-month period.</p>
d.	OAC rule 3745-17-11	See b)(2)e.
e.	OAC rule 3745-17-07(A)(1)	See b)(2)f.
f.	OAC rule 3745-18-06(A)	See b)(2)g.

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> emissions also includes compliance with the requirements established under OAC rules 3745-31-10 through 20.
- b. The BAT emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than ten tons per year BAT exemption) as part of the Ohio SIP.
- d. The emissions from this emissions unit shall be vented to the EAF baghouse at all times the emissions unit is in operation.
- e. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition,

Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(22), is equal to zero.

- f. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- g. This emissions unit is exempt from the sulfur dioxide emissions limitation specified in OAC rule 3745-18-06(E), pursuant to OAC rule 3745-18-06(C) because the process weight input is less than one thousand pounds per hour.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Source design characteristic:

The burner is designed to meet 3.44E-02 lb of CO/MMBtu.

The source design characteristic was established based on the information provided by the permittee in permit application #A0060637.

b. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 3.22E-3 ton per month averaged over a 12-month, rolling period.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A*B*C*(1/D)*(1/F)$$



where:

E = SO<sub>2</sub> emission rate, in ton per month averaged over a 12-month, rolling period;  
A = emission factor, 5.88E-04 lb of SO<sub>2</sub>/MMBtu, AP-42 Section 1.4, July 98;  
B = 15.00 MMBtu/hr, Heat input;  
C = 8760 hours/year;  
D = 2000 lbs/ton; and  
F = 12 months/year.

c. Emission Limitation:

VOC emissions shall not exceed 2.95E-2 ton per month averaged over a 12-month, rolling period.

Applicable Compliance Method:

Compliance may be determined by the following equation:

$$E = A*B*C*(1/D)*(1/F)$$

where:

E = VOC emission rate, in ton per month averaged over a 12-month, rolling period;  
A = emission factor, 5.39E-03 lb of VOC/MMBtu, AP-42 Section 1.4, July 98;  
B = 15.00 MMBtu/hr, heat input;  
C = 8760 hours/year;  
D = 2000 lbs/ton; and  
F = 12 months/year.

d. Emission Limitation:

PM<sub>10</sub> and PM<sub>2.5</sub> emissions shall not exceed 1.12E-1 lb/hr (filterable and condensable) and 4.9E-1 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance may be determined by the following equations:

$$E = A*B$$

where:

E = PM<sub>10</sub>/PM<sub>2.5</sub> emission rate, in lbs/hr;  
A = emission factor, 7.45E-03 lb of PE/PM<sub>10</sub>/MMBtu, AP-42 Section 1.4, July 98 (filterable and condensable); and  
B = 15.00 MMBtu/hr, heat input.

Compliance with the annual PM<sub>10</sub>/PM<sub>2.5</sub> emission limitation (4.9E-1 ton per rolling, 12-month period) may be determined by multiplying the maximum hourly



allowable emission limitation of 1.12E-1 lb/hr by the maximum number of hours in a 12-month, rolling period (8760 hrs/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

e. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 1.41E-01 lb/MMBtu, 2.12 lbs/hr, and 9.29 tons per rolling, 12-month period.

Source Design Characteristic:

The burner is designed to meet 1.41E-01 lb of NO<sub>x</sub>/MMBtu.

The source design characteristic was established based on the information provided by the permittee in permit application #A0060637.

Applicable Compliance Method:

Compliance may be determined by the following equations:

$$E = A*B$$

where:

E = NO<sub>x</sub> emission rate, in lbs/hr;

A = emission factor, 1.41E-01 lb of NO<sub>x</sub>/MMBtu - burner manufacturer; and

B = 15.00 MMBtu/hr, heat input.

Compliance with the annual NO<sub>x</sub> emission limitation (9.29 ton per rolling, 12-month period) may be determined by multiplying the maximum hourly allowable emission limitation of 2.12 lbs/hr by the maximum number of hours in a 12-month, rolling period (8760 hrs/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

f. Emission Limitation:

CO<sub>2</sub>e emissions shall not exceed 1,764 lbs/hr and 7,726 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance may be determined by the following equations:

$$E = A*B$$

where:

E = CO<sub>2</sub>e emission rate, in lbs/hr;



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A = emission factor, 1.176E+02 lbs of CO<sub>2</sub>e/MMBtu, AP-42 Section 1.4, July 98;  
and  
B = 15.00 MMBtu/hr, heat input.

Compliance with the annual CO<sub>2</sub>e emission limitation (7,726 ton per rolling, 12-month period) may be determined by multiplying the maximum hourly allowable emission limitation of 1,764 lbs/hr by the maximum number of hours in a 12-month, rolling period (8760 hrs/year) and then dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the hourly emission limitation, then the permittee will be in compliance with the annual emission limitation.

g) Miscellaneous Requirements

(1) None.