Ohio Environmental Protection Agency

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

12/11/2017

Certified Mail

Yes	TOXIC REVIEW
Yes	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	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

Mr. Jason Aagenes
IronUnits LLC - Toledo HBI
P.O. Box 180
Eveleth, MN 55734

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0448011992
Permit Number: P0123395
Permit Type: Initial Installation
County: Lucas

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, Toledo Blade. 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 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

Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604

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 Toledo Department of Environmental Services at (419)936-3015.

Sincerely,

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

Cc: U.S. EPA Region 5 - *Via E-Mail Notification*
TDES; Michigan; Indiana; Canada

Ohio Environmental Protection Agency

Permit Strategy Write-Up
IronUnits LLC DRAFT
Permit Number: P0123395
Facility ID: 0448011992

STAFF DETERMINATION FOR THE APPLICATION TO CONSTRUCT UNDER THE PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS FOR IRONUNITS LLC TOLEDO, OHIO (LUCAS COUNTY) PTI NUMBER P0123395

December 6, 2017

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

IronUnits LLC ("IU"), a subsidiary of Cleveland-Cliffs Inc., is proposing to construct the Hot Briquetted Iron (HBI)/Direct Reduced Iron (DRI) manufacturing facility ("HBI Facility") at the Ironville brownfield site ("Ironville") in Toledo, Lucas County, Ohio, altogether identified as the "Project." The Project will utilize the MIDREX® gas-based direct reduction process to produce 2.48 million tons per year of HBI or DRI from taconite pellets ("oxide"). The Project will be located on an approximately 130-acre site adjacent to the southwest corner of Millard Ave and Front Street within the city of Toledo, in Lucas County, Ohio. It will be a PSD/Title V major stationary source.

The area is designated as attainment/unclassifiable per the NAAQS for NSR-regulated criteria pollutants, including those triggering PSD for nitrogen oxides (NO_x); carbon monoxide (CO); particulate matter (PM); PM with a diameter equal to or less than 10 micrometers (PM_{10}); PM with a diameter equal to or less than 2.5 micrometers ($PM_{2.5}$); and greenhouse gases (GHGs). Emissions of sulfur dioxide (SO_2) and volatile organic compounds (VOC) will be less than the PSD applicability threshold, but will be regulated under best available technology (BAT) in Permit-to-Install (PTI).

Facility Description

The Project will produce hot briquetted iron using the Midrex direct reduced iron (DRI) process. Iron oxide pellets, also referred to as taconite, will be received at Midwest Terminals of Toledo by ship or barge, unloaded, and then conveyed across Front Street to the Iron Units facility. The pellets will be dropped from a bucket wheel stacker/reclaimer to storage piles. A bucket wheel reclaimer will be used to load out iron ore pellets from the storage piles to a conveyor. The pellets are screened to remove oversized lump iron oxide and the pellets are transferred to day bins. The oversized iron oxide is transferred to a storage pile and loaded out from the pile by front-end loader to trucks where it is removed from the facility. Pellets are transferred from the day bins along with REMET to a conveyor and screened again to remove iron oxide and REMET fines. Fines are transferred to a storage pile and loaded out of the pile by front-end loader and trucks and removed from the facility. The screened pellets are coated with a slurry consisting of water and either, Portland Cement, burnt lime, hydrated lime, hydrated dolomite, calcitic limestone, or dolomitic limestone. The coated pellets are conveyed to a charge hopper above the DRI Reactor (vertical shaft furnace). At the DRI Reactor, iron oxide pellets are fed through the top of the furnace where they pass through the shaft furnace by gravity. Reducing

gas produced at the reformer is fed to the shaft furnace where it contacts the iron oxide pellets, removing most of the oxides from the iron to form metallic iron. Seal gas used for sealing the top of the furnace to prevent process gas from escaping the furnace while still allowing iron oxide pellets to enter the furnace, and the seal gas is provided by exhaust gases from the reformer. A nitrogen blanket will be used to seal the bottom of the furnace to prevent process gas from escaping the furnace while still allowing direct reduced iron (DRI) to exit the furnace. DRI leaves the bottom of the shaft furnace and are compressed into iron briquettes for easier transport/handling. The hot briquettes are separated, cooled with water spray. Off-spec metallic iron (REMET) is separated from the briquettes and is transferred to a storage pile where it is loaded out from the pile by front-end loader and reclaimed and combined and re-processed with iron oxide pellets. The cooled briquettes are conveyed to a storage pile. Briquettes are loaded out from the pile by front-end loader to hoppers to loadout bins. Briquettes are transferred from the bins to conveyor and loaded out from the facility by truck or rail. A cooling tower will be used to cool process water. A degasser will be installed to remove dissolved CO and CO2 from process water using pressurized air. An emergency diesel fueled fire pump and emergency diesel fueled electrical generator will also be installed.

New Source Review (NSR)/PSD Applicability

The emissions units will generate regulated NSR criteria pollutant emissions of PM/PM_{10}/$PM_{2.5}$, CO, NO_x, VOC and SO2 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 SO_2 and VOC 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
Iron Units LLC

Air Pollutant	Total PTE/Allowable (tpy)	Project Net Increase (tpy)	PSD/NSR Threshold (tpy)
CO	577.01	577.01	250
NOx	478.37	478.37	40
PM (Filterable)	97.76	97.76	25
PM_{10}	138.64	138.64	15
$PM_{2.5}$	136.53	136.53	10
VOC	13.42	13.42	40
SO_2	21.65	21.65	40
GHGs/CO_2e	1,626,878	1,626,878	75,000

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 RBLC. The following tables show the results of the BACT analysis, including technologies identified (see application for further details).

TABLE 1
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the Reformer Exhaust

Pollutant	Emission Limits	Control Technology
$PM_{10}/PM_{2.5}$	0.012 lb/MMBtu	Good combustion practices and use of gaseous fuel
NOx	0.06 lb/MMBtu (30-day average)	Low NOx burners (LNB) and good combustion practices
CO	0.031 lb/MMBtu (30-day average)	Good combustion practices
GHGs	1,554,047 tons of CO_2e per rolling 12-month period	Use of gaseous fuels, energy integrated design, and good combustion practices through proper operation and maintenance of the unit

TABLE 2
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the Paved roadways and parking areas

Pollutant	Emission Limits	Control Technology
Fugitive PM_{10} Fugitive $PM_{2.5}$	0.63 ton/year 0.15 ton/year	Use of water flushing and sweeping

TABLE 3
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for Storage piles including load-in, load-out, wind erosion, and front-end loader traffic

Pollutant	Emission Limits	Control Technology
Fugitive PM_{10} Fugitive $PM_{2.5}$	1.52 tons/year 0.33 ton/year	Use of water or chemical suppressant and minimize drop height

TABLE 4
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the DRI Reactor

Pollutant	Emission Limits	Control Technology
$PM_{10}/PM_{2.5}$	0.00745 gr/dscf for Charge Hopper	Use of venturi scrubber and good

	Exhaust (TR-28) 0.00745 gr/dscf for Bottom Seal Gas Exhaust (P-1)	combustion practices at the reformer
NOx	2.02 lbs/hr for Charge Hopper Exhaust (TR-28) 0.43 lb/hr for Bottom Seal Gas Exhaust (P-1)	Optimum equipment design
CO	2.82 lbs/hr for Charge Hopper Exhaust (TR-28) 43 lbs/hr for Bottom Seal Gas Exhaust (P-1)	Optimum equipment design
GHGs	6,062 tons of CO_2e per rolling 12-month period	Optimum equipment design and energy integration

TABLE 5
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the Hot Briquette Machine Exhaust

Pollutant	Emission Limits	Control Technology
$PM_{10}/PM_{2.5}$	0.00757 gr/dscf	Use of venturi scrubber and good combustion practices at the reformer
NOx	3.94 lbs/hr	Optimum equipment design
CO	2.07 lbs/hr	Optimum equipment design
GHGs	54,072 tons of CO_2e per rolling 12-month period	Optimum equipment design and energy integration

TABLE 6
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the Iron Briquette Cooling System

Pollutant	Emission Limits	Control Technology
$PM_{10}/PM_{2.5}$	0.00763 gr/dscf	Use of venturi scrubber

TABLE 7
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for Process Water Degasser

Pollutant	Emission Limits	Control Technology
CO	24.26 lbs/hr	Optimum equipment design and operation
GHGs	1,105 tons of CO_2e per rolling 12-month period	Optimum equipment design and operation

TABLE 8
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the Cooling Tower

Pollutant	Emission Limits	Control Technology
$PM/PM_{10}/PM_{2.5}$	Drift rate specification – 0.0005%	Use of drift eliminators

TABLE 9
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the Emergency Fire Water Booster Pump

Pollutant	Emission Limits	Control Technology
$PM_{10}/PM_{2.5}$	0.24 g/kW-hr	Comply with NSPS 40 CFR 60 Subpart IIII
NOx	4.0 g/kW-hr	Comply with NSPS 40 CFR 60 Subpart IIII
CO	3.5 g/kW-hr	Comply with NSPS 40 CFR 60 Subpart IIII
GHGs	163.61 lb/MMBtu	Equipment design and maintenance requirements

TABLE 10
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the Emergency Generator

Pollutant	Emission Limits	Control Technology
$PM_{10}/PM_{2.5}$	0.23 g/kW-hr	Comply with NSPS 40 CFR 60 Subpart IIII
NOx	6.4 g/kW-hr	Comply with NSPS 40 CFR 60 Subpart IIII
CO	3.5 g/kW-hr	Comply with NSPS 40 CFR 60 Subpart IIII
GHGs	163.6 lb/MMBtu	Equipment design and maintenance requirements

TABLE 11
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the Flare

Pollutant	Emission Limits	Control Technology
$PM_{10}/PM_{2.5}$	13.28 lbs/hr	Good combustion practices and equipment design elements for both natural gas pilot and pressure relief events
NOx/CO	121.21 lbs/hr NO_X emissions 552.64 lbs/hr CO emissions	Minimize flaring from startup, shutdown, and upset events by operating in accordance with flare minimization plan. Meet the 40 CFR 60.18 requirements.
GHGs	10,386 tons of CO_2e per rolling 12-month period	Minimize flaring from startup, shutdown, and upset events by operating in accordance with flare minimization plan.

TABLE 12
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the Iron Oxide Material Handling (Enclosed)

Pollutant	Emission Limits	Control Technology
PM_{10} $PM_{2.5}$	1.92 lbs/hr 1.32 lbs/hr	Use of baghouses

TABLE 13
Summary of Proposed BACT/BAT Emission Limits and Control Technologies for the HBI/DRI Material Handling

Pollutant	Emission Limits	Control Technology
PM_{10} $PM_{2.5}$	0.47 lb/hr 0.43 lb/hr	Use of venturi scrubbers, use of partial enclosures and use of water/chemical suppressants

Ambient Air Quality Monitoring Requirements

IU worked with Ohio EPA to identify representative monitors for those pollutants potentially necessitating pre and post construction monitoring. It was determined that additional pre and post construction monitoring was unnecessary for the installation, based on the availability of existing monitoring locations and data.

Modeling

Air quality dispersion modeling was conducted to assess the effect of this installation on the national ambient air quality standards (NAAQS) and for the consumption of PSD increments. AERMOD (version 16216r) was used in the regulatory default, rural mode. Based on recommendations from Ohio EPA, IU used the Toledo Metcalf Field (TDZ, WBAN# 4848) surface NWS observation station as a representative station, and Detroit, Michigan (DTX, WBAN# 4840) upper air observation data. Building downwash was incorporated into the AERMOD estimates.

Peak impacts of NO_2, PM_{10}, and $PM_{2.5}$ were above their PSD Class II significant impact levels. Therefore, additional modeling to address PSD increments where increments have been promulgated, and NAAQS, were necessary.

PSD Increment

Cumulative PSD Increment modeling was completed for $PM_{2.5}$ (Annual, 24-hour) and PM_{10} 24-hour. The results of the PSD Increment Analysis for this installation are shown below:

Pollutant	**Avg. Period**	**Class II PSD Increment ($\mu g/m^3$)**	**OEPA Generally Acceptable Increment ($\mu g/m^3$)**	**Modeled Impact ($\mu g/m^3$)**
PM2.5	24-hour	9	4.5	6.95
PM2.5	Annual	4	2	1.29
PM10	24-hour	30	15	27.01
PM10	Annual	17	8.5	4.68

Ohio EPA's policy is that no single project should consume more than 50% of the available PSD increment, except in situations where the impact is localized, temporary or as part of a brownfields project. In these exceptional cases, the peak constraining concentration can consume up to 83.3% of the PSD increment. For this project, exemptions to the 50% increment policy were granted for the 24-hour PM10 and PM2.5 standards, based on the facility's proposed location in a brownfield and the limited areal extent of the exceedances.

NAAQS

New sources at the facility and existing sources above the PSD significant emission rates within the project's significant impact area (SIA) were modeled to determine the combined impact of existing and proposed sources. A background value was added to account for minor sources not explicitly included in the modeling. The results of the cumulative NAAQS analyses are shown below.

Pollutant	Avg. Period	NAAQS ($\mu g/m^3$)	Modeled Concentration with Background ($\mu g/m^3$)	Exceeds NAAQS?
NO2	1-hour	188	209.6	YES
PM2.5	24-hour	35	69.9	YES
PM2.5	Annual	12	11.7	NO
PM10	24-hour	150	145.5	NO

The cumulative NAAQS analysis indicated potential exceedances of the standard for the NO_2 1-hour and $PM_{2.5}$ 24-hour NAAQS. Therefore, a cause or contribute analysis was conducted, pairing modeled exceedances with the project's impacts in time and space. The results of this analysis demonstrated that the proposed installation will not cause or contribute to an exceedance of these NAAQS. The cumulative results presented in the table above represent maximum modeled impacts at receptors where the facility is significant.

Toxics Analysis

The Ohio Air Toxics Policy requires evaluation of increases in air toxics above the one ton/year threshold. For the IU facility, an air toxics analysis was triggered for hexane. Results compared to the Maximum Allowable Ground Level Concentration (MAGLC) are shown below.

Pollutant	MAGLC ($\mu g/m^3$)	Modeled Maximum 1-hr Concentration ($\mu g/m^3$)	% of MAGLC
Hexane	4,196	0.09	<0.1%

No exceedances of the MAGLC were modeled.

Additional Impact Analysis

IU has demonstrated that the predicted pollutant concentrations throughout the study area are below the secondary NAAQS thresholds. The secondary NAAQS are designed to limit the amount of pollutants in the ambient air to levels below those which could have an adverse impact on human welfare, soils and vegetation. The modeling analyses demonstrate that no significant impacts on human welfare, soils or vegetation will occur from the proposed installation.

EPA Air Quality Criteria documents were reviewed 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 the secondary NAAQS limits.

Most workers associated with phases of the project/construction already reside in the region and thus would not cause growth in infrastructure/mobile sources, or emission increases and subsequent air quality impacts.

IU also conducted a visibility impairment analysis at the nearest National Park. In this case, the impacts on visibility at the Cuyahoga Valley National Park, located approximately 155 km distant from the project location, were assessed using VISCREEN software. This analysis demonstrated that no visibility impairment would occur.

Class I Area Considerations

The proposed installation is located greater than 50 km from any Class I area. The nearest Class I area, Otter Creek Wilderness Area, is located approximately 436 km to the southeast of the proposed installation. A Q/D screening analysis resulted in a Q/D value of 1.4. Values less than 10 are generally considered to have negligible impacts on visibility in Class I areas. Federal Land Managers confirmed that no further analysis of this project was necessary for any Class I area.

Secondary Formation Impact Analysis

Pursuant to draft guidance issued by USEPA in March 2013, addressing secondarily formed $PM_{2.5}$ in a NAAQS compliance demonstration under the PSD program, IU conservatively submitted an analysis of secondary $PM_{2.5}$ formation based on the increase in SO_2 and NOx emissions from the facility. Although no formal procedure has been promulgated for analysis of secondary $PM_{2.5}$, Ohio EPA reviewed the qualitative/quantitative results submitted by IU and is in agreement that secondary $PM_{2.5}$ formation will not consume additional PSD increments nor cause a violation of the 24-hour and Annual $PM_{2.5}$ NAAQS. IU also conducted an additional analysis of secondarily formed $PM_{2.5}$ based on U.S. EPA's December 2, 2016 and February 23, 2017 Draft Modeled Emission Rates for Precursors (MERPs) Tier 1 assessment techniques. Using the most conservative emission rates, IU demonstrated that secondarily-formed $PM_{2.5}$ from the project will not be significant.

Pursuant to USEPA guidance addressing secondarily formed ozone, IU submitted an analysis of secondary ozone formation based on the increase of NOx and VOC emissions from the facility. Ohio EPA reviewed the submitted analysis similar to the approach used for $PM_{2.5}$, which included an analysis of current ozone monitor values in the region. Ohio EPA agrees, based on this analysis, that the IU facility will not cause a substantial increase in ozone concentrations via secondary formation. IU also conducted an additional analysis of secondarily formed ozone based on U.S. EPA's December 2, 2016 and February 23, 2017 Draft Modeled Emission Rates for Precursors (MERPs) Tier 1 assessment techniques. Using the most conservative emission rates, IU demonstrated that secondarily-formed ozone from the project will not be significant.

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 IronUnits LLC to construct the Hot Briquetted Iron (HBI)/Direct Reduced Iron (DRI) manufacturing facility.

PUBLIC NOTICE

The following matters are the subject of this public notice by the Ohio Environmental Protection Agency. The complete public notice, including any additional instructions for submitting comments, requesting information, a public hearing, or filing an appeal may be obtained at: http://epa.ohio.gov/actions.aspx or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-2129 email: HClerk@epa.ohio.gov

Draft Air Pollution Permit-to-Install Initial Installation
IronUnits LLC - Toledo HBI
bound by Front St and Millard Ave., Toledo, OH 43605
ID#: P0123395
Date of Action: 12/11/2017
Permit Desc: Installation of a hot briquetted iron manufacturing facility.

A public hearing and information session on the draft air permit is scheduled for 6 p.m., Thursday, 01/18/18. 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 must be received by Ohio EPA/Toledo Division of Environmental Services (TDES) by 01/22/18. Comments received after 01/22/18 may not be considered a part of the official record. Written comments may be submitted at the hearing or sent to: Matt Stanfield, Toledo Division of Environmental Services, 348 S Erie St, Toledo, Ohio, 43604.

This draft permit proposes for IronUnits LLC - Toledo HBI (IU) to construct a 2.48 million ton per year hot briquetted iron manufacturing facility. This facility will generate significant levels of criteria pollutant emissions including Nitrogen Oxides (NOx), Carbon Monoxide (CO), Greenhouse Gases (GHG) and Particulate Matter less than or equal 10 microns and 2.5 microns (PM10/PM2.5). For the purposes of the Prevention of Significant Deterioration (PSD), the installation of this facility makes IU a major facility. Short term emissions from this facility are based upon worst case operating conditions. The annual emissions are based on pounds per hour emissions at average operating conditions at 8760 hours or synthetically limited through a throughput restriction. Proposed emissions from the proposed facility are as follows: CO 577.01; NOx 478.37; VOC 13.42; SO2 21.65; PM10 138.64; PM2.5 136.53; GHGs (CO2e) 1,626,878. A PSD analysis was required for any increase in emissions of a pollutant exceeding the PSD threshold emissions level, or the significance levels. Non-Attainment New Source Review was not applicable, due to attainment status. PSD review is required for NOx, CO, GHGs and PM10/PM2.5. This facility is subject to the applicable attainment provisions of the Ohio Administrative Code (OAC) rules 3745-31-10 through 20. Peak impacts of NO2, PM10, and PM2.5 were above their PSD Class II significant impact levels. Therefore, additional modeling to address PSD increments where increments have been promulgated, and NAAQS were necessary. Impacts of toxic pollutants subject to the modeling review met the MAGLC.

Copies of the draft permit application and technical support information may be reviewed by first calling to make an appointment with Matt Stanfield, Toledo Division of Environmental Services at the above address during normal business hours. Phone (419) 936-3015. An electronic copy of the draft permit can be obtained directly on the following web page: http://epa.ohio.gov/dapc/permitsonline.aspx by entering the ID #.

DRAFT

Division of Air Pollution Control
Permit-to-Install
for
IronUnits LLC - Toledo HBI

Facility ID:	0448011992
Permit Number:	P0123395
Permit Type:	Initial Installation
Issued:	12/11/2017
Effective:	To be entered upon final issuance

Ohio Environmental Protection Agency

Division of Air Pollution Control
Permit-to-Install
for
IronUnits LLC - Toledo HBI

Table of Contents

Ohio Environmental Protection Agency

Authorization

Facility ID:	0448011992
Facility Description:	
Application Number(s):	A0059022, A0059559
Permit Number:	P0123395
Permit Description:	Installation of a hot briquetted iron manufacturing facility.
Permit Type:	Initial Installation
Permit Fee:	$14,525.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date:	12/11/2017
Effective Date:	To be entered upon final issuance

This document constitutes issuance to:

IronUnits LLC - Toledo HBI
bound by Front St and Millard Ave
Toledo, OH 43605

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:

Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604
(419)936-3015

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: P0123395
Permit Description: Installation of a hot briquetted iron manufacturing facility.

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

Emissions Unit ID:	**B001**
Company Equipment ID:	P-2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**F001**
Company Equipment ID:	HR-1, HR-2, HR-3, HR-4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**F002**
Company Equipment ID:	TR-3, WE-1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P001**
Company Equipment ID:	P-1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P002**
Company Equipment ID:	P-3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P003**
Company Equipment ID:	P-4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P004**
Company Equipment ID:	P-5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P005**
Company Equipment ID:	P-7
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P006**
Company Equipment ID:	P-8
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P007**
Company Equipment ID:	P-9
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	**P008**
Company Equipment ID:	P-6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P901**
Company Equipment ID:	TR-1, TR-6, TR-7
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P902**
Company Equipment ID:	TR-17, TR-18
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

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 Toledo Department of Environmental Services.

(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 Toledo Department of Environmental Services. 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 Toledo Department of Environmental Services 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 Toledo Department of Environmental Services 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 Toledo Department of Environmental Services 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 Toledo Department of Environmental Services.

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 Toledo Department of Environmental Services. 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.

B. Facility-Wide Terms and Conditions

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.

2. The following emissions units contained in this permit are subject to 40 CFR Part 60 Subpart A and IIII: P006 and P007. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the electronic Code of Federal Regulations (e-CFR) website www.ecfr.gov or by contacting the appropriate Ohio EPA district or local air agency.

3. The following emissions unit contained in this permit is subject to 40 CFR Part 63 Subpart A and ZZZZ: P006 and P007. The complete MACT requirements, including the MACT General Provisions may be accessed via the internet from the electronic Code of Federal Regulations (e-CFR) website www.ecfr.gov or by contacting the appropriate Ohio EPA district or local air agency.

C. Emissions Unit Terms and Conditions

1. B001, P-2

Operations, Property and/or Equipment Description:

1,687 mmBtu/hr natural gas and process gas fired reformer with low-NOx burners. Process gas is top gas that has been cleaned by the top gas scrubber.

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., d)(5) through d)(8) and e)(4).

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)	1.56 tons SO2 per month averaged over a twelve-month rolling period. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	0.664 ton volatile organic compounds (VOC) per month averaged over a twelve-month rolling period. See b)(2)b.
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 emissions from this air contaminant source since the potential to emit is less than 10 tons per year. See b)(2)c.
d.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	Carbon monoxide (CO) emissions shall not exceed 0.031 lb/mmBtu heat input as a 30-day rolling average, 52.35 pounds per hour (lbs/hr), and 229.29 tons per rolling, 12-month period. Nitrogen oxides (NO_X) emissions shall not exceed 0.06 lb/mmBtu as a 30-day rolling average, 99.75 lbs/hr, and 436.89 tons per rolling, 12-month period

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) and particulate matter less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) shall not exceed 0.012 lb/mmBtu, 18.71 lbs/hr, and 81.96 tons per rolling, 12-month period. Carbon dioxide equivalent (CO_2e) emissions from the reformer exhaust stack shall not exceed 1,554,047 tons per rolling, 12-month period. CO_2e emissions from equipment leaks shall not exceed 446 tons per rolling, 12-month period. See b)(2)e., b)(2)f. and b)(2)g.
e.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
f.	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 rule 3745-31-10 through 20.
g.	OAC rule 3745-18-06	See b)(2)d.
h.	ORC 3704.03(F)(4)(d)	See d)(5) through d)(8) and e)(4)

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule also includes compliance with the lb/mmBtu emissions limitations for CO, PM10, PM2.5, and NOx established under OAC rules 3745-10 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. This rule does not establish an allowable SO2 emission limitations for fuel burning equipment that burns gaseous fuel.

e. The maximum annual natural gas fuel usage for the reformer heater shall not exceed 2,955,624 mmBtu heat input, based upon a rolling, 12-month summation of natural gas usage.

f. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the fuel usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Fuel Usage of natural gas, mmBtu heat input
1	600,000
1-2	820,000
1-3	1,040,000
1-4	1,260,000
1-5	1,480,000
1-6	1,700,000
1-7	1,920,000
1-8	2,140,000
1-9	2,360,000
1-10	2,580,000
1-11	2,800,000
1-12	2,955,624

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual fuel usage limitation for natural gas shall be based upon a rolling, 12-month summation of the monthly usage.

g. The annual emission limitation for CO_2e emissions from equipment leaks was established for PTI purposes to reflect the uncontrolled potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or top gas that has been cleaned by the top gas scrubber 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/or top gas that has been cleaned by the top gas scrubber in this emissions unit, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

(2) 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 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 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.

(3) Fuel Monitoring

a. The reformer heater shall have fuel metering for natural gas (auxiliary fuel) and top gas. The Permittee shall measure and record the fuel flow rates using an operational non-resettable elapsed flow meter or by recording the flow rate data in an electronic format with individual flow measurements being taken no less frequently than once every 15 minutes. Electronic data may be reduced to hourly averages for recordkeeping.

b. The Permittee shall determine the pipeline quality natural gas fuel gross calorific value (GCV) [high heat value (HHV)], carbon content and, if applicable, molecular weight, shall be determined, at a minimum, semiannually by the procedures contained in 40 CFR § 98.34(b)(3).

c. Pipeline quality natural gas shall be exempt from the requirement of subparagraph b. of this paragraph provided the Permittee receives and maintains

semiannual records of the vendor's analysis, and the data is of sufficient quality to yield further analysis as required above.

d. The Permittee shall calibrate and perform preventative maintenance checks of the natural gas and process flow meters and document at the minimum frequency established per the manufacturer's recommendation, or at the interval specified per 40 CFR 98.34(b)(l)(ii).

e. The permittee shall maintain daily records of the total fuel heat input to the reformer heater (natural gas and top gas that has been cleaned by the top gas scrubber) and the total heat input in mmBtu per 30-day rolling period.

f. The permittee shall maintain monthly records of the following information:

i. the natural gas fuel usage for each month in cubic feet and mmBtu; and

ii. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the natural gas usage in mmBtu.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative natural gas fuel usage for each calendar month in mmBtu.

(4) The permittee shall calculate monthly the CO_2e emissions from this emissions unit in tons per month and tons per rolling, 12-month period according to the procedures described in 40 CFR 98 dated July 1, 2017.

(5) The PTI application for this/these emissions unit(s), B001, was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for

Chemical Substances and Physical Agents Biological Exposure Indices"; or

ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "**X**" hours per day and "**Y**" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

TLV/10 x 8/X x 5/Y = 4 TLV/XY = MAGLC

d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: hexane

TLV (mg/m3): 115 for hexane

Maximum Hourly Emission Rate (lbs/hr): 0.6 lb/hr hexane

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.09

MAGLC (ug/m3): 2,700

The permittee, has demonstrated that emissions of hexane, from emissions unit(s) B001, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

(6) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and

c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

(7) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):

a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);

b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);

c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

(8) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

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

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

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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.

(3) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling 12-month fuel usage limitations and/or fuel usage limitations established for the first 12 calendar months of operation following issuance of this permit. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit.

(4) The permittee shall submit annual reports that include any changes to any parameter or value used in the dispersion model used to demonstrate compliance with the “Toxic Air Contaminate Statute”, ORC 3704.03(F), through the predicted 1 hour maximum concentration. The report should include:

a. the original model input;

b. the updated model input;

c. the reason for the change(s) to the input parameter(s); and

d. a summary of the results of the updated modeling, including the input changes; and

e. a statement that the model results indicate that the 1-hour maximum ground-level concentration is less than 80% of the MAGLC.

If no changes to the emissions, emissions unit(s), or the exhaust stack have been made during the reporting period, then the report shall include a statement to that effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

(5) 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:

CO emissions shall not exceed 0.031 lb/mmBtu heat input as a 30-day rolling average, 52.35 pounds per hour (lbs/hr), and 229.29 tons per rolling, 12-month period.

Applicable Compliance Method:

The lb/mmBtu emission limitation is based on vendor information for the burners as specified in the application. The hourly emission limitation was developed by dividing the CO emission factor provided by the vendor (39.33 ppmv) by 1E06, multiplied by the maximum exhaust flow rate (305,346.7 scfm) multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole) and multiplied by the molecular weight of CO (28 lb/lb-mole) to determine the hourly emissions.

The annual emission limitation was developed by multiplying the hourly emission limitation (52.35 lbs/hr) by the maximum annual operating hours (8,760 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the annual limitation will be assumed if compliance with the hourly limitation is shown.

Compliance with the lb/mmBtu 30-day rolling average and lb/hr emission limitations will be determined according to f)(2) below.

b. Emission Limitation:

NO_X emissions shall not exceed 0.06 lb/mmBtu of heat input as a 30-day rolling average, 99.75 lbs/hr, and 436.89 ton per rolling, 12-month period.

Applicable Compliance Method:

The lb/mmBtu emission limitation is based on vendor information for the burners as specified in the application. The hourly emission limitation was developed by dividing the NOx emission factor provided by the vendor (45.516 ppmv) by 1E06, multiplied by the maximum exhaust flow rate (305,346.7 scfm) multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole) and multiplied by the molecular weight of NOx (46.1 lb/lb-mole) to determine the hourly emissions.

The annual emission limitation was developed by the maximum calculated hourly emissions (99.747 lb/hr) by the maximum annual operating hours (8,760 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the annual limitation will be assumed if compliance with the hourly limitation is shown.

Compliance with the lb/mmBtu 30-day rolling average and lb/hr emission limitations will be determined according to f)(2) below.

c. Emission Limitation:

PM_{10} and $PM_{2.5}$ shall not exceed 0.012 lb/mmBtu of heat input, 18.71 lbs/hr, and 81.96 tons per rolling, 12-month period.

Applicable Compliance Method:

The lb/mmBtu emission limitation is based on the below calculation of lbs/hr divided by the maximum heat input rounded up to 0.012. The hourly emission limitation was developed by multiplying the sum of the vendor-supplied filterable and condensable PM emission factors (0.00308 gr/dscf + 0.00407 gr/dscf) by the maximum exhaust flow rate (305,346.7 scfm) multiplied by 60 minutes per hour, and dividing by 7,000 grains/pound to determine the hourly emissions.

The annual emission limitation was developed by the maximum calculated hourly emissions (18.713 lb/hr) by the maximum annual operating hours (8760 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the annual limitation will be assumed if compliance with the hourly limitation is shown

The permittee shall demonstrate compliance with these emission limitations using Method 5 of 40 CFR Part 60, Appendix A and Method 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:

1.56 tons SO_2 per month averaged over a twelve-month rolling period.

Applicable Compliance Method:

This emission limitation was established based on a vendor-supplied emission factor of 1.403 ppm SO2 in the exhaust from this emissions unit. Divide the vendor-supplied SO2 emission factor (1.403 ppmv) by 1E06, multiplied by the maximum exhaust flow rate (305,346.7 scfm) multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of SO2 (64 lb/lb-mole), multiplied by the maximum annual operating hours (8,760 hours/yr) divided by 2,000 pounds per ton, and divide by 12 months per year to determine the monthly emissions averaged over a rolling,12-month period.

If required, the permittee shall determine a site-specific emission factor for SO2 in lb/mmBtu actual heat input using methods 1 through 4 and 6C. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

e. Emission Limitation:

0.664 ton VOC per month averaged over a twelve-month rolling period

Applicable Compliance Method:

This emission limitation is based on the permittee's assumption that: combustion of top gas in the reformer results in negligible VOC emissions; and the heat input to the reformer from the combustion of natural gas is approximately equal to 20% of the maximum heat input to the reformer (1,687 mmBtu/hr x 0.20 = 337.4 mmBtu/hr from natural gas. The hourly emission limitation was developed by multiplying the maximum heat input from natural gas combustion (337.4 mmBtu/hr) by the VOC emission factor from AP-42 5th Edition Table 1.4-2 dated 7/98 (0.0054 lb/mmBtu) multiplied by the maximum annual operating hours (8,760 hours per year) divided by 2,000 pounds per ton, and divided by 12 months per year.

If required, the permittee shall determine a site-specific emission factor for VOC emissions in pounds per hour through emission testing performed in accordance with Methods 1 through 4 and 25 or 25A, as appropriate, of 40 CFR Part 60, Appendix A. Use of Method 25 or 25A is to be selected based on the results of pre-survey stack sampling and U.S.EPA guidance documents. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

f. Emission Limitation:

CO_2e emissions from the reformer exhaust stack shall not exceed 1,554,047 tons per rolling, 12-month period.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit and was determined as the summation of the product of the CO2, N2O, and CH4 emissions multiplied by the respective global warming potential. The maximum CO_2 emissions were calculated by dividing the vendor supplied CO2 emission factor of 169,572.7 ppm in the exhaust gases by 1E06 multiplied by the maximum exhaust flow rate (305,346.7 scfm) multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole) and multiplied by the molecular weight of CO2 (44.01 lb/lb-mole) multiplied by 8,760 hours per year and divided by 2,000 pounds per ton to determine the maximum annual emissions (1,553,868.4 tons/yr CO2).

The permittee has assumed that emissions of nitrous oxide (N2O) and methane (CH4) from the combustion of top gas in this emissions unit are negligible, and emissions of these pollutants only result from the portion of total heat input (20%) from combustion of natural gas (0.2 x 1687 mmBtu/hr = 337.4 mmBtu/hr).

The emission factors for N_2O and CH_4 were obtained from 40 CFR 98 Table C-2 for natural gas (1.0E-04 kg/mmBtu and 1.0E-03 kg/mmBtu, respectively).

The global warming potential for the above pollutants was obtained from Table A-1 to Subpart A of 40 CFR Part 98.

$GWP_{CO2} = 1$

GWP_{N2O} = 298

GWP_{CH4} = 25

CO_2e = 1,553,868.4 tons/yr(1) + [(1.0E-04)(298) + (1.0E-03)(25) kg/mmBtu](337.4 mmBtu/hr)(8760 hrs/yr)(1.102E-3 ton/kg)] = 1,554,047 tons/yr

If required, the permittee shall conduct emissions testing using Methods 1, 2, 3A and 4 of 40 CFR Part 60, Appendix A, to determine the CO_2 emission rate in pounds per hour. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA. Since the CO_2e emissions are estimated to consist of more than 99% CO_2, compliance with this emission limitation will be assumed provided that the lb/hr CO_2 emission rate does not exceed 354,764.4 lbs/hr.

g. Emission Limitation:

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

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

h. Emission Limitation:

CO_2e emissions from equipment leaks shall not exceed 446 tons per rolling, 12-month period.

Applicable Compliance Method:

The ton per rolling, 12-month period emission limitation was developed by calculating the potential methane emissions, and then converting the calculated methane emissions to carbon dioxide equivalent emissions. Potential TOC emissions were calculated using the SOCMI Average Emission Factors from Table 2-1 of *Protocol for Equipment Leak Emission Estimates* (EPA 453/R-95-017). The mass fraction of methane in fugitive TOC emissions was determined by subtracting the VOC content from the total organic compound (TOC) emission factor of 0.0277 lb VOC/lb methane obtained from Table 5-4, 2011 Oil and Natural Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution; U.S. EPA, Sector Policies and Programs Division, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711; July 2011; EPA-453/R-11-0002.

Equipment Type	Total Equipment	kg/hr/component TOC
Valves (gas service)	22	0.00597
Pressure relief valves	7	0.104

Connectors 568 0.00183

(22)(0.00597 kg/hr)(2.2046 lb/kg)(ton/2000 lbs)(8760 hrs/yr)(1-0.0277)
=1.23 tpy CH4

(7)(0.104 kg/hr)(2.2046 lb/kg)(ton/2000 lbs)(8760 hrs/yr)(1-0.0277)=6.84 tpy CH4

(568)(0.00183 kg/hr)(2.2046 lb/kg)(ton/2000 lbs)(8760 hrs/yr)(1-0.0277)

=9.77 tpy CH4

Methane emissions = 1.23 tons/yr + 6.84 ton/yr + 9.77 tons/yr = 17.84 tons/yr

CO_2e = (17.84 tons/yr)(25) = 446 tons/yr CO_2e

Where 25 = greenhouse gas warming potential for methane as specified in Table A-1 to 40 CFR 98.

Therefore, if the total number of each equipment type is not more than specified above, the permittee is considered to be in compliance with the annual emission limitation. The component count is based on the preliminary equipment design and may be updated based on the final equipment configuration through an administrative PTI modification.

(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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for CO, NOx, PM10 and PM2.5, in the appropriate averaging period(s). The emission testing shall also be conducted to determine the opacity and a site-specific emission factor for CO2 emissions in lb/mmBtu heat input.

b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

For PM10 and PM2.5, Method 5 of 40 CFR Part 60, Appendix A and Method 202 of 40 CFR Part 51 Appendix M or Method 201 A and Method 202 of 40 CFR Part 51 Appendix M.

For Opacity, Method 9 of 40 CFR Part 60, Appendix A
For CO2, Methods 1, 2, 3A and 4 of 40 CFR Part 60, Appendix A

For CO and NOx, the permittee shall submit for approval a test plan using a temporary continuous emissions monitoring system for the determination of the

30-day rolling average emission rate in lb/mmBtu heat input and to demonstrate compliance with the hourly emission limitation.

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

c. During the emission testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. 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 appropriate Ohio EPA District Office or local air agency 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.

d. Not later than 60 days prior to the proposed test date, the permittee shall submit to Ohio EPA Central Office for approval a test plan for using a temporary continuous emissions monitoring system for the determination of the 30-day average emission rate in lb/mmBtu heat input for CO and NOx emissions and to demonstrate compliance with the hourly emission limitations for CO and NOx.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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. The permittee shall record and include in the written emission test report the natural gas fuel usage in cubic feet for each run, the top gas fuel usage in cubic feet for each run, the total heat input for each run in mmBtu, and the HBI production rate for each run (including all HBI passing through the DRI reactor, including commercial, off-specification or unsaleable product).

h. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

(1) None.

2. F001, HR-1, HR-2, HR-3, HR-4

Operations, Property and/or Equipment Description:

Paved 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 PM2.5 or PM10 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)	0.63 ton/year of fugitive particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) 0.15 ton/yr of fugitive particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) 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)(4)	There shall be no visible particulate matter emissions except for six minutes during any 60-minute period, except as provided by rule.
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 PM10 and PM2.5 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 paved 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 paved roadways and parking areas by watering and sweeping 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 paved 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 Toledo Division of Environmental Services (TDES) for review and approval. The permittee can begin using the revised Work Practice Plan once TDES 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:

0.63 ton/year of fugitive PM_{10}; 0.15 ton/yr of fugitive $PM_{2.5}$

Applicable Compliance Method:

Compliance with fugitive PM10 and PM2.5 limitations shall be determined by using the emission factor equations in Section 13.2.1, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 1/11) for paved roadways. These emission limits were based on the following assumptions by the permittee:

10 miles traveled per year for lump iron oxide transport vehicles;

2,918 miles traveled per year for iron oxide fines transport vehicles;

377 miles traveled per year for iron oxide coating transport vehicles;

20,877 miles per year for HBI transport vehicles;

95% control efficiency for PM10, and PM2.5 emissions from iron oxide, iron oxide fines and iron oxide coating transport vehicles; and

89% control efficiency for PM10, and PM2.5 emissions from HBI transport vehicles.

b. Emission Limitation

There shall be no visible particulate matter emissions except for six minutes during any 60-minute period, except as provided by rule.

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. F002, Storage piles

Operations, Property and/or Equipment Description:

Storage piles including load-in, load-out, wind erosion, and front-end loader traffic on unpaved areas: WE-1, TR-3, TR-4, TR-8, WE-2, FEL-1, TR-9, TR-11, WE-3, FEL-2, TR-12, TR-15, WE-4, TR-16, FEL-3, TR-20, WE-5, FEL-4 and TR-21

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 PM2.5 or PM10 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)	1.52 tons/year of fugitive particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) 0.33 ton/yr of fugitive particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) See b)(2)d. through b)(2)g.
d.	OAC rule 3745-17-07(B)(5)	There shall be no visible particulate matter emissions except for thirteen minutes during any 60-minute period from front-end loader traffic on unpaved areas, except as provided by rule.
e.	OAC rule 3745-17-07(B)(6)	There shall be no visible particulate matter emissions except for thirteen

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		minutes during any 60-minute period from load-in, load-out and wind erosion, except as provided by rule.
f.	OAC rule 3745-17-08(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 20.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule for PM10 and PM2.5 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 the following best available control measures to minimize emissions from all load-in and load-out operations associated with the storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements.

Emission Point	Control
TR-3, iron oxide load-in	water or chemical suppressants
TR-4, bucket wheel drop to conveyor	water or chemical suppressants
TR-8, lump iron oxide load-in	water or chemical suppressants
TR-9, FEL load-out iron oxide to truck	minimize drop height
TR-11, iron oxide fines load-in	water or chemical suppressants
TR-12, FEL load-out iron oxide fines to truck	minimize drop height
TR-15, REMET load-in	minimize drop height
TR-16, REMET load-out to hopper	minimize drop height
TR-20, HBI load-in	water or chemical suppressants
TR-21, FEL load-out HBI to hopper	water or chemical suppressants

In accordance with the permittee's application, the permittee has committed to maintain minimal drop heights for stackers and front-end loaders, and utilize chemical stabilization/dust suppressants and/or watering systems as needed at sufficient treatment locations and frequencies to ensure compliance.

e. The permittee shall employ best available control measures for wind erosion from the surfaces of all storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the application, the permittee has committed to perform water or chemical stabilization of the iron oxide, lump iron oxide, iron oxide fines, and HBI storage piles to ensure compliance. In accordance with the application, there will be windshields for reducing wind erosion from the REMET storage pile. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

f. The periodic application of asphalt, oil (excluding any used oil as defined in paragraph (A)(12) of rule 3745-279-01 of the Administrative Code), water or other suitable dust suppression chemicals on gravel roads and parking lots.

g. The prompt removal, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved roadways onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.

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 permittee’s material storage piles (including load-in, load-out, wind erosion, and front-end loader traffic on unpaved areas). This work practice plan shall include, at a minimum, the following elements:

a. An identification of each storage pile or each storage pile area for which the plan applies.

b. A determination of the frequency that each storage pile or each storage pile area will be inspected to determine if additional control measures are needed. The frequency of inspection can either be common for all storage piles or may be identified separately for various storage pile areas.

c. The identification of the record keeping form/record that will be used to track the inspection and treatment of the storage piles. This form/record should include, at a minimum, the following elements:

i. Storage pile or storage pile area inspected;

ii. Date inspected;

iii. Name of employee responsible for the 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 treatment of the storage pile or storage pile area; and

viii. Method used to treat the storage pile or storage pile area.

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 TDES for review and approval. The permittee can begin using the revised Work Practice Plan once TDES 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 storage piles or storage pile 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 storage pile operating conditions. No inspection shall be necessary for a storage pile or storage pile 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) 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.

(4) The permittee shall maintain monthly records of the tons of each of the following materials loaded out from the facility: iron oxide lumps, fines and REMET.

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. Emissions Limitations:

1.52 tons/year of fugitive PM10

0.33 ton/year of fugitive PM2.5

Applicable Compliance Method:

Compliance with fugitive PM10, and PM2.5 limitations shall be determined by using the emission factor equations in Sections 13.2.2 and 13.2.4 in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 1/95), for load-in operations, load-out operations and front-end loader traffic. Wind erosion emission factors and rates shall be determined using the equations in 4.1.3 for continuously active piles in the EPA's *Control of Open Fugitive Dust Sources Report*, EPA-450/3-88-008. These emission limits were based on the front-end loader mileage, storage pile areas and control efficiencies stated in the calculations contained in the permit application.

b. Emission Limitation:

There shall be no visible particulate matter emissions except for thirteen minutes during any 60-minute period from load-in, load-out, wind erosion, and front-end loader traffic on unpaved areas, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible particulate matter limitations for the storage piles identified 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), and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

g) Miscellaneous Requirements

(1) None.

4. P001, TR-28, P-1

Operations, Property and/or Equipment Description:

Direct Reduced Iron (DRI) reactor, this emissions unit includes emissions from the charge hopper exhaust controlled by a venturi scrubber and bottom seal gas exhaust controlled by a venturi scrubber

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)	See b)(2)a.
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	0.18 ton sulfur dioxide (SO_2) emissions per month averaged over a twelve-month rolling period from the charge hopper exhaust and bottom seal gas exhaust combined. See b)(2)b.
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 SO_2 emissions from this air contaminant source since the potential to emit is less than 10 tons per year. See b)(2)c.
d.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	**Charge Hopper Exhaust Stack** 2.82 pounds per hour (lbs/hr) and 12.36 tons per rolling, 12-month period Carbon monoxide (CO) emissions 2.02 lbs/hr and 8.85 tons per rolling, 12-month period Nitrogen oxides (NO_X) emissions 0.00745 gr/dscf, 0.10 lb/hr and 0.44 ton per rolling, 12-month period of particulate

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) 0.00745 gr/dscf0.10 lb/hr and 0.44 ton per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) 5,891 tons per rolling, 12-month period carbon dioxide equivalent (CO_2e) emissions **Bottom Seal Gas Exhaust Stack** 43.00 pounds per hour (lbs/hr) and 188.34 tons per rolling, 12-month period Carbon monoxide (CO) emissions. 0.43 lbs/hr and 1.88 tons per rolling, 12-month period Nitrogen oxides (NO_X) emissions 0.00749 gr/dscf, 2.61 lbs/hr and 11.44 tons per rolling, 12-month period of particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) 0.00749 gr/dscf, 2.61 lbs/hr and 11.44 tons per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) 170 tons per rolling, 12-month period carbon dioxide equivalent (CO_2e) emissions See b)(2)e. and b)(2)f.
e.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.
g.	OAC rule 3745-18-06(E)	See b)(2)d.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule for CO, NOx, PM10 and PM2.5 emissions also includes compliance with the requirements of 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 emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

e. The emissions from the charge hopper exhaust shall be vented to a wet venturi scrubber at all times the emissions unit is in operation. The emissions from the bottom seal exhaust shall be vented to a wet venturi scrubber at all times the emissions unit is in operation.

f. The permittee shall use nitrogen seal gas for the furnace bottom seal leg. In the event of a process malfunction or disruptions in nitrogen seal gas availability, the permittee may use reformer flue gas as seal gas for safe operation of the DRI reactor.

g. The maximum annual HBI production rate (including all HBI passing through the DRI reactor, including commercial, off-specification, or unsaleable product) for this emissions unit shall not exceed 2,479,080 tons based upon a rolling, 12-month summation of the production rates.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the production levels specified in the following table:

Month	Maximum Allowable Cumulative HBI Production, tons
1	500,000
1-2	680,000
1-3	860,000
1-4	1,040,000
1-5	1,220,000

1-6	1,400,000
1-7	1,580,000
1-8	1,760,000
1-9	1,940,000
1-10	2.120,000
1-11	2,300,000
1-12	2,479,080

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual production rate limitation shall be based upon a rolling, 12-month summation of the production rates.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range or limit for the pressure drop across the scrubber and the scrubber liquid flow rate shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.

(2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across each scrubber (in pounds per square inch, gauge) and each scrubber's liquid flow rate (in gallons per minute) during operation of this/these emissions unit(s), including periods of startup and shutdown. The permittee shall record the pressure drop across each scrubber and each scrubber liquid's flow rate 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 range or limit for the pressure drop across each scrubber and each scrubber's liquid flow rate shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) 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 the 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 and flow rate 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.

These range(s) and/or limit(s) for the pressure drop and liquid flow rate are 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 range or limit for the pressure drop or liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable particulate emission rate for this/these 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.

(3) 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 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 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.

(4) Seal Gas Monitoring

a. The permittee shall maintain a record of each time period (date, start time and end time) that nitrogen seal gas was not used for the bottom seal leg.

(5) The permittee shall maintain monthly records of the following information:

a. the HBI production rate for each month (including all HBI passing through the DRI reactor, including commercial, off-specification, or unsaleable product); and

b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the HBI production rate for each month (including all HBI passing through the DRI reactor, including commercial, off-specification, or unsaleable product).

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative HBI production rates for each calendar month (including all HBI passing through the DRI reactor, including commercial, off-specification, or unsaleable product).

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following for each scrubber:

a. each period of time (start time and date, and end time and date) when the pressure drop across the scrubber and/or the liquid flow rate was outside of the appropriate range or limit 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 scrubber;

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 and/or liquid flow rate 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.

(2) The permittee shall submit quarterly deviation (excursion) reports that identify the following for the bottom seal gas system:

any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the nitrogen was not being used as bottom seal gas.

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

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

all exceedances of the rolling, 12-month HBI production rate limitation; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative HBI production rate levels.

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

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

a. all days during which any visible particulate emissions were observed from the stack(s) serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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.

(5) 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:

0.18 ton SO2 emissions per month averaged over a twelve-month rolling period from the charge hopper exhaust and bottom seal gas exhaust combined

Applicable Compliance Method:

This emission limitation was established as the sum of the potential emissions from the charge hopper exhaust and the bottom seal gas exhaust. The potential emissions from the charge hopper were determined by dividing the SO2 emission factor from the technology vendor (15.3 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (1,579 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of SO2 (64 lb/mole) resulting in 0.241 lb/hr SO2 emissions. The potential emissions from the charge hopper were determined by dividing the SO2 emission factor from the technology vendor (0.59 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (40,678 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of SO2 (64 lb/mole) resulting in 0.239 lb/hr SO2 emissions. The sum of the potential charge hopper and bottom seal gas exhaust emissions (0.241 + 0.239 lb/hr) was multiplied by the maximum annual hours of operation (8,760 hrs/yr), divided by 2,000 pounds per ton, and divided by 12 months per year.

If required, the permittee shall determine a site specific emission factor for SO2 emissions from the charge hopper exhaust and the bottom seal gas exhaust using Methods 1 through 4 and 6C of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

b. Emission Limitation

2.82 pounds per hour (lbs/hr) and 12.36 tons per rolling, 12-month period CO emissions from the charge hopper exhaust; 43.00 pounds per hour (lbs/hr) and 188.34 tons per rolling, 12-month period CO emissions from the bottom seal gas exhaust

Applicable Compliance Method:

The hourly emissions limitation from the charge hopper exhaust was determined by dividing the CO emission factor from the technology vendor (410 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (1,579 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of CO (28 lb/mole).

The hourly emissions limitation from the bottom seal gas exhaust was determined by dividing the CO emission factor from the technology vendor (242.5 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (40,678 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of CO (28 lb/mole).

If required, the permittee shall demonstrate compliance with the hourly CO emissions limitations using Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The ton per rolling, 12-month period emission limitations were developed by multiplying the short-term allowable CO emission limitation by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

c. Emission Limitation

2.02 lbs/hr and 8.85 tons per rolling, 12-month period NO_X emissions from the charge hopper exhaust; 0.43 lbs/hr and 1.88 tons per rolling, 12-month period NO_X emissions from the bottom seal gas exhaust

Applicable Compliance Method:

The hourly emissions limitation from the charge hopper exhaust was determined by dividing the NOx emission factor from the technology vendor (178.3 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (1,579 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of NOx (46.1 lb/mole).

The hourly emissions limitation from the bottom seal gas exhaust was determined by dividing the NOx emission factor from the technology vendor (1.47 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (40,678 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of NOx (46.1 lb/mole).

If required, the permittee shall demonstrate compliance with the hourly NOx emissions limitations using Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The ton per rolling, 12-month period emission limitations were developed by multiplying the short-term allowable NOx emission limitation by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

d. Emission Limitation:

0.00745 gr/dscf, 0.10 lb/hr and 0.44 ton per rolling, 12-month period of PM_{10} from the charge hopper exhaust; 0.00745 gr/dscf, 0.10 lb/hr and 0.44 ton per rolling, 12-month period of $PM_{2.5}$ emissions from the charge hopper exhaust

Applicable Compliance Method:

The hourly emission limitation for the charge hopper exhaust was determined by multiplying the design PM grain loading (0.00745 gr/dscf) by the design stack flow rate (1,579 scfm), multiplied by 60 minutes per hour, and divided by 7,000 grains per pound. The permittee has assumed that there are no condensable PM emissions from this emissions unit, and that all PM is emitted as PM2.5.

If required, the permittee shall demonstrate compliance with the allowable gr/dscf and hourly PM10 and PM2.5 emission limitation using Method 5 of 40 CFR Part 60, Appendix A and Method 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The ton per rolling, 12-month period emission limitations were developed by multiplying the short-term allowable PM10 emission limitation by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

e. Emission Limitation:

0.00749 gr/dscf, 2.61 lbs/hr and 11.44 tons per rolling, 12-month period of particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) from the bottom seal gas exhaust; 0.00749 gr/dscf, 2.61 lbs/hr and 11.44 tons per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$)

Applicable Compliance Method:

The hourly PM10 and PM2.5 emissions were determined as the sum of the filterable PM emissions calculated by multiplying the design PM grain loading (0.00734 gr/dscf) by the design stack flow rate (40,678 scfm), multiplied by 60 minutes per hour, and divided by 7,000 grains per pound plus condensable PM emissions. Condensable PM emissions were determined by multiplying the condensable PM emission factor from the technology provider (0.00015 gr/dscf) by the design stack flow rate (40,678 scfm) multiplied by 60 minutes per hour and

divided by 7,000 grains per pound resulting in potential condensable PM emissions of 0.052 lb/hr.

If required, the permittee shall demonstrate compliance with the allowable gr/dscf, and hourly PM10 and PM2.5 emission limitation using Method 5 of 40 CFR Part 60, Appendix A and Method 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The ton per rolling, 12-month period emission limitations were developed by multiplying the short-term allowable emission limitations by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

5,891 tons per rolling, 12-month period carbon dioxide equivalent (CO_2e) from the charge hopper exhaust; 170 tons per rolling, 12-month period CO_2e emissions from the bottom seal gas exhaust

Applicable Compliance Method:

The CO_2e emissions limitation was determined by calculating the sum of the potential emissions from the charge hopper exhaust and bottom seal gas exhaust.

The potential CO2 emissions from the charge hopper exhaust were determined by dividing the CO2 emission factor from the technology vendor (124,320 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (1,579 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of CO2 (44.01 lb/mole), multiplying by 8760 hours per year and dividing by 2,000 pounds per ton.

The potential hourly CO2 emissions from the bottom seal gas exhaust were determined by dividing the CO2 emission factor from the technology vendor (139.5 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (40,678 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of CO2 (44.01 lb/mole) resulting in 38.9 lbs/hr from the bottom seal gas exhaust.

The potential CO2 emissions from the charge hopper exhaust and bottom seal gas vent exhaust combined was determined by multiplying the sum of the charge hopper and bottom seal gas exhaust (1345 lbs/hr + 38.9 lbs/hr) by 8,760 hours per year and dividing by 2,000 pounds per ton.

The permittee has not identified available emission factors for other potential greenhouse gases, so it was assumed that CO2 emissions were equal to CO2e. If required, the permittee shall conduct emissions testing using Methods 1, 2, 3A and 4 of 40 CFR Part 60, Appendix A to determine a site-specific emission factor

for CO2 emissions. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The ton per rolling, 12-month period emission limitations were developed by multiplying the short-term allowable CO emission limitation by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

g. Emission Limitation:

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

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A.

(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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for CO, PM10, and PM2.5, in the appropriate averaging period(s) from the bottom seal gas exhaust and with the allowable mass emission rate(s) for CO in the charge hopper exhaust. The emission testing shall also include a determination of opacity from the bottom seal gas vent.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

For CO, Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A

For PM10 and PM2.5, Method 5 of 40 CFR Part 60, Appendix A and Method 202 of 40 CFR Part 51 Appendix M

For Opacity, Method 9 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 appropriate Ohio EPA District Office or local air agency. 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 appropriate Ohio EPA District Office or local air agency 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.

d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test(s).

e. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

f. The permittee shall record and include in the written emission test report the HBI production rate for each test run (including all HBI passing through the shaft furnace, including commercial, off-specification or unsaleable product and the volume of reformer flue gas bleed off for use as seal gas during each test run.

The permittee shall record the scrubber water flow rate and pressure drop across each scrubber during each test run and include these values in the written test report.

g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

(1) None.

5. P002, P-3

Operations, Property and/or Equipment Description:

Iron briquetting machine vented to venturi scrubber

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)	See b)(2)a.
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	0.07 ton sulfur dioxide (SO_2) emissions per month averaged over a twelve-month rolling period from the charge hopper exhaust and bottom seal gas exhaust combined. See b)(2)b.
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 SO_2 emissions from this air contaminant source since the potential to emit is less than 10 tons per year. See b)(2)c.
d.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	2.07 pounds per hour (lbs/hr) and 9.07 tons per rolling, 12-month period Carbon monoxide (CO) emissions 3.94 lbs/hr and 17.25 tons per rolling, 12-month period Nitrogen oxides (NO_X) emissions 0.00757 gr/dscf, 4.10 lbs/hr and 17.96 tons per rolling, 12-month period of particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10})

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		0.00757 gr/dscf, 4.10 lbs/hr and 17.96 tons per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) 54,072 tons per rolling, 12-month period carbon dioxide equivalent (CO_2e) emissions See b)(2)e. and b)(2)f.
e.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.
g.	OAC rule 3745-18-06(E)	See b)(2)d.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule for CO, NOx, PM10 and PM2.5 emissions also includes compliance with the requirements of 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 emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

e. The emissions from this emissions unit shall be vented to a wet venturi scrubber at all times the emissions unit is in operation.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range or limit for the pressure drop across the scrubber and the scrubber liquid flow rate shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.

(2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across the scrubber (in pounds per square inch, gauge) and the scrubber liquid flow rate (in gallons per minute) during operation of this/these emissions unit(s), including periods of startup and shutdown. The permittee shall record the pressure drop across the scrubber and the scrubber liquid's flow rate 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 range or limit for the pressure drop across the scrubber and the scrubber liquid flow rate shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) 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 the 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 and flow rate 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.

These range(s) and/or limit(s) for the pressure drop and liquid flow rate are 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 range or limit for the pressure drop or liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable particulate emission rate for this/these 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.

(3) 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 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 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.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following for the scrubber:

a. each period of time (start time and date, and end time and date) when the pressure drop across the scrubber and/or the liquid flow rate was outside of the appropriate range or limit 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 scrubber;

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 and/or liquid flow rate 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.

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

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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.

(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:

0.07 ton SO2 emissions per month averaged over a twelve-month rolling period

Applicable Compliance Method:

This emission limitation was determined by dividing the SO2 emission factor from the technology vendor (0.286 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (63,228 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of SO2 (64 lb/mole), multiplied by the maximum annual hours of operation (8,760 hrs/yr), divided by 2,000 pounds per ton, and divided by 12 months per year.

If required, the permittee shall determine a site specific emission factor for SO2 emissions using Methods 1 through 4 and 6C of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

b. Emission Limitation

2.07 pounds per hour (lbs/hr) and 9.07 tons per rolling, 12-month period CO emissions

Applicable Compliance Method:

The hourly emissions limitation was determined by dividing the CO emission factor from the technology vendor (7.51 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (63,228 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of CO (28 lb/mole).

If required, the permittee shall demonstrate compliance with the hourly CO emissions limitations using Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The ton per rolling, 12-month period emission limitation was developed by multiplying the short-term allowable CO emission limitation by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

c. Emission Limitation

3.94 lbs/hr and 17.25 tons per rolling, 12-month period NO_X emissions

Applicable Compliance Method:

The hourly emissions limitation from the charge hopper exhaust was determined by dividing the NOx emission factor from the technology vendor (8.68 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (63,228 scfm),

multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of NOx (46.1 lb/mole) resulting in 3.306 lbs/hr NOx.

If required, the permittee shall demonstrate compliance with the hourly NOx emissions limitations using Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The ton per rolling, 12-month period emission limitation was developed by multiplying the short-term allowable NOx emission limitation by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

d. Emission Limitation:

0.00757 gr/dscf, 4.10 lbs/hr and 17.96 tons per rolling, 12-month period of PM_{10}; 0.00757 gr/dscf, 4.10 lbs/hr and 17.96 tons per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$)

Applicable Compliance Method:

The hourly PM10 and PM2.5 emission limitation were determined by multiplying the design PM grain loading (0.00733 gr/dscf) by the design stack flow rate (63,228 scfm), multiplied by 60 minutes per hour, and divided by 7,000 grains per pound for a total of 3.97 lbs/hr PM plus the condensable PM emissions. The potential condensable PM emissions were determined by multiplying the condensable PM grain loading (0.00024 gr/dscf) provided by the technology supplier by the design stack flow rate (63,228 scfm), multiplied by 60 minutes per hour, and divided by 7,000 grains per pound resulting in 0.13 lb/hr condensable PM emissions.

If required, the permittee shall demonstrate compliance with the allowable gr/dscf and hourly PM10 and PM2.5 emission limitation using Method 5 of 40 CFR Part 60, Appendix A and Method 202 of 40 CFR Part 51, Appendix M. If required, the permittee shall demonstrate compliance with the allowable hourly PM2.5 emission limitation using Methods 201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The ton per rolling, 12-month period emission limitations were developed by multiplying the short-term allowable emission limitations by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

e. Emission Limitation:

54,072 tons per rolling, 12-month period carbon dioxide equivalent (CO_2e)

Applicable Compliance Method:

The allowable emission limitation was determined by dividing the CO2 emission factor from the technology vendor (28,497 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (63,228 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of CO2 (44.01 lb/mole), multiplying by 8760 hours per year and dividing by 2,000 pounds per ton.

The permittee has not identified available emission factors for other potential greenhouse gases, so it was assumed that CO2 emissions were equal to CO2e. If required, the permittee shall conduct emissions testing using Methods 1, 2, 3A and 4 of 40 CFR Part 60, Appendix A to determine a site-specific emission factor for CO2 emissions. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

f. Emission Limitation:

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

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A.

(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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for CO, PM10, and PM2.5, in the appropriate averaging period(s). The emission testing shall also include a determination of opacity.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

For CO, Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A

For PM10 and PM2.5, Method 5 of 40 CFR Part 60, Appendix A and Method 202 of 40 CFR Part 51 Appendix M

For Opacity, Method 9 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 appropriate Ohio EPA District Office or local air agency. 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 appropriate Ohio EPA District Office or local air agency 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.

d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test(s).

e. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

f. The permittee shall record and include in the written emission test report the HBI production rate for each test run (including all HBI passing through the shaft furnace, including commercial, off-specification or unsaleable product.

The permittee shall record the scrubber water flow rate and pressure drop across the scrubber during each test run and include these values in the written test report.

g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

(1) None.

6. P003, P-4

Operations, Property and/or Equipment Description:

Iron briquette cooling system vented to venturi scrubber

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.	ORC 3704.03(T)	See b)(2)a.
b.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	0.00763 gr/dscf, 3.80 lbs/hr and 16.64 tons per rolling, 12-month period of particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) See b)(2)b. and b)(2)c.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
d.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule for PM10 and PM2.5 emissions also includes compliance with the requirements of OAC rules 3745-31-10 through 20.

b. The emissions from this emissions unit shall be vented to a wet venturi scrubber at all times the emissions unit is in operation.

c. The permittee has indicated that all PM emissions are emitted as PM2.5.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range or limit for the pressure drop across the scrubber and the scrubber liquid flow rate shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.

(2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across the scrubber (in pounds per square inch, gauge) and the scrubber liquid flow rate (in gallons per minute) during operation of this/these emissions unit(s), including periods of startup and shutdown. The permittee shall record the pressure drop across the scrubber and the scrubber liquid's flow rate 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 range or limit for the pressure drop across the scrubber and the scrubber liquid flow rate shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) 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 the 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 and flow rate 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.

These range(s) and/or limit(s) for the pressure drop and liquid flow rate are 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 range or limit for the pressure drop or liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable particulate emission rate for this/these 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.

(3) 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 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 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.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following for the scrubber:

a. each period of time (start time and date, and end time and date) when the pressure drop across the scrubber and/or the liquid flow rate was outside of the appropriate range or limit 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 scrubber;

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 and/or liquid flow rate 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.

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

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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.

(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:

0.00763 gr/dscf, 3.80 lbs/hr and 16.64 tons per rolling, 12-month period of PM10 emissions

Applicable Compliance Method:

The hourly emission limitation was determined by multiplying the design PM grain loading (0.00763 gr/dscf) by the design stack flow rate (58,111 scfm), multiplied by 60 minutes per hour, and divided by 7,000 grains per pound. The permittee assumes that all PM emissions will be emitted as PM2.5.

If required, the permittee shall demonstrate compliance with the allowable hourly PM emission limitation using Method 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The ton per rolling, 12-month period emission limitations were developed by multiplying the short-term allowable PM10 emission limitation by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

b. Emission Limitation:

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

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A.

(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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for PM10, in the appropriate averaging period(s). The emission testing shall also include a determination of opacity.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

For PM10, Method 5 of 40 CFR Part 60, Appendix A

For Opacity, Method 9 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 appropriate Ohio EPA District Office or local air agency. 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 appropriate Ohio EPA District Office or local air agency 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.

d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test(s).

e. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

f. The permittee shall record and include in the written emission test report the HBI production rate for each test run (including all HBI passing through the shaft furnace, including commercial, off-specification or unsaleable product.

The permittee shall record the scrubber water flow rate and pressure drop across the scrubber during each test run and include these values in the written test report.

g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

(1) None.

7. P004, P-5

Operations, Property and/or Equipment Description:

Process water degasser

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.	ORC 3704.03(T)	See b)(2)a.
b.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	24.26 pounds per hour (lbs/hr) and 106.24 tons per rolling, 12-month period Carbon monoxide (CO) emissions 1,105 tons per rolling, 12-month period carbon dioxide equivalent (CO_2e) emissions

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule for CO emissions also includes compliance with the requirements of OAC rules 3745-31-10 through 20.

b. The emissions limitations for CO and CO_2e were established to reflect the emission unit's uncontrolled potential to emit. Therefore, no monitoring, record keeping, and reporting requirements are necessary to ensure ongoing compliance with these emissions limitations.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) None.

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

24.26 pounds per hour (lbs/hr) and 106.24 tons per rolling, 12-month period CO emissions

Applicable Compliance Method:

The hourly emissions limitation was determined by dividing the CO emission factor from the technology vendor (370.92 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (15,002 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of CO (28 lb/mole) resulting in 24.256 lbs/hr CO.

If required, the permittee shall demonstrate compliance with the hourly CO emissions limitations using Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The ton per rolling, 12-month period emission limitation was developed by multiplying the short-term allowable CO emission limitation by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

b. Emission Limitation:

1,105 tons per rolling, 12-month period carbon dioxide equivalent (CO_2e)

Applicable Compliance Method:

The CO_2e emissions limitation was determined by dividing the CO2 emission factor from the technology vendor (2,454.48 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (15,002 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft^3/lb-mole), multiplied by the molecular weight of CO2 (44.01 lb/mole), multiplying by 8760 hours per year and dividing by 2,000 pounds per ton.

The permittee has not identified available emission factors for other potential greenhouse gases, and assumed that CO2 emissions were equal to CO2e. If required, the permittee shall conduct emissions testing using Methods 1, 2, 3A and 4 of 40 CFR Part 60, Appendix A to determine a site-specific emission factor

for CO2 emissions. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

g) Miscellaneous Requirements

(1) None.

8. P005, P-7

Operations, Property and/or Equipment Description:

4 cell wet cooling tower equipped with a high efficiency drift eliminator

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 PM2.5 or PM10 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_{10}) shall not exceed 0.02 pound per hour (lb/hr) and 0.09 ton per rolling, 12-month period. Particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) shall not exceed 0.01 lb/hr and 0.06 ton per rolling, 12-month period. The permittee shall install a drift eliminator with a maximum drift rate of 0.0005% on this emissions unit.
d.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
e.	OAC rule 3745-17-11(B)	See b)(2)d.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule for PM10 and PM2.5 emissions also includes compliance with the requirements of 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 emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.

c) Operational Restrictions

(1) The permittee shall maintain the total dissolved solids (TDS) concentration of the cooling water less than or equal to 1,100 parts per million by weight (ppmw).

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly install, operate, and maintain a conductivity meter or other equipment to continuously monitor and record the TDS concentration of the cooling tower water. The monitoring devices shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

(2) Since the TDS data measured by the conductivity meter or other equipment is based on a correlation between conductivity and TDS, an exceedance measured by the conductivity meter or equivalent is not a violation of the TDS operational restriction, but rather serves as an indicator to initiate corrective action by the permittee to reduce the TDS concentration.

e) Reporting Requirements

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

a. Any exceedances of the TDS content restriction of 1,100 mg/l.

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

(2) Prior to startup, the permittee shall submit written documentation provided by the vendor/manufacturer of the maximum drift rate of 0.0005% for the drift eliminator and the premise, basis and justification for the drift rate.

(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:

PM10 emissions shall not exceed 0.02 lb/hr and 0.09 tons per rolling, 12-month period.

Applicable Compliance Method:

The potential lb/hr PM10 emissions were calculated by multiplying the maximum re-circulating water flow rate (24,766 gal/min) by the maximum TDS concentration (1,100 ppmw) dividing by 10^6, multiplying by the density of water (8.345 lb/gal), multiplying by the decimal fraction drift loss (0.0005/100) and multiplying by the particle size multiplier (0.315 for PM10 from Maricopa County Arizona Air Quality Department) to obtain the pound per hour PM10 emissions.

The annual emission limitation was established by multiplying the hourly emission limitation (0.02 lb/hr) by the maximum annual hours of operation (8,760 hrs/yr) and dividing by (2,000 lbs/ton).

Compliance with the hourly and annual emission limitation will be assumed provided that the TDS concentration recorded in d) remains less than 1,100 ppmw.

b. Emission Limitation:

PM2.5 emissions shall not exceed 0.01 lb/hr and 0.06 tons per rolling, 12-month period.

Applicable Compliance Method:

The potential lb/hr PM2.5 emissions were calculated by multiplying the maximum re-circulating water flow rate (24,766 gal/min) by the maximum TDS concentration (1,100 ppmw) dividing by 10^6, multiplying by the density of water (8.345 lb/gal), multiplying by the decimal fraction drift loss (0.0005/100) and multiplying by the particle size multiplier (0.189 for PM2.5 from Maricopa County Arizona Air Quality Department) to obtain the pound per hour PM10 emissions.

The annual emission limitation is based on multiplying the hourly emission limitation (0.01 lb/hr) by the maximum annual hours of operation (8,760 hrs/yr) and dividing by (2,000 lbs/ton).

Compliance with the hourly and annual emissions limitation will be assumed provided that the TDS concentration recorded in d) remains less than 1,100 mg/l.

c. Emission Limitation:

The permittee shall install a drift eliminator with a maximum drift rate of 0.0005% on this emissions unit.

Applicable Compliance Method:

Manufacturer's emissions data shall be used to demonstrate compliance with this limitation.

d. Emission Limitation:

The permittee shall maintain the TDS concentration of the cooling water less than or equal to 1,100 ppmw.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in d)(1) and d)(2).

If required, compliance shall be demonstrated using test procedures that conform to regulation 40 CFR Part 136, "Test Procedures for the Analysis of Pollutants". Alternative U.S. EPA-approved test methods may be used with prior written approval from the Ohio EPA.

e. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity as a 6-minute average. The presence of condensed water vapor shall not be deemed a violation for failure of stack emissions meeting this visible emission limitation.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emission limitation shall be demonstrated through visible 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.

9. P006, P-8

Operations, Property and/or Equipment Description:

250 hp emergency diesel-fueled fire pump

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 $PM_{2.5}$, PM_{10}, NO_X, CO, SO_2, or VOC 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)	Carbon monoxide (CO) emissions shall not exceed 3.5 g/kW-hr, 1.4 pounds per hour (lbs/hr), and 0.36 ton per rolling, 12-month period. Nitrogen oxides (NO_X) emissions shall not exceed 4.0 g/kW-hr, 1.6 lbs/hr, and 0.41 ton per rolling, 12-month period. Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) and particulate matter less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) shall not exceed 0.24 g/kW-hr, 0.10 lb/hr, and 0.02 ton per rolling, 12-month period. Carbon dioxide equivalent (CO_2e)

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		emissions shall not exceed 163.6 lb/mmBtu heat input and 79 tons per rolling, 12-month period. See b)(2)d.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
e.	OAC rule 3745-17-11(B)(5)(a)	See b)(2)e.
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)(19)	Exemption. See b)(2)f.
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 (40 CFR 60.4200 – 60.4219) [In accordance with 40 CFR 60.4200(a)(2), this emissions unit is a compression ignition stationary internal combustion fire pump engine for which construction commenced after July 11, 2005 subject to the emissions limitation/control measures specified in this section.]	Non-methane hydrocarbon (NMHC) + NO_X emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr). CO emissions shall not exceed 3.5 g/kW-hr (2.6 g/hp-hr). PM emissions shall not exceed 0.20 g/kW-hr (0.15 g/hp-hr). See b)(2)g. and b)(2)h. [60.4205(c) and 60.4207(b)]
j.	40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 - 63.6675) [In accordance with 40 CFR 63.6590(c)(1), this emissions unit is a new stationary reciprocating internal combustion engine (RICE) located at an area source of HAP emissions subject to the emissions limitation/control measures specified in this section.]	See b)(2)h. [63.6580, 63.6585 and 63.6590(c)(1)]
k.	40 CFR Part 63, Subpart A (40 CFR 63.1 - 63.16)	Table 8 to Subpart ZZZZ of 40 CFR Part 63 – Applicability of General Provisions to Subpart ZZZZ shows which parts of the

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		General Provisions in 40 CFR 63.1 - 63.16 apply.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule also includes compliance with the g/kW-hr emissions limitations for CO and NOx established under OAC rules 3745-10 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 maximum annual operating hours for this emissions unit shall not exceed 500 hours, based upon a rolling, 12-month summation of the operating hours.

e. 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. The requirements of this rule do not apply since:

i. NOX emissions are restricted to less than 25 tons per year; and

ii. the emissions unit is subject to a BACT limitation for NOX.

g. The permittee shall only combust ULSD fuel in this emissions unit meeting the following standards:

i. 15 ppm maximum sulfur content; 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 using the analytical results provided by the permittee or oil supplier for each shipment of oil.

The permittee will require ULSD suppliers to provide certified test data indicating compliance with the permit sulfur content specifications prior to accepting ULSD delivery (noncompliant ULSD will not be accepted).

If noncompliant ULSD is mistakenly taken, the permittee will not combust any of the delivered ULSD upon discovery of any deviation from permit terms and conditions, and will require the supplier to remove the ULSD from the tank or

provide other corrective action (such as adding cleaner fuel to the tank) to allow the overall tank contents to comply with the permit.

If the ULSD supplier information is not available, the permittee will take ULSD samples upon delivery and obtain results using the "quick" turnaround option from a certified laboratory.

h. The permittee shall comply with the applicable restrictions required under 40 CFR Part 60, Subpart IIII, including the following sections.

60.4218	General Provisions

c) Operational Restrictions

(1) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 through 60.4219).

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the following information:

a. the operating hours for each month; and

b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the operating hours.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

(2) For each shipment of ULSD fuel received for burning in this emissions unit, the permittee shall maintain records of the oil supplier's (or permittee's) analyses for sulfur content in parts per million (40 CFR 80.510). The permittee shall perform or require the supplier to perform the analyses for sulfur content in accordance with 40 CFR 80.585.

(3) The permittee shall also maintain documentation of supplier verification that the ULSD fuel as purchased has a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

(4) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 through 60.4219)..

e) Reporting Requirements

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

a. each shipment of ULSD fuel received for burning in this emissions unit that did not comply with the standards specified in b)(2)h;

b. the permittee shall report any ULSD deviation within 30 days of receiving noncompliant ULSD; and

c. all exceedances of the rolling, 12-month limitation on the hours of operation for this emissions unit.

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

(2) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 through 60.4219).

(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:

CO emissions shall not exceed 3.5 g/kW-hr, 1.4 lbs/hr, and 0.36 ton per rolling, 12-month period.

Applicable Compliance Method:

The g/kW-hr limitation is based on the standard specified in Table 4 to 40 CFR Part 60, Subpart IIII. The hourly emission limitation was developed by multiplying the maximum operating load (186 kW mechanical) by the g/kW-hr CO emission limitation (3.5 g/kW-hr), and then dividing by (454 g/lb) to determine the hourly emissions.

If required, the permittee shall demonstrate compliance with the g/kW-hr limitation and hourly emission limitation using Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation was developed by multiplying the hourly emission limitation (1.4 lbs/hr) by the maximum annual operating hours (500 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the annual limitation shall be demonstrated if compliance with the hourly limitation and operating hours restriction is shown.

b. Emission Limitation:

NOX emissions shall not exceed 4.0 g/kW-hr, 1.6 lbs/hr, and 0.41 ton per rolling, 12-month period.

Applicable Compliance Method:

The g/kW-hr limitation is based on the combined NOX + NMHC emission limitation specified by the Table 4 to 40 CFR Part 60, Subpart IIII (4.0 g/kW-hr) which within the application all 4.0 g/kW-hr is NOX, based off the worst case scenario. The hourly emission limitation was developed by multiplying the maximum operating load (186 kW mechanical) by the g/kW-hr NOX emission limitation (4.0 g/kW-hr), and then dividing by (454 g/lb) to determine the hourly emissions.

If required, the permittee shall demonstrate compliance with the g/kW-hr limitation and hourly emission limitation using Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation was developed by multiplying the hourly emission limitation (1.6 lbs/hr) by the maximum annual operating hours (500 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the annual limitation shall be demonstrated if compliance with the hourly limitation and operating hours restriction is shown.

c. Emission Limitation:

PM10/PM2.5 emissions shall not exceed 0.24 g/kW-hr, 0.10 lb/hr, and 0.02 ton per rolling, 12-month period.

Applicable Compliance Method:

The g/kW-hr limitation is based on potential emissions calculated using the filterable PM limitation specified by Table 4 to 40 CFR Part 60 Subpart IIII (0.2 g/kW-hr) plus the condensable PM emission factor specified in AP-42 Table 3.4-2 dated 10/96 (0.0077 lb/mmBtu) multiplied by 454 g/lb divided by the maximum operating load (186 kW) and multiplied by the maximum heat input (1.93 mmBtu/hr). The hourly emission limitation was determined by multiplying the maximum operating load (186 kW mechanical) by the PM10/PM2.5 emission limitation (0.24 g/kW-hr) divided by (454 g/lb) to determine the potential hourly filterable PM10/PM2.5 emissions.

If required, the permittee shall demonstrate compliance with the g/kW-hr limitation and hourly emission limitation using Methods 201 or 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.

The annual emission limitation was developed by multiplying the g/kW limitation (0.24 g/kW-hr) by the maximum operating load (186 kW), divided by 454 grams per pound, multiplied by the maximum annual operating hours (500 hrs/yr) divided by 2,000 pounds per ton. Therefore, compliance with the annual limitation shall be demonstrated if compliance with the hourly limitation is shown.

d. Emission Limitation:

CO2e emissions shall not exceed 163.6 lb/mmBtu and 79 tons per rolling, 12-month period.

Applicable Compliance Method:

This lb/mmBtu emission limitation was established to reflect the potential to emit for this emissions unit using the emission factors from Tables C-1 and C-2 to 40 CFR Part 98 Subpart C for CO2 (73.96 kg/mmBtu), N2O (6.0E-04 kg/mmBtu), and CH4 (3.0E-03 kg/mmBtu, multiplied by the global warming potentials for CO2, N2O, and CH4 (1, 298, and 25, respectively) from Table A-1 to Subpart A of 40 CFR 98).

$$\left[\left(73.96\frac{kg}{mmBtu}(1)\right)+\left(6.0E-04\frac{kg}{(mmBtu)}\right)(298)+\left(3.0E-03\frac{kg}{mmBtu}\right)x(25)\right]x\left(\frac{2.2046\ lb}{kg}\right)=163.6\frac{lb}{mmBtu}CO2e$$

If required, the permittee shall conduct emissions testing using Methods 1, 2, 3A and 4 of 40 CFR Part 60, Appendix A to determine the lb/hr CO_2 emission rate. Since the CO_2e emissions are estimated to consist of over 99% CO_2, compliance with this emission limitation will be assumed provided that the CO_2 emission rate does not exceed 163 lbs/mmBtu. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation was determined by multiplying the CO_2e emission factor (163.6 lb/mmBtu) by the maximum heat input (1.93 mmBtu/hr), multiplied by the maximum annual hours of operation of 500 hrs/yr and divided by 2,000 pounds per ton.

e. Emission Limitation:

The permittee shall only combust ultra low sulfur fuel (ULSD) fuel in this emissions unit meeting the following standard: 15 ppm maximum sulfur content.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(2).

f. Emission Limitation:

The permittee shall only combust ULSD fuel in this emissions unit meeting the following standard: a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(2) and d)(3).

g. Emission Limitation:

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

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance based upon an emission test performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

h. Emission Limitation:

NMHC + NOX emissions shall not exceed 4.0 g/kW-hr (3.0 g/hp-hr).

CO emissions shall not exceed 3.5 g/kW-hr (2.6 g/hp-hr).

PM emissions shall not exceed 0.20 g/kW-hr (0.15 g/hp-hr).

Applicable Compliance Method:

According to 40 CFR 60.4211(c), the permittee shall demonstrate compliance with these emission limitations by purchasing an engine certified to the emission standards in 40 CFR 60.4205(c) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g).

g) Miscellaneous Requirements

(1) None.

10. P007, P-9

Operations, Property and/or Equipment Description:

2,000 kW (2,682 hp) emergency diesel-fired generator

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	Volatile organic compound (VOC) emissions shall not exceed 0.04 ton per month averaged over a twelve-month rolling period See b)(2)a. through and b)(2)c.
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, NOx, PM2.5, PM10, SO_2, or VOC emissions from this air contaminant source since the potential to emit is less than 10 tons per year. See b)(2)d.
c.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality)	Carbon monoxide (CO) emissions shall not exceed 3.5 g/kW-hr, 15.4 pounds per hour (lbs/hr), and 3.86 tons per rolling, 12-month period. Nitrogen oxides (NO_X) emissions shall not exceed 6.4 g/kW-hr, 28.2 lbs/hr, and 7.05 tons per rolling, 12-month period Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) and particulate matter less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) shall not

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		exceed 0.23 g/kW-hr, 1.01 lb/hr, and 0.25 ton per rolling, 12-month period. Carbon dioxide equivalent (CO_2e) emissions shall not exceed 163.6 lb/mmBtu heat input and 683 tons per rolling, 12-month period. See b)(2)e..
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
e.	OAC rule 3745-17-11(B)(5)(a)	See b)(2)f.
f.	OAC rule 3745-18-06(G)	Less stringent than 40 CFR Part 60, Subpart IIII.
g.	OAC rule 3745-110-03(K)(2)	Exemption. See b)(2)g.
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 (40 CFR 60.4200 – 60.4219) [In accordance with 40 CFR 60.4200(a)(2), this emissions unit is a compression ignition emergency stationary internal combustion engine (CI ICE) for which construction commenced after July 11, 2005 subject to the emissions limitation/control measures specified in this section.]	Non-methane hydrocarbon (NMHC) + NO_X emissions shall not exceed 6.4 g/kW-hr. CO emissions shall not exceed 3.5 g/kW-hr. PM emissions shall not exceed 0.20 g/kW-hr. Exhaust opacity shall not exceed: 20 percent during acceleration mode; 15 percent during lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes. See b)(2)h. and b)(2)i. [60.4205(b) and 60.4207(b)]
j.	40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 - 63.6675) [In accordance with 40 CFR 63.6590(c)(1), this emissions unit is	See b)(2)i. [63.6580, 63.6585 and 63.6590(c)(1)]

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	a new stationary internal combustion engine (RICE) located at an area source of HAP emissions subject to the emissions limitation/control measures specified in this section.]	
k.	40 CFR Part 63, Subpart A (40 CFR 63.1 – 40 CFR 63.16)	Table 8 to Subpart ZZZZ of 40 CFR Part 63 – Applicability of General Provisions to Subpart ZZZZ shows which parts of the General Provisions in 40 CFR 63.1 - 63.16 apply.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule also includes compliance with the g/kW-hr emissions limitations for CO and NOx established under OAC rules 3745-10 through 20.

b. Compliance with the requirements of this rule also includes compliance with the g/kW-hr emissions limitations for PM10 and PM2.5 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 maximum annual operating hours for this emissions unit shall not exceed 500 hours, based upon a rolling, 12-month summation of the operating hours.

f. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.

g. The requirements of this rule do not apply since this emissions unit is an emergency stationary internal combustion engine which operates less than five hundred hours during any consecutive twelve-month period.

h. The permittee shall only combust ultra low sulfur diesel (ULSD) fuel in this emissions unit meeting the following standards:

i. 15 ppm maximum sulfur content; 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 using the analytical results provided by the permittee or oil supplier for each shipment of oil.

The permittee will require ULSD suppliers to provide certified test data indicating compliance with the permit sulfur content specifications prior to accepting ULSD delivery (noncompliant ULSD will not be accepted).

If noncompliant ULSD is mistakenly taken, the permittee will not combust any of the delivered ULSD upon discovery of any deviation from permit terms and conditions, and will require the supplier to remove the ULSD from the tank or provide other corrective action (such as adding cleaner fuel to the tank) to allow the overall tank contents to comply with the permit.

If the ULSD supplier information is not available, the permittee will take ULSD samples upon delivery and obtain results using the "quick" turnaround option from a certified laboratory.

i. The permittee shall comply with the applicable restrictions required under 40 CFR Part 60, Subpart IIII, including the following sections.

60.4218	General Provisions

c) Operational Restrictions

(1) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 through 60.4219).

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the following information:

a. the operating hours for each month; and

b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the operating hours.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

(2) For each shipment of ULSD fuel received for burning in this emissions unit, the permittee shall maintain records of the oil supplier's (or permittee's) analyses for sulfur content in parts per million (40 CFR 80.510). The permittee shall perform or require the supplier to perform the analyses for sulfur content in accordance with 40 CFR 80.585.

(3) The permittee shall also maintain documentation of supplier verification that the ULSD fuel as purchased has a minimum cetane index of 40 or a maximum aromatic content of ≤ 35 volume percent.

(4) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 through 60.4219).

e) Reporting Requirements

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

a. each shipment of ULSD fuel received for burning in this emissions unit that did not comply with the standards specified in b)(2)h; and

b. all exceedances of the rolling, 12-month limitation on the hours of operation for this emissions unit; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative hours of operation.

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

(2) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 through 60.4219).

(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:

CO emissions shall not exceed 3.5 g/kW-hr, 15.4 lbs/hr, and 3.86 tons per rolling, 12-month period.

Applicable Compliance Method:

The g/kW-hr limitation is based on the standard specified in Table 4 to 40 CFR Part 60, Subpart IIII. The hourly emission limitation was developed by multiplying the maximum operating load (2,000 kW mechanical) by the g/kW-hr CO emission limitation (3.5 g/kW-hr), and then dividing by (454 g/lb) to determine the hourly emissions.

If required, the permittee shall demonstrate compliance with the g/kW-hr limitation and hourly emission limitation using Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation was developed by multiplying the hourly emission limitation (15.4 lbs/hr) by the maximum annual operating hours (500 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the annual

limitation shall be demonstrated if compliance with the hourly limitation and operating hours restriction is shown.

b. Emission Limitation:

NOx emissions shall not exceed 6.4 g/kW-hr, 28.2 lbs/hr, and 7.05 tons per rolling, 12-month period.

Applicable Compliance Method:

The g/kW-hr limitation is based on the combined NOX + NMHC emission limitation specified by the Tier 2 standard in 40 CFR 89.112(a) Table 1 (6.4 g/kW-hr), which within the application all 6.4 g/Kwh is NOX, based off the worst case scenario. The hourly emission limitation was developed by multiplying the maximum operating load (2,000 kW mechanical) by the NOX g/kW-hr emission limitation (6.4 g/kW-hr) divided by (454 g/lb) to determine the hourly emissions.

If required, the permittee shall demonstrate compliance with the g/kW-hr limitation and hourly emission limitation using Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation was developed by multiplying the hourly emission limitation (28.2 lbs/hr) by the maximum annual operating hours (500 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the annual limitation shall be demonstrated if compliance with the hourly limitation and operating hours restriction is shown.

c. Emission Limitation:

PM10/PM2.5 emissions shall not exceed 0.23 g/kW-hr, 1.01 lb/hr, and 0.25 ton per rolling, 12-month period.

Applicable Compliance Method:

The g/kW-hr limitation is based on potential emissions calculated using the filterable PM limitation specified by the Tier 2 standard in 40 CFR 89.112(a) Table 1 (0.2 g/kW-hr) plus the potential emissions calculated using the condensable PM emission factor specified in AP-42 Table 3.4-2 dated 10/96 (0.0077 lb/mmBtu) multiplied by 454 g/lb divided by the maximum operating load (2,000 kW) and multiplied by the maximum heat input (16.7 mmBtu/hr).

The hourly emission limitation was developed by multiplying the g/kW-hr emission limitation (0.23 g/kW-hr) by the maximum operating load (2,000 kW) and divided 454 g/lb.

If required, the permittee shall demonstrate compliance with the g/kW-hr limitation and hourly emission limitation using Methods 201 or 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.

The annual emission limitation was developed by multiplying the hourly emission limitation (1.01 lb/hr) by the maximum annual operating hours (500 hrs/yr) and dividing by 2,000 pounds per ton. Therefore, compliance with the annual limitation shall be demonstrated if compliance with the hourly limitation and operating hours restriction is shown.

d. Emission Limitation:

VOC emissions shall not exceed 0.04 ton per month averaged over a twelve-month rolling period

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for VOC by multiplying the maximum operating load (2,682 hp) by the VOC emission factor from AP-42 Table 3.4-1 dated 10/96 (0.00064 lb/hp-hr) multiplied by 500 hours per year, divided by 2,000 pounds per ton and divided by 12 months per year.

If required, the permittee shall determine a site-specific emission factor for VOC emissions using Methods 1 through 4 and 18, 25 or 25A, as appropriate, of 40 CFR Part 60, Appendix A. Use of Method 18, 25 or 25A is to be selected based on the results of pre-survey stack sampling and U.S. EPA guidance documents. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

e. Emission Limitation:

CO2e emissions shall not exceed 163.6 lb/mmBtu and 683 tons per rolling, 12-month period.

Applicable Compliance Method:

This lb/mmBtu emission limitation was established to reflect the potential to emit for this emissions unit using the emission factors from Tables C-1 and C-2 to 40 CFR Part 98 Subpart C for CO2 (73.96 kg/mmBtu), N2O (6.0E-04 kg/mmBtu), and CH4 (3.0E-03 kg/mmBtu, multiplied by the global warming potentials for CO2, N2O, and CH4 (1, 298, and 25, respectively) from Table A-1 to Subpart A of 40 CFR 98).

$$\left[\left(73.96\frac{kg}{mmBtu}(1)\right)+\left(6.0E-04\frac{kg}{(mmBtu)}\right)(298)+\left(3.0E-03\frac{kg}{mmBtu}\right)x(25)\right]x\left(\frac{2.2046\ lb}{kg}\right)=163.6\frac{lb}{mmBtu}CO2e$$

If required, the permittee shall conduct emissions testing using Methods 1, 2, 3A and 4 of 40 CFR Part 60, Appendix A to determine the lb/hr CO_2 emission rate. Since the CO_2e emissions are estimated to consist of over 99% CO_2, compliance with this emission limitation will be assumed provided that the CO_2 emission rate

does not exceed 163 lb/mmBtu. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

The annual emission limitation was determined by multiplying the CO_2e emission factor (163.6 lb/mmBtu) by the maximum heat input (16.7 mmBtu/hr), multiplied by the maximum annual hours of operation of 500 hrs/yr and divided by 2,000 pounds per ton.

f. Emission Limitation:

The permittee shall only combust ULSD fuel in this emissions unit meeting the following standard: 15 ppm maximum sulfur content.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(2).

g. Emission Limitation:

The permittee shall only combust ULSD fuel in this emissions unit meeting the following standard: a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(2) and d)(3).

h. Emission Limitation:

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

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance based upon an emission test performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

i. Emission Limitation:

NMHC + NOX emissions shall not exceed 6.4 g/kW-hr.

CO emissions shall not exceed 3.5 g/kW-hr.

PM emissions shall not exceed 0.20 g/kW-hr.

Exhaust opacity shall not exceed:

20 percent during acceleration mode;

15 percent during lugging mode; and

50 percent during the peaks in either the acceleration or lugging modes.

Applicable Compliance Method:

According to 40 CFR 60.4211(c), the permittee shall demonstrate compliance with these emission limitations by purchasing an engine certified to the emission standards in 40 CFR 60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g). The permittee shall maintain documentation of certification to the emission standards in 40 CFR 60.4205.

g) Miscellaneous Requirements

(1) None.

11. P008, P-6

Operations, Property and/or Equipment Description:

Pressure Relief Vent 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) 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)	See b)(2)a.
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	Sulfur dioxide (SO2) emissions shall not exceed 0.004 ton per month averaged over a twelve-month rolling period Volatile organic compounds (VOC) emissions shall not exceed 0.38 ton per month averaged over a twelve-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 NOx, PM10, PM2.5, SO_2 and VOC 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)	552.64 pounds per hour (lbs/hr) and 27.49 tons per rolling, 12-month period Carbon monoxide (CO) emissions 121.21 lbs/hr and 6.03 tons per rolling, 12-month period Nitrogen oxides (NO_X) emissions 13.28 lbs/hr and 0.66 ton per rolling, 12-month period of particulate matter

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) 13.28 lbs/hr and 0.66 ton per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) 10,386 tons per rolling, 12-month period carbon dioxide equivalent (CO_2e) emissions See b)(2)f.
e.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule also includes compliance with the emissions limitations for CO established under OAC rules 3745-10 through 20.

b. Compliance with the requirements of this rule also includes compliance with the pound per hour emissions limitations for NOx, PM10 and PM2.5 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 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.

f. The maximum annual process gas flaring operating hours for this emissions unit shall not exceed 96, based upon a rolling, 12-month summation of the operating hours.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the operating hours levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Operating Hours
1	60
1-2	60
1-3	72
1-4	80
1-5	88
1-6	96
1-7	96
1-8	96
1-9	96
1-10	96
1-11	96
1-12	96

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual process gas flaring operating hours limitation shall be based upon a rolling, 12-month summation of the operating hours.

c) Operational Restrictions

(1) All collected gas shall be vented to a flare designed and operated as follows:

a. The flare shall be designed for and operated with no visible emissions, as determined by Method 22 of Appendix A of 40 CFR Part 60, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

b. The flare shall be operated with a flame present at all times when gases are vented to it. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. The net heating value of the gas being combusted and the actual exit velocity shall be calculated as required in the Testing Section of this permit.

c. The net heating value (H_T) of the gas being combusted and actual exit velocity of the flare shall be calculated as required in the Testing Section of this permit.

(2) The non-assisted flare shall comply with the following requirements for the heat content in paragraph “a” **and** the maximum tip velocity in paragraph “b”, **or** shall comply with the alternative requirements in paragraph “c”:

a. The flare shall have a net heating value of 200 Btu/scf (7.45 MJ/scm) for the gas being combusted.

b. The flare shall be designed for and operated with an exit velocity of less than 18.3 m/sec (60 ft/sec), with the following exceptions:

i. nonassisted flares, having a net heating value of 1,000 Btu/scf (37.3 MJ/scm) for the gas being combusted, can be designed for and operated with an exit velocity equal to or greater than 18.3 m/sec (60 ft/sec), but less than 122 m/sec (400 ft/sec); and

nonassisted flares can be designed for and operated with an exit velocity of less than the velocity calculated below for V_{max}, and less than 122 m/sec (400 ft/sec):

$$\text{Log10}\ (V_{max}) = (H_T + 28.8)/31.7$$

where:

V_{max} = maximum permitted velocity, m/sec;

28.8 = constant;

31.7 = constant; and

H_T = the net heating value as determined in the Testing Section of this permit.

OR

c. Nonassisted flares that have a diameter of 3 inches or greater and a hydrogen content of 8.0 percent (by volume), or greater, shall be designed for and operated with an exit velocity of less than 37.2 m/sec (122 ft/sec) and less than the velocity, V_{max}, as determined by the following equation:

$$V_{max} = (X_{H2} - K_1)\ K_2$$

where:

V_{max} = maximum permitted velocity, m/sec;

K_1 = constant, 6.0 volume-percent hydrogen;

K_2 = constant, 3.9 (m/sec)/volume-percent hydrogen; and

X_{H2} = the volume-percent of hydrogen, on a wet basis, as calculated by using the ASTM Method D1946-90.

(3) 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) The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design and the requirements contained in this permit.

(2) The permittee shall record all periods of time during which there was no pilot flame or the flare was inoperable.

(3) The permittee shall maintain monthly records of the following information:

a. the process gas flaring operating hours for each month; and

b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the process gas flaring operating hours.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative process gas flaring operating hours for each calendar month.

e) Reporting Requirements

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

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.

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

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

all periods where flaring of process gas exceeded 96 hours per rolling, 12-month period.

If there were no periods where flaring of process gas exceeded 96 hours per rolling, 12-month period, the permittee shall submit a quarterly report, indicating that process gas was not flared for more than 96 hours per rolling, 12-month period 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. 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.

(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

552.56 pounds per hour (lbs/hr) and 27.49 tons per rolling, 12-month period CO emissions

Applicable Compliance Method:

The hourly emissions limitation was determined as the sum of the heat input from flaring process gas and the flare pilot flame (1,781.736 mmBtu/hr from process + 0.723 mmBtu/hr from pilot) multiplied by the CO emission factor from AP-42 Fifth Edition Table 13.5-2 dated 12/16 (0.31 lb/mmBtu).

The ton per rolling, 12-month period emission limitations were developed as the sum of the potential emissions from process gas flaring and the potential emissions from the flare pilot flame. The potential emissions from process gas flaring was determined by multiplying the maximum heat input from flaring process gas (1,781.736 mmBtu/hr) by the CO emission factor from AP-42 Fifth Edition Table 13.5-2 dated 12/16 (0.31 lb/mmBtu) multiplied by 96 hours of flaring per year and divided by 2,000 pounds per ton. The potential emissions from the flare pilot flame was determined by multiplying the maximum heat input from the pilot flame (0.723 mmBtu/hr) by the CO emission factor from AP-42 Fifth Edition Table 13.5-2 dated 12/16 (0.31 lb/mmBtu) multiplied by 8,760 hours per year and divided by 2,000 pounds per ton. Compliance with the annual emission limitation will be assumed provided that compliance is maintained with the hourly emission limitation and the annual flaring hours does not exceed 96 hours per rolling, 12-month period.

b. Emission Limitation

121.21 lbs/hr and 6.03 tons per rolling, 12-month period NO_X emissions

Applicable Compliance Method:

The hourly emissions limitation was determined as the sum of the heat input from flaring process gas and the flare pilot flame (1,781.736 mmBtu/hr from process + 0.723 mmBtu/hr from pilot) multiplied by the NOx emission factor from AP-42 Fifth Edition Table 13.5-1 dated 12/16 (0.068 lb/mmBtu)

The ton per rolling, 12-month period emission limitations were developed as the sum of the potential emissions from process gas flaring and the potential emissions from the flare pilot flame. The potential emissions from process gas flaring was determined by multiplying the maximum heat input from flaring process gas (1,781.736 mmBtu/hr) by the NOx emission factor from AP-42 Fifth Edition Table 13.5-1 dated 12/16 (0.068 lb/mmBtu) multiplied by 96 hours of

flaring per year and divided by 2,000 pounds per ton. The potential emissions from the flare pilot flame was determined by multiplying the maximum heat input from the pilot flame (0.723 mmBtu/hr) by the NOx emission factor from AP-42 Fifth Edition Table 13.5-2 dated 12/16 (0.068 lb/mmBtu) multiplied by 8,760 hours per year and divided by 2,000 pounds per ton. Compliance with the annual emission limitation will be assumed provided that compliance is maintained with the hourly emission limitation and the annual flaring hours does not exceed 96 hours per rolling, 12-month period.

c. Emission Limitation:

13.28 lbs/hr and 0.66 ton per rolling, 12-month period of PM_{10};

Applicable Compliance Method:

The hourly emissions limitation was determined as the sum of the heat input from flaring process gas and the flare pilot flame (1,781.736 mmBtu/hr from process + 0.723 mmBtu/hr from pilot) multiplied by the PM10 emission factor from AP-42 Fifth Edition Table 1.4-2 dated July, 1998 (7.6 lb/mmscf) and divided by 1,020 mmBtu/mmscf.

The ton per rolling, 12-month period emission limitations were developed as the sum of the potential emissions from process gas flaring and the potential emissions from the flare pilot flame. The potential emissions from process gas flaring was determined by multiplying the maximum heat input from flaring process gas (1,781.736 mmBtu/hr) by the PM10 emission factor from AP-42 Fifth Edition Table 1.4-2 dated July, 1998 (7.6 lb/mmscf), divided by 1,020 mmBtu/mmscf, multiplied by 96 hours of flaring per year and divided by 2,000 pounds per ton. The potential emissions from the flare pilot flame was determined by multiplying the maximum heat input from the pilot flame (0.723 mmBtu/hr) by the PM10 emission factor from AP-42 Fifth Edition Table 1.4-2 dated July, 1998 (7.6 lb/mmscf), divided by 1,020 mmBtu/mmscf, multiplied by 8,760 hours per year and divided by 2,000 pounds per ton. Compliance with the annual emission limitation will be assumed provided that compliance is maintained with the hourly emission limitation and the annual flaring hours does not exceed 96 hours per rolling, 12-month period.

d. Emission Limitation:

SO2 emissions shall not exceed 0.004 ton per month averaged over a twelve-month rolling period

Applicable Compliance Method:

This emission limitation was developed as the emissions from flaring process gas and from natural gas burned at the flare pilot flame. The flaring emissions were determined by multiplying the maximum heat input from flaring process gas (1,781.736 mmBtu/hr) multiplied by the SO2 emission factor from AP-42 Fifth Edition Table 1.4-2 dated July, 1998 (0.6 lb/mmscf), divided by 1,020 mmBtu/mmscf, multiplied 96 hours of flaring per year and divided by 2,000

pounds per ton, resulting in 0.05 ton per year of SO2 emissions. The emissions from the flare pilot flame were determined by multiplying the maximum heat input (0.723 mBtu/hr) multiplied by the SO2 emission factor from AP-42 Fifth Edition Table 1.4-2 dated July, 1998 (0.6 lb/mmscf), divided by 1,020 mmBtu/mmscf, multiplied 8,760 hours per year and divided by 2,000 pounds per ton resulting, in 0.002 ton per year of SO2 emissions. The sum of the emissions from flaring process gas and the pilot flame (0.05 ton/yr + 0.002 ton/yr) was divided by 12 months per year to determine the SO2 emissions per month averaged over a twelve-month rolling, period.

e. Emission Limitation:

VOC emissions shall not exceed 0.38 ton per month averaged over a twelve-month rolling period

Applicable Compliance Method:

This emission limitation was developed as the emissions from flaring process gas and from natural gas burned at the flare pilot flame. The permittee supplied a VOC emission factor of 0.0518 lb/mmBtu based on an older version of AP-42 Tables 13.5-1 and 13.5-2 dated 9/91 where the total hydrocarbon emission factor was used minus methane and ethane. The emissions from flaring process gas were determined by multiplying the maximum heat input from flaring process gas (1,781.736 mmBtu/hr) multiplied by the above VOC emission factor (0.0518 lb/mmBtu), multiplied 96 hours of flaring per year and divided by 2,000 pounds per ton, resulting in 4.430 tons per year of VOC emissions from flaring process gas. The emissions from the flare pilot flame were determined by multiplying the maximum heat input (0.723 mmBtu/hr) by the above VOC emission factor (0.0518 lb/mmBtu), multiplied 8,760 hours per year and divided by 2,000 pounds per ton resulting, in 0.164 ton per year of VOC emissions. The sum of the emissions from flaring process gas and the pilot flame (4.430 ton/yr + 0.164 ton/yr) was divided by 12 months per year to determine the VOC emissions per month averaged over a twelve-month rolling, period.

f. Emission Limitation:

10,386 tons per rolling, 12-month period carbon dioxide equivalent (CO_2e)

Applicable Compliance Method:

This emission limitation was developed as the emissions from flaring process gas and from natural gas burned at the flare pilot flame. The flaring emissions were determined by multiplying the maximum heat input from flaring process gas (1,781.736 mmBtu/hr) multiplied by the CO_2e emission factor calculated from Tables A-1 of 40 CFR Part 98 Subpart A and, Tables C-1, and C-2 of 40 CFR Part 98 Subpart C (117.1 lb CO_2e /mmBtu), multiplied 96 hours of flaring per year and divided by 2,000 pounds per ton, resulting in 10,015 ton per year of CO_2e emissions. The emissions from the flare pilot flame were determined by multiplying the maximum heat input (0.723 mBtu/hr) multiplied by the CO_2e emission factor calculated from Tables A-1 of 40 CFR Part 98 Subpart A and,

Tables C-1, and C-2 of 40 CFR Part 98 Subpart C (117.1 lb CO_2e /mmBtu), multiplied 8,760 hours per year and divided by 2,000 pounds per ton resulting, in 3701 tons per year of CO_2e emissions. The sum of the emissions from flaring process gas and the pilot flame was determined (10,015 tons/yr + 371 tons/yr).

g. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average.

Applicable Compliance Method:

If required, compliance with the visible emissions limitation shall be determined in accordance with U.S. EPA Method 9 in Appendix A of 40 CFR Part 60.

(2) The net heating value of the gas being combusted at the flare shall be calculated as follows:

$$H_T = k \sum_{i=1}^{n} C_i H_i$$

where:

H_T = net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 degrees Celsius and 760 mm Hg, but the standard temperature of 20 degrees Celsius is used for determining the volume corresponding to one mole;

k = constant, 1.740×10^{-7} (1/ppm) (g mole/scm) (MJ/kcal), where the standard temperature for "g mole/scm" is 20 degrees Celsius;

C_i = concentration of sample component "I" in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-90;

H_i = net heat of combustion of sample component "I", kcal/g mole at 25 degrees Celsius and 760 mm Hg. The heats of combustion may be determined using ASTM D4809-95 if published values are not available or cannot be calculated;

i = subscript denoting a specific component in the sample; and

n = total number of components within the sample.

The conversion factor of "26.84 Btu scm/MJ scf" can be used to convert the net heating value of the gas (H_T) from MJ/scm to Btu/scf.

(3) The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure) of the flare header or headers that feed the flare, as determined by Reference Methods 2, 2A, 2C, or 2D (found in 40 CFR

60, Appendix A), as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

The conversion factor of 3.281 ft/m can be used to convert the velocity from m/sec to ft/sec.

g) Miscellaneous Requirements

(1) None.

12. P901, TR-1,TR-2,TR-5,TR-6,TR-7,TR10,SR1,TR13,TR14

Operations, Property and/or Equipment Description:

Iron oxide material handling consisting of: TR-1 (conveyor to Transfer Tower I with baghouse), TR-2 (conveyor to stack machine conveyor fully enclosed), TR-5 (conveyor from reclaim machine to conveyor fully enclosed), TR-6 and TR-7 (conveyor from reclaim to Transfer Tower II and III with baghouses), TR-10 (oxide day bins to conveyors with baghouses), SR-1 (oxide screen with baghouse), TR-13 (oxide transfer to bucket elevator with baghouse), and TR-14 (coating storage and mixing and fines transfer tower with 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.

	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 PM10 and PM2.5 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	1.92 lbs/hr and 5.50 tons per rolling, 12-month period of particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) 1.32 lbs/hr and 5.19 tons per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) Develop and implement a site-specific work practice plan designed as described in paragraph d)(1) below to minimize or eliminate fugitive dust emissions.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)d. and b)(2)e.
d.	OAC rule 3745-17-07(A)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 20.
e.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust from this emissions unit shall not exceed twenty percent opacity as a three-minute average.
f.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent that the emission limitation established pursuant OAC rule 3745-31-10 through 20.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule for PM10 and PM2.5 emissions also includes compliance with the requirements of 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 the following best available control measures for the purpose of ensuring compliance with the above-mentioned applicable requirements.

Company ID	Description of control measure
TR-1, TR-6, TR-7, TR-10, SR-1, TR-13, TR-14	Full enclosures vented to baghouses designed to meet an outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf) of exhaust each at all times the emissions unit is in operation. All PM is assumed to be emitted as PM2.5.
TR-2, TR-5	full enclosure

Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

e. Iron oxide coating materials shall be transferred pneumatically to silos. The pneumatic system shall be adequately enclosed so as to eliminate at all times visible emissions of fugitive dust. Any visible emissions of coating material dust emanating from the delivery vehicle during transfer shall be cause for the immediate halt of the unloading process and the refusal of the load until the situation is corrected.

(3) The maximum annual iron oxide received at this facility shall not exceed 3,594,666 tons, based upon a rolling, 12-month summation of the tons received.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the tons received specified in the following table:

Month	Maximum Allowable Cumulative Tons of Iron Oxide Received
1	800,000
1-2	1,060,000
1-3	1,320,000
1-4	1,580,000
1-5	1,840,000
1-6	2,100,000
1-7	2,360,000
1-8	2,620,000
1-9	2,880,000
1-10	3,140,000
1-11	3,400,000
1-12	3,594,666

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual tons received limitation shall be based upon a rolling, 12-month summation of the tons received.

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 and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, 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 maintain monthly records of the following information:

a. the tons of iron oxide received at the facility for each month;

b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of tons of iron oxide received at the facility; and

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative tons of iron ore received at the facility for each calendar month.

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 the stack serving this emissions unit;

b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, 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:

all exceedances of the rolling, 12-month tons of iron oxide received at the facility limitation; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative tons of iron ore received at the facility.

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 Limitation:

0.0025 grain PM/dscf; 1.92 lbs/hr and 5.50 tons per rolling, 12-month period of particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}); 1.32 lbs/hr and 5.19 tons per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$)

Applicable Compliance Method:

This emission limitation was established calculating the sum of the fugitive and stack emissions from TR-1, TR-2, TR-5, TR-6, TR-7, TR-10, SR-1, TR-13, and TR-14.

For stack emissions from TR-1, TR-6, TR-7, TR-10, SR-1, TR-13, and TR-14, multiply the design PM grain loading (0.0025 gr/dscf) by the associated

maximum stack flow rate in dry standard cubic feet per minute, multiplied by 60 minutes per hour, and divided by 7,000 grains per pound. For these emission points, the permittee has assumed that all PM emissions are PM2.5 emissions.

For fugitive emissions from TR-2 and TR-5 the maximum hourly throughput in tons/hr for each transfer point by the emission factor for material drop operations determined using Equation 1 Chapter 13.2.4 of AP-42 Fifth Edition dated 11/06. A 1 mph wind speed may be used for TR-2 and TR-5 based on these points being fully enclosed.

If required, the permittee shall determine the PM and PM10 emission rate from the baghouses serving TR-1, TR-6, TR-7, TR-10, SR-1, TR-13 and TR-14 using Method 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The annual emissions limitation was based on the above calculation methods for hourly emissions rates adjusted for the maximum tons of iron ore received at HBI railcar and truck loading restriction contained in b)(2). Compliance with the annual emission limitation will be assumed if compliance with the hourly emission limitation and the HBI truck and railcar loading restrictions are maintained.

b. Emission Limitation:

visible particulate matter emissions of fugitive dust shall not exceed 20% opacity as a three-minute average

Applicable Compliance Method:

Compliance with the visible emissions limitation for fugitive dust from material handling operations shall be determined through visible emissions observations performed in accordance U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

g) Miscellaneous Requirements

(1) None.

13. P902, TR-17,TR-18,TR-19,TR-22,TR-23,TR-24,TR-25,TR-26,TR-27

Operations, Property and/or Equipment Description:

Hot briquetted iron (HBI)/Direct reduced iron (DRI) material handling consisting of: TR-17 & TR-18 (three HBI conveyor transfer towers with two venturi scrubbers), TR-19 (HBI Conveyor to Stacker Machine), TR-22 (HBI drop from hopper to conveyor), TR-23 (HBI conveyor from transfer tower to HBI loadout building with venturi scrubber), TR-24 (Conveyor transfer to loading bin with venturi scrubber), TR-25 (HBI truck loadout vented to venturi scrubber), TR-26 (HBI railcar loading inside shed with two sides and roof, strip curtains at the entrance and exit of the loading shed, use of a telescoping loading chute, and use of water or chemical spray during loading), and TR-27 (HBI truck loading fugitive emissions)

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.
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	See b)(2)b. and b)(2)c.
c.	OAC rule 3745-31-10 through 20	0.47 lbs/hr and 1.51 tons per rolling, 12-month period of particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}) 0.43 lbs/hr and 1.41 tons per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$) See b)(2)d. and b)(2)e.
d.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust from this emissions unit shall not exceed twenty percent opacity as a three-minute average.
f.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent that the emission limitation established pursuant OAC rule 3745-31-10 through 20.

(2) Additional Terms and Conditions

a. Compliance with the requirements of this rule for PM10 and PM2.5 emissions also includes compliance with the requirements of 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 the following best available control measures for the purpose of ensuring compliance with the above-mentioned applicable requirements.

Company ID	Description of control measure
TR-17, TR-18, TR-23, TR-24, TR-25	Full enclosure vented to a scrubber designed to meet outlet grain loading of not more than 0.0025 grains per dry standard cubic foot (gr/dscf) of exhaust each at all times the emissions unit is in operation. All PM is assumed to be emitted as PM2.5.
TR-19, TR-22	full enclosure
TR-26	railcar loading shed with two sides and roof, strip curtains at the entrance and exit of the loading shed, use of a telescoping loading chute, and use of water or chemical suppressants during loading.

TR-27	enclosure with doors that will remain closed during loading

Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

e. The maximum annual truck HBI loading rate for this emissions unit shall not exceed 743,724 tons based upon a rolling, 12-month summation of the loading rates.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the loading levels specified in the following table:

Month	Maximum Allowable Cumulative HBI Truck Loading, tons
1	200,000
1-2	250,000
1-3	300,000
1-4	350,000
1-5	400,000
1-6	450,000
1-7	500,000
1-8	550,000
1-9	600,000
1-10	650,000
1-11	700,000
1-12	743,724

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual loading rate limitation shall be based upon a rolling, 12-month summation of the loading rates.

f. The maximum HBI railcar loading rate shall not exceed 6,792 tons per day.

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 and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, 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 maintain monthly records of the following information:

a. the railcar loading rate for each month;

b. the truck loading rate for each month;

c. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the railcar loading rates; and

d. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the truck loading rates.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative railcar and truck loading rates for each calendar month.

(3) The permittee shall maintain daily records of amount of HBI loaded into railcars in tons per day.

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 the stack serving this emissions unit;

b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, 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. all exceedances of the rolling, 12-month truck loading rate limitation; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative truck loading rate levels; and

b. all exceedances of the daily railcar HBI loading limitation.

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 Limitation:

0.0025 grain PM/dscf; 0.47 lbs/hr and 1.51 tons per rolling, 12-month period of particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM_{10}); 0.43 lbs/hr and 1.41 tons per rolling, 12-month period of particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$)

Applicable Compliance Method:

Compliance shall be determined by determining the sum of the stack and fugitive emissions from TR-17, TR-18, TR-19, TR-22, TR-23, TR-24, TR-25, and TR-26.

For stack emissions from TR-17, TR-18, TR-23, TR-24, and TR-25, multiply the design PM grain loading (0.0025 gr/dscf) by the associated maximum stack flow rate in dry standard cubic feet per minute, multiplied by 60 minutes per hour, and divided by 7,000 grains per pound. For these emission points, the permittee has assumed that all PM emissions are PM2.5 emissions.

For fugitive emissions from TR-19, TR-22, TR-26, and TR-27 multiply the maximum hourly throughput in tons/hr for each transfer point by the emission factor for material drop operations determined using Equation 1 Chapter 13.2.4 of AP-42 Fifth Edition dated 11/06. A 1 mph wind speed was used for TR-19 and TR-22, and TR-27 based on these points being fully enclosed. A 1 mph wind speed for TR-26 was used based on using an adjustable chute railcar loading being done inside a 2-sided shed with roof, and strip curtains used at the entrance and exit of the railcar loading shed. A 95% control efficiency was applied to the railcar loading emission factor for use of water or chemical spray during railcar loading. The permittee shall use data from tumble testing conducted 4/2017 to determine PM10 emissions as being 16% of PM emissions, and PM2.5 emissions as being 7% of PM emissions.

If required, the permittee determine the gr/dscf PM and hourly PM10 and PM2.5 emission rates from the scrubbers serving TR-17, TR-18, TR-23, TR-24, and TR-25 using Method 5 of 40 CFR Part 60, Appendix A and Method 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.

The annual emissions limitation was based on the above calculation methods for hourly emissions rates adjusted for the HBI railcar and truck loading restriction contained in b)(2). Compliance with the annual emission limitation will be assumed if compliance with the hourly emission limitation and the HBI truck and railcar loading restrictions are maintained.

b. Emission Limitation:

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

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A.

c. Emission Limitation:

visible particulate matter emissions of fugitive dust shall not exceed 20% opacity as a three-minute average

Applicable Compliance Method:

If required, compliance with the visible emissions limitation for fugitive dust from material handling operations shall be determined through visible emissions observations performed in accordance U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

g) Miscellaneous Requirements

(1) None.