



Mike DeWine, Governor
Jon Husted, Lt. Governor
Anne M. Vogel, Director

09/25/2023

Certified Mail

Brandon Heaney
IronUnits LLC
P.O. Box 166870
Oregon, OH 43616

Facility ID: 0448011992
Permit Number: P0132087
County: Lucas

RE: FINAL AIR POLLUTION CONTROL TITLE V PERMIT
Permit Type: Initial

Dear Permit Holder:

Enclosed is a final Ohio Environmental Protection Agency (EPA) Air Pollution Title V permit that allows you to operate the facility in the manner indicated in the permit. Because this permit may contain several conditions and restrictions, we urge you to read it carefully. In this letter, you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

How to appeal this permit

The issuance of this Title V permit is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Robert Sprague," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
30 East Broad Street, 4th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and state tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Ohio EPA document search website here: <https://epa.ohio.gov/help-center/edocument-search/edocument-search>.

What should you do if you notice a spill or environmental emergency?

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

If you have any questions regarding this permit, please contact the Toledo Department of Environmental Services as indicated on page one of your permit.

Sincerely,



Robert Hodanbosi
Chief, Division of Air Pollution Control

cc: U.S. EPA Region 5 *Via E-Mail Notification*
Toledo Department of Environmental Services



FINAL

**Division of Air Pollution Control
Title V Permit
for
IronUnits LLC**

Facility ID:	0448011992
Permit Number:	P0132087
Permit Type:	Initial
Issued:	09/25/2023
Effective:	10/16/2023
Expiration:	10/16/2028



Division of Air Pollution Control
Title V Permit
for
IronUnits LLC

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Final Title V Permit
IronUnits LLC
Permit Number: P0132087
Facility ID: 0448011992
Effective Date: 10/16/2023

Authorization

Facility ID: 0448011992
Facility Description: Toledo HBI
Application Number(s): A0071527, A0073246
Permit Number: P0132087
Permit Description: Initial Title V for a Hot Briquetted Iron (HBI)/Direct Reduced Iron (DRI) manufacturing facility.
Permit Type: Initial
Issue Date: 09/25/2023
Effective Date: 10/16/2023
Expiration Date: 10/16/2028
Superseded Permit Number:

This document constitutes issuance of an OAC Chapter 3745-77 Title V permit to:

IronUnits LLC
2768 Front St
Toledo, OH 43605

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 St.
Toledo, OH 43604
(419)936-3015

The above named entity is hereby granted a Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Toledo Department of Environmental Services. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months and no later than 6 months prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Entered into the Journal of the Director on:

A handwritten signature in cursive script that reads "Anne M. Vogel".

Anne M. Vogel
Director

Date: 09/25/2023

List of Commonly Used Abbreviations

AP-42 = U.S. EPA's Compilation of Air Pollution Emissions Factors	IBR = Incorporation by Reference	PER = Permit Evaluation Report
ASTM = American Society for Testing and Materials	ID = Identification Number (typically referring to a facility ten-digit ID number)	PM = particulate matter
BACT = Best Available Control Technology	LAER = Lowest Achievable Emission Rate	PM ₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns
BAT = Best Available Technology	lb(s)/hr = pound(s) per hour	PM _{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
CAA = Clean Air Act (1955, 70, 77, 80)	LDAR = Leak Detection and Repair	ppb = parts per billion
CAAA = Clean Air Act Amendments (1990)	LPG = liquefied petroleum gas/propane	ppm = parts per million
CAM = Compliance Assurance Monitoring	MACT = Maximum Achievable Control Technology	PSD = Prevention of Significant Deterioration
CEM = Continuous Emissions Monitor	MAGLC = Maximum Acceptable Ground Level Concentration	psi = pounds per square inch
CEMS = Continuous Emissions Monitoring System	mg/m ³ = milligrams per cubic meter	psia = pounds per square inch absolute
CFC = chlorofluorocarbon	MM = million	PTE = Potential-to-Emit
CFR = Code of Federal Regulations	MMBtu = million British Thermal Units	PTI = Permit-to-Install
CH ₄ = methane	MON = Miscellaneous Organic Chemical Manufacturing NESHAP	PTIO = Permit-to-Install and Operate
CI = compression ignition	MSDS = Material Safety Data Sheet	PTO = Permit-to-Operate
CO = carbon monoxide	MSW = Municipal Solid Waste	PWR = process weight rate
CO ₂ = carbon dioxide		RACM = Reasonably Available Control Measures
COM = Continuous Opacity Monitor	NAAQS = National Ambient Air Quality Standard	RACT = Reasonably Available Control Technology
DAPC = Division of Air Pollution Control	NESHAP = National Emission Standard for Hazardous Air Pollutants	RATA = Relative Accuracy Test Audit
DO/LAA = District Office/Local Air Agency	NG = natural gas	RTO = regenerative thermal oxidizer
dscf = dry standard cubic foot	ng/m ³ = nanograms per cubic meter	SB265 = Senate Bill 265
EAC = Emissions Activity Category	NH ₃ = ammonia	scfm = standard cubic feet per minute
eDocs = Electronic Documents Database	NMHC = non-methane hydrocarbons	SI = spark ignition
ERAC = Environmental Review Appeals Commission	NMOC = non-methane organic compound	SIP = State Implementation Plan
ESP = electrostatic precipitator	NNSR = Nonattainment New Source Review	SM = Synthetic Minor
EU = Emissions Unit	NO = nitrogen oxide	SO ₂ = sulfur dioxide
FEPTIO = Federally Enforceable Permit-to-Install and Operate	NO ₂ = nitrogen dioxide	SOB = Statement of Basis
FER = Fee Emissions Report	NO _x = nitrogen oxides	SSMP = Startup, Shutdown and Malfunction Plan
FR = Federal Register	NSPS = New Source Performance Standard	T & C = Term and Condition
GACT = Generally Achievable Control Technology	NSR = New Source Review	TDS = total dissolved solids
GHG = greenhouse gases	NTV = Non-Title V	TLV = Threshold Limit Value
gr = grains	O&M = Operation and Maintenance	TO = thermal oxidizer
gr/dscf = grains per dry standard cubic foot	O ₃ = ozone	TPH = ton(s) per hour
H ₂ S = hydrogen sulfide	OAC = Ohio Administrative Code	TPY = ton(s) per year
H ₂ SO ₄ = sulfuric acid	OC = organic compound	TSP = total suspended particulates
HAP = hazardous air pollutant	OEPA = Ohio Environmental Protection Agency	VE = visible emissions
HCl = hydrochloride	ORC = Ohio Revised Code	VMT = vehicle miles traveled
HF = hydrogen fluoride	Pb = lead	VOC = volatile organic compound
Hg = mercury	PBR = Permit-By-Rule	WPP = Work Practice Plan
HON = Synthetic Organic Chemical Manufacturing NESHAP	PCB = polychlorinated biphenyl	µg/m ³ = micrograms per cubic meter
hp = horsepower	PE = particulate emissions	
HVLP = high volume, low pressure	PEMS = Predictive Emissions Monitoring System	

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. 21., Air Pollution Nuisance
 - (2) Standard Term and Condition A. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions
 - (3) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions
 - (4) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting for State-Only Requirements
 - (5) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (6) Standard Term and Condition A. 30., Submitting Documents Required by this Permit

(Authority for term: ORC 3704.036(A))

2. 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 (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

- 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 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c) The permittee shall submit required reports in the following manner:

- (1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any submitted scheduled maintenance requests, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

- (2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures taken, shall be submitted promptly to the Toledo Department of Environmental Services. Except as provided below, the written reports shall be submitted by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

- (3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.20, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted to the Toledo Department of Environmental Services by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally

enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable requirements not specifically addressed by permit or rule for the insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))

- (4) 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 (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete." Signature by the Responsible Official may be represented by entry of the personal identification number (PIN) by the Responsible Official as part of the electronic submission process or by the scanned attestation document signed by the Responsible Official that is attached to the electronically submitted written report.

(Authority for term: OAC rule 3745-77-07(A)(3)(c)(v))

- (5) Consistent with A.2.c.1. above, reports of any required monitoring and/or record keeping information required to be submitted to Ohio EPA shall be submitted to Toledo Department of Environmental Services unless otherwise specified.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

3. Reporting of Any Exceedance of a Federally Enforceable Emission Limitation or Control Requirement Resulting from Scheduled Maintenance

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

4. Risk Management Plans

If applicable, the permittee shall 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"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

- a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or
- b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

5. 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.

(Authority for term: OAC rule 3745-77-07(A)(5))

6. Severability Clause

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.

(Authority for term: OAC rule 3745-77-07(A)(6))

7. 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 reissuance, or modification, or for denial of a permit renewal application.
- 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 except as provided pursuant to A.16 below.
- c) This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.11 below. 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, reopening 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.
- f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:
 - (1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01 based on the permanent shutdown and removal of one or more emissions units identified in this permit; or
 - (2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01 based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable; or
 - (3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminant sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

(Authority for term: OAC rule 3745-77-01, OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77-07(A)(7))

8. 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.

(Authority for term: OAC rule 3745-77-07(A)(8))

9. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

(Authority for term: OAC rule 3745-77-07(A)(9))

10. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these standard terms and conditions shall apply to all operating scenarios authorized in this permit.

(Authority for term: OAC rule 3745-77-07(A)(10))

11. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

- a) Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.
- b) This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit and shall not require a reopening of this permit.
- c) The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.
- d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

12. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that 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, the state, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under state law only.

(Authority for term: OAC rule 3745-77-07(B))

13. Compliance Requirements

- a) Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V 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 paragraph (E) of OAC rule 3745-77-03.
 - (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.
- d) Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the Toledo Department of Environmental Services) and the Administrator of the U.S. EPA in the following manner and with the following content:
 - (1) Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
 - (2) Compliance certifications shall include the following:
 - a. Identification of each term or condition that is the basis of the certification. The identification may include a statement by the Responsible Official that every term and condition that is federally enforceable has been reviewed, and such terms and

conditions with which there has been continuous compliance throughout the year are not separately identified.

- b. The permittee's current compliance status.
 - c. Whether compliance was continuous or intermittent consistent with A.13.d)(2)a. above.
 - d. The method(s) used for determining the compliance status of the source currently and over the required reporting period consistent with A.13.d)(2)a. above.
 - e. Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
- (3) Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

14. Permit Shield

- a) Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.
- b) This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

15. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [defined as "Title I modification" in OAC rule 3745-77-01], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the Toledo Department of Environmental Services with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the Toledo Department of Environmental Services as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

16. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

(Authority for term: OAC rule 3745-77-07(G))

17. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

- a) The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.
- b) The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as “insignificant activities and emissions levels” as defined in OAC rule 3745-77-01. Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.
- c) The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).
- d) The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- e) The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit-to-install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(Authority for term: OAC rule 3745-77-07(I))

18. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Federal Register 8314, Feb. 24, 1997), in the context of any future proceeding.

(This term is provided for informational purposes only.)

19. Insignificant Activities or Emissions Levels

Each IEU that is subject to one or more applicable requirements shall comply with those applicable requirements.

(Authority for term: OAC rule 3745-77-07(A)(1))

20. Permit-to-Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit-to-install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-07(A)(1))

21. 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.

(Authority for term: OAC rule 3745-77-07(A)(1))

22. Permanent Shutdown of an Emissions Unit

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the Responsible 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 Responsible Official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that 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 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

Unless otherwise exempted, no emissions unit identified in this permit that has been certified by the Responsible Official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-01)

23. Title VI Provisions

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- a) Persons operating appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.
- b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.
- c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

(Authority for term: OAC rule 3745-77-01(H)(11))

24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or record keeping 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 (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Toledo Department of Environmental Services. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. 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.)

25. Records Retention Requirements Under State Law Only

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.

26. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable state air pollution laws and regulations and the terms and conditions of this permit. 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, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

(Authority for term: OAC rule 3745-77-07(C))

27. Scheduled Maintenance/Malfunction Reporting for State-Only Requirements

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction 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. 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 emissions unit(s) that is (are) served by such control system(s).

28. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Toledo Department of Environmental Services must be notified in writing of any transfer of this permit.

(Authority for term: OAC rule 3745-77-01(C))

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

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation 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 by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

- a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or
- b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potential to emit; or
- c) where the company's Responsible Official has certified that an emissions unit has been permanently shut down.

30. Submitting Documents Required by this Permit

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



Final Title V Permit
IronUnits LLC
Permit Number: P0132087
Facility ID: 0448011992
Effective Date: 10/16/2023

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 Toledo Department of Environmental Services, 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the Responsible Official may be represented as provided through procedures established in Air Services.

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 IIII: P010 through P013. 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 <http://ecfr.gov> or by contacting the Ohio EPA.

[Authority for term: 40 CFR Part 60 Subpart IIII]

3. The compression ignition (CI) reciprocating internal combustion engine(s) (RICE), located at an area source for hazardous air pollutants (HAPs), is subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines, Part 63, Subpart ZZZZ. These new stationary CI RICE, P010 – P013, installed on or after 6/12/06, shall meet the requirements of Part 63, Subpart ZZZZ upon startup, through demonstration of compliance with the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines, Part 60, Subpart IIII.

[Authority for term: 40 CFR Part 63 Subpart ZZZZ]

4. The Toledo Division of Environmental Services has approved the Compliance Assurance Monitoring (CAM) plan submitted by the permittee, pursuant to 40 CFR Part 64, for emissions units P001 – P003, P901 and P902. The permittee shall comply with the provisions of the plan, as specified in Section C. Emissions Unit Terms and Conditions during any operation of the aforementioned emissions units.

[Authority for term: 40 CFR Part 64]

5. The following insignificant emissions units at this facility must comply with all applicable State and federal regulations, as well as any emissions limitations and/or control requirements contained within the identified permit-to-install for the emissions unit. The insignificant emissions units listed below are subject to one or more applicable requirements contained in a permit-to-install or in the SIP approved versions of OAC Chapters 3745-17, 3745-18, 3745-21, and 3745-31, and/or 40 CFR Part 60 or 63:

P006 11 hp emergency diesel-fueled fire pump (PBR17832 effective 8/29/2019)

P007 2,000 kW (2,682 hp) emergency diesel-fired generator (PBR17832 effective 8/29/2019)

P009 133 Hp Emergency Diesel Generator, Admin. Building (PBR17833 effective 8/28/2019)

P801 NG equipment leaks from valves, pressure relief valves, and connectors (PTI P0126975 issued 12/10/2019)

[Authority for term: OAC rule 3745-77-07(A)(13)]

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)g., d)(5) through d)(8) and e)(3).

- 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) (PTI P0126975 issued 12/10/2019)	Sulfur Dioxide emissions (SO ₂) shall not exceed 1.84 tons per month average over a 12-month rolling period. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(a)(ii) (PTI P0126975 issued 12/10/2019)	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.
c.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0126975 issued 12/10/2019)	Carbon monoxide (CO) emissions shall not exceed 0.031 pound per MMBtu heat input as a 30-day rolling average, 52.35 pounds per hour, and 229.29 tons per rolling, 12-month period.
		Nitrogen oxides (NO _x) emissions shall not exceed 0.06 pound per MMBtu as a 30-day rolling average, 99.75 pounds per hour, and 436.89 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 exceed 0.012 pound per MMBtu, 18.71 pounds per hour, and 81.96 tons per rolling, 12-month period.
		Carbon dioxide equivalent (CO ₂ e) emissions from the reformer exhaust stack shall not exceed 1,554,047 tons per rolling, 12-month period. See b)(2)c. and b)(2)d.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	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.
e.	OAC rule 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 20.
f.	OAC rule 3745-18-06	See b)(2)b.
g.	ORC 3704.03(F)(4)(d) OAC rule 3745-114-01	See d)(5) through d)(8) and e)(3)

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule also includes compliance with the pound per MMBtu emissions limitations for CO, PM₁₀, PM_{2.5}, and NO_x established under OAC rules 3745-10 through 20.
- b. This rule does not establish an allowable SO₂ emission limitation for fuel burning equipment that burns gaseous fuel.
- c. 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.
- d. The annual emission limitation for CO₂e 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.

[Authority for term: OAC rule 3745-77-07(A)(1)]

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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rules 3745-17-07(A)(1) and 3745-77-07(C)(1)]

(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)(1)(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. the rolling, 12-month summation of the natural gas usage in MMBtu.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (4) The permittee shall calculate monthly the CO₂e 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (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):

$$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$

- 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).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (3) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling 12-month fuel usage limitations.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (4) The reports contained in this permit shall be submitted in accordance with the reporting requirements specified in Section A, Standard Terms and Conditions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 pound per MMBtu heat input as a 30-day rolling average, 52.35 pounds per hour, and 229.29 tons per rolling, 12-month period.

Applicable Compliance Method:

The pound per 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 ft³/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 pounds per hour) by the maximum annual operating hours (8,760 hours per year) 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 demonstrated compliance with the heat input rate as a 30-day average in a test performed between 7/6/2021 and 8/6/2021 with a heat input rate of 0.0002 pound of CO per MMBtu as a 30-day average. Compliance was also shown with the hourly emission limit with a test performed on 7/7/2021 with a tested rate of 0.42 pound of CO per hour.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

b. Emission Limitation:

NO_x emissions shall not exceed 0.06 pound per MMBtu of heat input as a 30-day rolling average, 99.75 pounds per hour, and 436.89 ton per rolling, 12-month period.

Applicable Compliance Method:

The pound per 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 NO_x 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 ft³/lb-mole) and multiplied by the molecular weight of NO_x (46.1 lb/lb-mole) to determine the hourly emissions.

The annual emission limitation was developed by the maximum calculated hourly emissions (99.747 pounds per hour) by the maximum annual operating hours (8,760 hours per year) 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 demonstrated compliance with the heat input rate as a 30-day average in a test performed between 7/6/2021 and 8/6/2021 with a heat input rate of 0.0287 pound of NO_x per MMBtu as a 30-day average. Compliance was also shown with the hourly emission limit with a test performed on 7/7/2021 with a tested rate of 39.62 pound of NO_x per hour.

If required, the permittee shall demonstrate compliance with the hourly NO_x 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

c. Emission Limitation:

PM₁₀ and PM_{2.5} shall not exceed 0.012 pound per MMBtu of heat input, 18.71 pounds per hour, and 81.96 tons per rolling, 12-month period.

Applicable Compliance Method:

The pound per MMBtu emission limitation is based on the below calculation of pound per hour 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 grain per dscf + 0.00407 grain per dscf) by the maximum exhaust flow rate (305,346.7 scfm) multiplied by 60 minutes per hour and dividing by 7,000 grains per pound to determine the hourly emissions.

The annual emission limitation was developed by the maximum calculated hourly emissions (18.713 pounds per hour) by the maximum annual operating hours (8760 hours per year) 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 demonstrated compliance with the hourly emission limit with a test performed on 7/7/2021 with a tested rate of 9.97 pound of PM₁₀ and PM_{2.5} per hour.

If required, 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

d. Emission Limitation:

1.84 tons SO₂ per month averaged over a 12-month rolling period.

Applicable Compliance Method:

This emission limitation was established based on a vendor-supplied emission factor of 1.66 ppm SO₂ in the exhaust from this emissions unit. Divide the vendor-supplied SO₂ emission factor (1.66 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 ft³/lb-mole), multiplied by the molecular weight of SO₂ (64 lb/lb-mole), multiplied by the maximum annual operating hours (8,760 hours per year) 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 pound per 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

e. Emission Limitation:

CO₂e 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 CO₂ 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 ft³/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 of CO₂ per year).

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 per hour = 337.4 MMBtu per hour).

The emission factors for N₂O and CH₄ were obtained from 40 CFR 98 Table C-2 for natural gas (1.0E-04 kilogram per MMBtu and 1.0E-03 kilogram per MMBtu, respectively).

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

$$\text{GWP}_{\text{CO}_2} = 1$$

$$\text{GWP}_{\text{N}_2\text{O}} = 298$$

$$\text{GWP}_{\text{CH}_4} = 25$$

$$\text{CO}_2\text{e} = 1,553,868.4 \text{ tons per year}(1) + [(1.0\text{E-}04)(298) + (1.0\text{E-}03)(25) \text{ kilogram per MMBtu}](337.4 \text{ MMBtu per hour})(8760 \text{ hours per year})(1.102\text{E-}3 \text{ ton per kilogram})] = 1,554,047 \text{ tons per year}$$

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 CO₂ 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 CO₂e emissions are estimated to consist of more than 99% CO₂, compliance with this emission limitation will be assumed provided that the pound per hour CO₂ emission rate does not exceed 354,764.4 pounds per hour.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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:

The permittee demonstrated compliance with this opacity limit with a test performed on 7/7/2021 with a tested rate of 0% opacity.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

- (2) The permittee shall conduct, or have conducted, emissions testing for this EU per the following requirements:
- a. The emission testing shall be conducted approximately 2.5 years after issuance of the permit (following the effective date for the Title V permit) and within six months prior to the permit expiration for NO_x.
 - b. The emission testing shall be conducted within six months prior to the permit expiration for PM₁₀, PM_{2.5} and opacity.
 - c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for NO_x, PM₁₀ and PM_{2.5}, in the appropriate averaging period(s). The emission testing shall also be conducted to determine the opacity.
 - d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emissions rate(s):

For NO_x, Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A

For PM₁₀ and PM_{2.5}, 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

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

- e. During the emissions testing, the EU shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. 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 (ITT) notification form described below, the permittee shall provide a description of the EU 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 DO/LAA 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.

- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT notification shall describe in detail the proposed test methods and procedures, the EU 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 DO/LAA's refusal to accept the results of the emission test(s).
- g. Personnel from the appropriate Ohio EPA DO/LAA 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 EU and the testing procedures provide a valid characterization of the emissions from the EU and/or the performance of the control equipment.
- h. A comprehensive written report on the results of the emissions test(s) shall be signed by the person(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA 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 DO/LAA.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

g) Miscellaneous Requirements

- (1) None.

2. F001, HR-1, HR-2, HR-3, HR-4, HR-5

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) None.

- b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii) (PTI P0132406 issued 12/22/2022)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM _{2.5} or PM ₁₀ emissions from this air contaminant source since the potential to emit is less than 10 tons per year.
b.	OAC rule 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0132406 issued 12/22/2022)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 0.99 ton per year. Particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter (PM _{2.5}) shall not exceed 0.23 ton per year. 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)a.
c.	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.
d.	OAC rule 3745-17-08(B)	See b)(2)a. through b)(2)c.

(2) Additional Terms and Conditions

- a. 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.
- b. 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.
- c. 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.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

e) Reporting Requirements

- (1) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (2) 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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:

0.99 ton per year of fugitive PM₁₀; 0.23 ton per year of fugitive PM_{2.5}

Applicable Compliance Method:

Compliance with fugitive PM₁₀ and PM_{2.5} 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;

8,754 miles traveled per year for iron oxide fines transport vehicles;

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

40,279 miles per year for HBI transport vehicles;

4,321 miles per year for wastewater treatment sludge vehicles; and

95% control efficiency for PM₁₀, and PM_{2.5} emissions from iron oxide, iron oxide fines, iron oxide coating, HBI transport vehicles and wastewater treatment sludge transport vehicles.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)(4)]

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, FEL-3, TR-16, TR-20, WE-5, FEL-4, TR-21a, TR-21c, TR-29, WE-6, FEL-5, TR-30, FEL-6, TR-31, WE-7, FEL-3a, TR-32, TR-36, TR-38, TR-39, TR-43 and TR-45

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

(1) None.

- b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii) (PTI P0132406 issued 12/22/2022)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM _{2.5} or PM ₁₀ emissions from this air contaminant source since the potential to emit is less than 10 tons per year.
b.	OAC rule 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0132406 issued 12/22/2022)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 3.13 tons per year. Particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter (PM _{2.5}) shall not exceed 0.55 ton per year. See b)(2)a. through b)(2)e.
c.	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.
d.	OAC rule 3745-17-07(B)(6)	There shall be no visible particulate matter emissions except for thirteen minutes during any 60-minute period from load-in, load-out and wind erosion, except as provided by rule.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	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. 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.

<u>Emission Point</u>	<u>Control</u>
TR-3, oxide stacker conveyor to pile	water or chemical suppressants
TR-4, oxide bucket wheel drop to conveyor	water or chemical suppressants
TR-8, lump iron oxide conveyor to pile	water or chemical suppressants
TR-9, FEL load-out iron oxide to truck	water or chemical suppressants
TR-11, iron oxide fines conveyor to pile	water or chemical suppressants
TR-12, FEL load-out iron oxide fines to truck	water or chemical suppressants
TR-15, REMET conveyor to pile	water or chemical suppressants
TR-16, REMET from FEL to hopper	minimize drop height
TR-20, HBI stacker conveyor to pile	water or chemical suppressants
TR-21a, HBI bucket wheel to conveyor	water or chemical suppressants
TR-21c, FEL HBI reclaim to hopper	water or chemical suppressants
TR-29, Feed recovery conveyor to pile	minimize drop height
TR-30, Feed recovery FEL to hopper	minimize drop height
TR-31, Product oversize FEL to hopper	minimize drop height
TR-32 Bulk material FEL to screening hopper	water or chemical suppressants
TR-36, bulk material screener transfer from conveyor to stacker or pile	water or chemical suppressants

TR-38, bulk material stacker transfer from water or chemical suppressants conveyor to silo/stockpile

TR-39, bypass feed screener transfer from water or chemical suppressants FEL to hopper

TR-43, bypass feed screener transfer from water or chemical suppressants conveyor to stacker or pile

TR-45, bypass feed stacker transfer from water or chemical suppressants conveyor to silo/hopper/pile

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.

- b. 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 and Feed Recovery storage pile. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- c. 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.
- d. 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.
- e. The maximum annual production rate for this emissions unit shall not exceed 1,000,000 tons per year of HBI from storage piles by front-end loaders, based upon a rolling, 12-month summation of the storage pile load-out rates by front-end loader.

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.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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

- a. the tons of HBI loaded out using front-end loaders from the HBI storage pile for each month; and
- b. the rolling, 12-month summation of the HBI storage pile load-out rate by front-end loaders.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

e) Reporting Requirements

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

all exceedances of the rolling, 12-month HBI storage pile load-out by front-end loaders limitation.

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(B)(5), 3745-17-07(B)(6), 3745-17-08(B) and 3745-31-10 through 20]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1)]

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:

3.13 tons of fugitive PM₁₀ per year

0.55 ton of fugitive PM_{2.5} per year

Applicable Compliance Method:

Compliance with fugitive PM₁₀, and PM_{2.5} 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

b. Emissions Limitations:

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



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Performance for New Stationary Sources), and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(B)(5) and 3745-17-07(B)(6)]

g) Miscellaneous Requirements

(1) None.

4. P001, TR-28b, 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) None.

- b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI P0133678 issued 2/14/2023)	See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	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.
c.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0133678 issued 2/14/2023)	Charge Hopper Exhaust Stack:
		Carbon monoxide (CO) emissions shall not exceed 2.82 pounds per hour, and 12.36 tons per rolling, 12-month period.
		Nitrogen oxides (NO _x) emissions shall not exceed 2.02 pounds per hour, and 8.85 tons per rolling, 12-month period.
		Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 0.00745 grains per dscf, 0.10 pounds per hour, and 0.44 tons 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 0.00745 grains per dscf, 0.10 pounds per hour, and 0.44 tons per rolling, 12-month period.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Carbon dioxide equivalent (CO ₂ e) emissions shall not exceed 5,891 tons per rolling, 12-month period.
		Bottom Seal Gas Exhaust Stack and Bubbler Exhaust Stack:
		CO emissions shall not exceed 986 pounds per hour, and 4,318.8 tons per rolling, 12-month period.
		NO _x emissions shall not exceed 0.43 pounds per hour, and 1.88 tons per rolling, 12-month period.
		PM ₁₀ shall not exceed 0.0156 grains per dscf and 5.40 pounds per hour for Bottom Seal Gas Exhaust Stack; 0.6315 grains per dscf and 15.87 pounds per hour for Bubbler Exhaust,; 26.84 tons of PM ₁₀ per rolling, 12-month period for the combined Bottom Seal Gas and Bubbler Exhaust Stack
		PM _{2.5} shall not exceed 0.0156 grains per dscf and 5.40 pounds per hour for Bottom Seal Gas Exhaust Stack; 0.6315 grains per dscf and 15.87 pounds per hour for Bubbler Exhaust,; 26.84 tons of PM _{2.5} per rolling, 12-month period for the combined Bottom Seal Gas and Bubbler Exhaust Stack
		Carbon dioxide equivalent (CO ₂ e) emissions shall not exceed 3,666 tons per rolling, 12-month period.
		See b)(2)b. through b)(2)e.
d.	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.
e.	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.
f.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO ₂) emissions shall not exceed 1430 pounds per hour.
g.	40 CFR Part 64 - Compliance Assurance Monitoring (40 CFR 64.1 – 64.10) [In accordance with 40 CFR 64.2, this emissions unit is a major source of PM ₁₀ emissions controlled with a wet scrubber.]	The permittee has included a CAM plan for this emissions unit whose pre-controlled potential emissions exceed major source thresholds. The elements of the CAM plan have been incorporated in the monitoring requirements outlined in d)(1) - d)(5), e)(1) and e)(4).

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for CO, NO_x, PM₁₀ and PM_{2.5} emissions also includes compliance with the requirements of OAC rules 3745-31-10 through 20.
- b. 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 or the bubbler exhaust vent at all times the emissions unit is in operation.
- c. 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.
- d. This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate the rolling, 12-month summation of the production rate, upon issuance of this permit. 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.
- e. This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate the rolling, 12-month summation of the operating hours for exhaust to the bubbler stack, upon issuance of this permit. The maximum annual operating hours for exhaust to the bubbler stack shall not exceed 402 hours, based upon a rolling, 12-month summation of the operating hours.

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 minimum water flow rate to the bottom seal gas scrubber throat shall be maintained no less than 30 cubic meters per hour. The acceptable minimum pressure drop across the bottom seal gas scrubber, that must be maintained in order to demonstrate compliance, shall be no less than 850 millimeters of water column.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable minimum water flow rate to the charge hopper scrubber throat shall be maintained no less than 0.9 cubic meters per hour. The acceptable minimum pressure drop across the charge hopper scrubber, that must be maintained in order to demonstrate compliance, shall be no less than 1200 millimeters of water column.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the pressure drop across each scrubber (in millimeters of water column) and each scrubber's liquid flow rate (in cubic meters per hour) during operation of this/these emissions unit(s), including periods of startup and shutdown. The monitoring and recording 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 permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:
- a. all 3-hour blocks of time, when the emissions unit(s) controlled by the scrubber was/were in operation, during which the average pressure drop and liquid flow rate within the scrubber deviated from the range(s) or minimum limit(s) measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and
 - b. a log or record of the operating time for the capture (collection) system, scrubber, monitoring equipment, and the associated emissions unit(s).

These records shall be maintained at the facility for a period of five years.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (4) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (5) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR Part 64 and 3745-17-07(A)]

(6) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

(7) 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. 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).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

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

- a. the operating hours of exhaust to the bubbler stack for each month; and
- b. the rolling, 12-month summation of the operating hours of exhaust to the bubbler stack.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

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 3-hour average pressure drop across the scrubber and/or the 3-hour average liquid flow rate was outside of the appropriate range or limit contained in this permit;

- 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 or bubbler;
- 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 in Section A. of this permit.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

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

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling, 12-month HBI production rate limitation; and
 - b. all exceedances of the rolling, 12-month limitation on the operating hours of exhaust to the bubbler stack.

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

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR Part 64 and 3745-17-07(A)]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1)]

- (6) The reports contained in this permit shall be submitted in accordance with the reporting requirements specified in Section A, Standard Terms and Conditions.

[Authority for term: OAC rules 3745-77-07(C)(1)]

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:**

SO₂ emissions shall not exceed 1430 pounds per hour.

Applicable Compliance Method:

Compliance with this emission limitation may be determined by calculating 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 ft³/lb-mole), multiplied by the molecular weight of SO₂ (64 pounds per mole) resulting in 0.241 pound of SO₂ emissions per hour. The potential emissions from the bottom seal gas exhaust were determined by dividing the SO₂ emission factor from the technology vendor (0.595 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (40,349 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft³/lb-mole), multiplied by the molecular weight of SO₂ (64 pounds per mole) resulting in 0.239 pound of SO₂ emissions per hour.

The sum of the potential charge hopper and bottom seal gas exhaust emissions is $0.241 + 0.239$ pound per hour = 0.48 pound of SO_2 per hour.

If required, the permittee shall determine a site-specific emission factor for SO_2 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-18-06(E)]

b. Emission Limitation:

CO emissions shall not exceed 2.82 pounds per hour and 12.36 tons per rolling, 12-month period from the charge hopper exhaust; 986 pounds per hour and 4,318.8 tons per rolling, 12-month period 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 $\text{ft}^3/\text{lb-mole}$), multiplied by the molecular weight of CO (28 pounds per mole).

The hourly emissions limitation from the bottom seal gas exhaust was determined by dividing the CO emission factor from the technology vendor (5,606 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (40,349 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 $\text{ft}^3/\text{lb-mole}$), multiplied by the molecular weight of CO (28 pounds per mole).

The permittee demonstrated compliance with the hourly emission limit with a test performed on 7/9/2021 with a tested rate of 479.10 pound of CO per hour.

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 per year), 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

c. Emission Limitation:

NO_x emissions shall not exceed 2.02 pounds per hour and 8.85 tons per rolling, 12-month period from the charge hopper exhaust; 0.43 pounds per hour and 1.88 tons per rolling, 12-month period from the bottom seal gas exhaust.

Applicable Compliance Method:

The hourly emissions limitation from the charge hopper exhaust was determined by dividing the NO_x 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 ft³/lb-mole), multiplied by the molecular weight of NO_x (46.1 pounds per mole).

The hourly emissions limitation from the bottom seal gas exhaust was determined by dividing the NO_x 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 ft³/lb-mole), multiplied by the molecular weight of NO_x (46.1 pounds per mole).

If required, the permittee shall demonstrate compliance with the hourly NO_x 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 NO_x emission limitation by the maximum annual hours of operation (8,760 hours per year), 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

d. Emission Limitation:

PM₁₀ shall not exceed 0.00745 grain per dscf, 0.10 pound per hour and 0.44 ton per rolling, 12-month period from the charge hopper exhaust.

PM_{2.5} shall not exceed 0.00745 grain per dscf, 0.10 pound per hour and 0.44 ton per rolling, 12-month period 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 grain per 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 PM_{2.5}.

The permittee demonstrated compliance with the hourly emission limit with a test performed on 7/8/2021 with a tested rate of 0.00270 grain per dscf and 0.024 pound per hour.

If required, the permittee shall demonstrate compliance with the allowable grain per dscf and hourly PM₁₀ and PM_{2.5} 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 per year), 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

e. Emission Limitation:

PM₁₀ shall not exceed 0.0156 grain per dscf and 5.40 pounds per hour for the Bottom Seal Gas Exhaust Stack

PM_{2.5} shall not exceed 0.0156 grain per dscf and 5.40 pounds per hour for the Bottom Seal Gas Exhaust Stack

PM₁₀ shall not exceed 0.6315 grain per dscf and 15.87 pounds per hour for the Bubbler Exhaust

PM_{2.5} shall not exceed 0.6315 grain per dscf and 15.87 pound per hour for the Bubbler Exhaust

PM₁₀ shall not exceed 26.84 tons per rolling, 12-month period from the combined bottom seal gas and bubbler exhaust.

PM_{2.5} shall not exceed 26.84 tons per rolling, 12-month period from the combined bottom seal gas and bubbler exhaust.

Applicable Compliance Method:

The hourly PM₁₀ and PM_{2.5} emissions for the Bottom Seal Gas Exhaust were determined as the sum of the filterable PM emissions calculated by multiplying the design PM grain loading (0.015 grain per dscf) by the design stack flow rate (40,349 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 testing (0.00061 grain per dscf) by the design stack flow rate (40,349 scfm) multiplied by 60 minutes per hour and divided by 7,000 grains per pound resulting in potential condensable PM emissions of 0.210 pound per hour.

The permittee demonstrated compliance with the grain per dscf and hourly emission limits for the bottom seal gas exhaust stack with a test performed on 2/3/2023 with testing rates of 0.00287 grain per dscf and 0.73 pound per hour.

The permittee demonstrated compliance with the grain per dscf and hourly emission limit for the bubbler exhaust with a test performed on 2/3/2023 with testing rates of 0.01246 grain per dscf and 0.31 pound per hour.

If required, the permittee shall demonstrate compliance with the allowable grain per dscf, and hourly PM₁₀ and PM_{2.5} emission limitations for the Bottom Seal Gas and Bubbler Exhaust 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 are a summation of the bottom seal gas and the bubbler exhaust emissions. The bottom seal gas emissions were calculated by multiplying the short-term allowable emission limitations by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton. The bubbler exhaust emissions were calculated by multiplying the short-term allowable emissions limitations by the maximum allowable hourly limitation and dividing by 2000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation for the bottom seal gas and bubbler exhaust and the maximum hourly limitation on the bubbler exhaust, compliance shall also be shown with the annual emission limitation.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

f. Emission Limitation:

CO₂e emissions shall not exceed 5,891 tons per rolling, 12-month from the charge hopper exhaust; 3,666 tons per rolling, 12-month period from the bottom seal gas exhaust.

Applicable Compliance Method:

The CO₂e 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 ft³/lb-mole), multiplied by the molecular weight of CO₂ (44.01 pounds per mole), multiplying by 8760 hours per year and dividing by 2,000 pounds per ton.

The potential CO₂ emissions from the bottom seal gas exhaust were determined by dividing the CO₂ emission factor from the technology vendor (3,028 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (40,349 scfm), multiplied

by 60 minutes per hour, divided by the standard molar volume (385.4 ft³/lb-mole), multiplied by the molecular weight of CO₂ (44.01 pounds per 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

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:

The permittee demonstrated compliance with the visible emission limit with a test performed on 7/8/2021 with a tested rate of 0% opacity as a six-minute average for the charge hopper exhaust, a test performed on 2/3/2023 with a tested rate of 4.4% opacity as a six-minute average for the bottom seal gas exhaust, and with a test performed on 2/3/2023 with a tested rate of 0% opacity as a six-minute average for the bubbler exhaust.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

(2) The permittee shall conduct, or have conducted, emissions testing for this EU per the following requirements:

- a. The emission testing shall be conducted approximately 2.5 years after issuance of the permit (following the effective date for the Title V permit) and within six months prior to the permit expiration.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate(s) for CO for the bottom seal gas scrubber.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emissions rate(s):

For CO, 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.

- d. During the emissions testing, the EU shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. 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 (ITT) notification form described below, the permittee shall provide a description of the EU 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 DO/LAA that the proposed operating conditions constitute *worst case*. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT notification shall describe in detail the proposed test methods and procedures, the EU 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 DO/LAA's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA DO/LAA 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 EU and the testing procedures provide a valid characterization of the emissions from the EU and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA 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 DO/LAA.

[Authority for term: OAC rules 3745-77-07(C)(1)]

- g) Miscellaneous Requirements
 - (1) None.

5. P002, P-3

Operations, Property and/or Equipment Description:

Iron briquetting machine vented to venture 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.	OAC rule 3745-31-05(A)(3) (PTI P0133677 issued 2/14/2023)	See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(a)(ii) (PTI P0126975 issued 12/10/2019)	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.
c.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0133677 issued 2/14/2023)	Carbon monoxide (CO) emissions shall not exceed 912.01 pounds per hour, and 3994.62 tons per rolling, 12-month period.
		Nitrogen oxides (NO _x) emissions shall not exceed 3.94 pounds per hour, and 17.25 tons per rolling, 12-month period.
		Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 0.00757 grains per dscf, 4.10 pounds per hour, and 17.96 tons 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 0.00757 grains per dscf, 4.10 pounds per hour, and 17.96 tons per rolling, 12-month period.
		Carbon dioxide equivalent (CO ₂ e) emissions shall not exceed 54,071 tons per rolling, 12-month period.
		See b)(2)b.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	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.
e.	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.
f.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO ₂) emissions shall not exceed 1,431 pounds per hour.
g.	40 CFR Part 64 - Compliance Assurance Monitoring (40 CFR 64.1 – 64.10) [In accordance with 40 CFR 64.2, this emissions unit is a major source of PM ₁₀ emissions controlled with a wet scrubber.]	The permittee has included a CAM plan for this emissions unit whose pre-controlled potential emissions exceed major source thresholds. The elements of the CAM plan have been incorporated in the monitoring requirements outlined in d)(1) - d)(3) and e)(1).

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for CO, NO_x, PM₁₀ and PM_{2.5} 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) 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 minimum water flow rate to the scrubber throat shall be maintained at no less than 40 cubic meters per hour. The minimum pressure drop across the scrubber, that must be maintained in order to demonstrate compliance, shall be at no less than 1350 millimeters of water column.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the pressure drop across the scrubber (in millimeters of water column) and the scrubber liquid flow rate (in cubic meters per hour) during operation of this/these emissions unit(s), including periods of startup and shutdown. The monitoring and

recording 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 permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

- a. all 3-hour blocks of time, when the emissions unit(s) controlled by the scrubber was/were in operation, during which the average pressure drop and liquid flow rate within the scrubber deviated from the range(s) or minimum limit(s) measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and
- b. a log or record of the operating time for the capture (collection) system, scrubber, monitoring equipment, and the associated emissions unit(s).

These records shall be maintained at the facility for a period of five years.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (3) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (4) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

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 3-hour average pressure drop across the scrubber and/or the 3-hour average liquid flow rate was outside of the appropriate range or limit contained in this permit;
 - 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 in Section A. of this permit.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (4) The reports contained in this permit shall be submitted in accordance with the reporting requirements specified in Section A, Standard Terms and Conditions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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:

SO₂ emissions shall not exceed 1,431 pounds per hour.

Applicable Compliance Method:

Compliance with this emission limitation may be determined by the following calculation of potential to emit. Divide the SO₂ emission factor from the technology vendor (0.333 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 ft³/lb-mole), multiplied by the molecular weight of SO₂ (64 pounds per mole).

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-18-06(E)]

b. Emission Limitation:

CO emissions shall not exceed 912.01 pounds per hour and 3994.62 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was determined by dividing the CO emission factor from the technology vendor (3,309 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 ft³/lb-mole), multiplied by the molecular weight of CO (28 pounds per mole).

The permittee demonstrated compliance with the hourly emission limit with a test performed on 7/9/2021 with a tested rate of 803.98 pound of CO per hour.

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 per year), 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

c. Emission Limitation:

NO_x emissions shall not exceed 3.94 pounds per hour and 17.25 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation from the charge hopper exhaust was determined by dividing the NO_x 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 ft³/lb-mole), multiplied by the molecular weight of NO_x (46.1 pounds per mole) resulting in 3.306 pounds of NO_x per hour.

If required, the permittee shall demonstrate compliance with the hourly NO_x 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 NO_x emission limitation by the maximum annual hours of operation (8,760 hours per year), 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

d. Emission Limitation:

PM₁₀ emissions shall not exceed 0.00757 grain per dscf, 4.10 pounds per hour and 17.96 tons per rolling, 12-month period of PM₁₀; PM_{2.5} emissions shall not exceed 0.00757 grain per dscf, 4.10 pounds per hour and 17.96 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly PM₁₀ and PM_{2.5} emission limitation were determined by multiplying the design PM grain loading (0.00733 grain per 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 pounds of PM per hour plus the condensable PM emissions. The potential condensable PM emissions were determined by multiplying the condensable PM grain loading (0.00024 grain per 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 pound of condensable PM emissions per hour.

The permittee demonstrated compliance with the hourly emission limit with a test performed on 7/9/2021 with a tested rate of 0.00210 grain per dscf and 1.05 pound per hour.

If required, the permittee shall demonstrate compliance with the allowable grain per dscf and hourly PM₁₀ and PM_{2.5} 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 PM_{2.5} 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 per year), 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

e. Emission Limitation:

CO₂e emissions shall not exceed 54,071 tons per rolling, 12-month period.

Applicable Compliance Method:

The allowable emission limitation was determined by dividing the CO₂ emission factor from the technology vendor (28,496.6 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 ft³/lb-mole), multiplied by the molecular weight of CO₂ (44.01 pounds per 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

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:

The permittee demonstrated compliance with the visible emission limit with a test performed on 7/9/2021 with a tested rate of 0% opacity as a six-minute average.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

(2) The permittee shall conduct, or have conducted, emissions testing for this EU per the following requirements:

- a. The emission testing shall be conducted approximately 2.5 years after issuance of the permit (following the effective date for the Title V permit) and within six months prior to the permit expiration.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate(s) for CO.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emissions rate(s):

For CO, 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.

- d. During the emissions testing, the EU shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. 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 (ITT) notification form described below, the permittee shall provide a description of the EU 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 DO/LAA that the proposed operating conditions constitute *worst case*. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT notification shall describe in detail the proposed test methods and procedures, the EU 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 DO/LAA's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA DO/LAA 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 EU and the testing procedures provide a valid characterization of the emissions from the EU and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA 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 DO/LAA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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.	OAC rule 3745-31-05(A)(3) (PTI P0133677 issued 2/14/2023)	See b)(2)a.
b.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0133677 issued 2/14/2023)	Particulate matter emissions less than or equal to 2.5 microns in aerodynamic diameter (PM _{2.5}) shall not exceed 0.00763 grains per dscf, 3.30 pounds per hour, and 14.47 tons per rolling, 12-month period. Carbon monoxide (CO) emissions shall not exceed 594.08 pounds per hour, and 2,602.05 tons per rolling, 12-month period. 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.
e.	40 CFR Part 64 - Compliance Assurance Monitoring (40 CFR 64.1 – 64.10) [In accordance with 40 CFR 64.2, this emissions unit is a major source of PM ₁₀ emissions controlled with a wet scrubber.]	The permittee has included a CAM plan for this emissions unit whose pre-controlled potential emissions exceed major source thresholds. The elements of the CAM plan have been incorporated in the monitoring requirements outlined in d)(1) - d)(3) and e)(1).

(2) Additional Terms and Conditions

- a. Compliance with the requirements of this rule for PM₁₀ and PM_{2.5} 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 PM_{2.5}.

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 minimum water flow rate to the scrubber throat shall be maintained no less than 15.1 cubic meters per hour. The minimum pressure drop across the scrubber, that must be maintained in order to demonstrate compliance, shall be no less than 19.6 millibar.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the pressure drop across the scrubber (in millibar) and the scrubber liquid flow rate (in cubic meters per hour) during operation of this/these emissions unit(s), including periods of startup and shutdown. The monitoring and recording 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 permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

- a. all 3-hour blocks of time, when the emissions unit(s) controlled by the scrubber was/were in operation, during which the average pressure drop and liquid flow rate within the scrubber deviated from the range(s) or minimum limit(s) measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and
- b. a log or record of the operating time for the capture (collection) system, scrubber, monitoring equipment, and the associated emissions unit(s).

These records shall be maintained at the facility for a period of five years.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (3) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (4) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

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 3-hour average pressure drop across the scrubber and/or the 3-hour average liquid flow rate was outside of the appropriate range or limit contained in this permit;
 - 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 in Section A. of this permit.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), 3745-31-10 through 20 and 40 CFR Part 64]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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:

PM_{2.5} shall not exceed 0.00763 grains per dscf, 3.30 pounds per hour, and 14.47 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emission limitation was determined by multiplying the design PM grain loading (0.00763 grain per dscf) by the design stack flow rate (50,532 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 PM_{2.5}.

The permittee demonstrated compliance with the hourly emission limit with a test performed on 7/7/2021 with a tested rate of 0.00150 grain per dscf and 0.95 pound per hour.

If required, the permittee shall demonstrate compliance with the allowable grain per dscf and 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 PM_{2.5} emission limitation by the maximum annual hours of operation (8,760 hours per year), 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

b. Emission Limitation:

CO emissions shall not exceed 594.08 pounds per hour, and 2,602.05 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was determined by dividing the CO emission factor from the technology vendor (2,697 ppmv) by 1,000,000, multiplying by the maximum exhaust flow rate (50,532 scfm), multiplied by 60 minutes per hour, divided by the standard molar volume (385.4 ft³/lb-mole), multiplied by the molecular weight of CO (28 pounds per mole).

The permittee demonstrated compliance with the hourly emission limit with a test performed on 7/7/2021 with a tested rate of 47.62 pounds of CO per hour.

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 per year), 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

c. 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:

The permittee demonstrated compliance with the visible emission limit with a test performed on 7/7/2021 with a tested rate of 0% opacity as a six-minute average.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

(2) The permittee shall conduct, or have conducted, emissions testing for this EU per the following requirements:

- a. The emission testing shall be conducted approximately 2.5 years after issuance of the permit (following the effective date for the Title V permit) and within six months prior to the permit expiration.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate(s) for CO.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emissions rate(s):

For CO, 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.

- d. During the emissions testing, the EU shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. 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 (ITT) notification form described below, the permittee shall provide a description of the EU 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 DO/LAA that the proposed operating conditions constitute *worst case*. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT notification shall describe in detail the proposed test methods and procedures, the EU 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 DO/LAA's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA DO/LAA 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 EU and the testing procedures provide a valid characterization of the emissions from the EU and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA 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 DO/LAA.

[Authority for term: OAC rules 3745-77-07(C)(1)]

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) b)(1)d., d)(1) through d)(4) and e)(1).

- 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) (PTI P0126975 issued 12/10/2019)	See b)(2)a.
b.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0126975 issued 12/10/2019)	Carbon monoxide (CO) emissions shall not exceed 110.06 pounds per hour, and 482.05 tons per rolling, 12-month period. Carbon dioxide equivalent (CO ₂ e) emissions shall not exceed 18,054 tons per rolling, 12-month period. See b)(2)b.
c.	OAC rule 3745-31-05(F) (PTI P0126975 issued 12/10/2019)	Ammonia (NH ₃) emissions shall not exceed 3.97 pounds per hour and 17.39 tons per year. See b)(2)b.
d.	ORC 3704.03(F)(4)(d) OAC rule 3745-114-01	See d)(1) through d)(4) and e)(1).

- (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 ammonia, CO and CO₂e 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) The permit-to-install (PTI) application for this/these emissions unit(s), P004 and P005, 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):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

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: Ammonia

TLV (mg/m³): 17.41

Maximum Hourly Emission Rate (pound per hour): 6.22 (This reflects the combined rate for P004 and P005.)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 261

MAGLC (ug/m³): 415

The permittee, has demonstrated that emissions of ammonia, from emissions unit(s) P004 and P005, 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).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (2) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (3) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (4) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

e) Reporting Requirements

- (1) 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 Contaminant 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (2) The reports contained in this permit shall be submitted in accordance with the reporting requirements specified in Section A, Standard Terms and Conditions.

[Authority for term: OAC rules 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1)]

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 110.06 pounds per hour, and 482.05 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was determined by dividing the CO emission factor from the technology vendor (1,683 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 ft³/lb-mole), multiplied by the molecular weight of CO (28 pounds per mole) resulting in 24.256 pounds of CO per hour.

The permittee demonstrated compliance with the hourly emission limit with a test performed on 7/8/2021 with a tested rate of 51.98 pounds of CO per hour.

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 per year), 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

b. Emission Limitation:

CO₂e emissions shall not exceed 18,054 tons per rolling, 12-month period.

Applicable Compliance Method:

The CO₂e emissions limitation was determined by dividing the CO₂ emission factor from the technology vendor (40,103 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 ft³/lb-mole), multiplied by the molecular weight of CO₂ (44.01 pounds per 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

c. Emission Limitation:

NH₃ emissions shall not exceed 3.97 pounds per hour and 17.39 tons per year.

Applicable Compliance Method:

This emission limitation was established based on the following calculation. Divide the estimated NH₃ concentration in the exhaust submitted by the permittee (100 ppmv) by 1E-06, multiply by the design exhaust flow rate (15,001.6 scfm), multiply by 60 minutes per hour, divide by the standard molar volume (385.4 ft³/lb-mole and multiply by the molecular weight of ammonia (17.03 pounds per mole).

If required, the permittee shall demonstrate compliance with the hourly emission limitation using Methods 1 through 4 of 40 CFR Part 60, Appendix A and Conditional Test Method (CTM) 027.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(F)]

- (2) The permittee shall conduct, or have conducted, emissions testing for this EU per the following requirements:
- a. The emission testing shall be conducted approximately 2.5 years after issuance of the permit (following the effective date for the Title V permit) and within six months prior to the permit expiration.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate(s) for CO.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emissions rate(s):

For CO, 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.

- d. During the emissions testing, the EU shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. 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 (ITT) notification form described below, the permittee shall provide a description of the EU 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 DO/LAA that the proposed operating conditions constitute *worst case*. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT notification shall describe in detail the proposed test methods and procedures, the EU 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 DO/LAA's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA DO/LAA 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 EU and the testing procedures provide a valid characterization of the emissions from the EU and/or the performance of the control equipment.

- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA 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 DO/LAA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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)f., d)(3) through d)(6) and e)(2).

- 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)(a)(ii) (PTI P0126975 issue 12/10/2019)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM _{2.5} , PM ₁₀ or VOC emissions from this air contaminant source since the potential to emit is less than 10 tons per year.
b.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0126975 issue 12/10/2019)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 0.02 pound per hour 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 pound per hour 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.
c.	OAC rule 3745-31-05(F) (PTI P0126975 issue 12/10/2019)	Ammonia (NH ₃) emissions shall not exceed 2.25 pounds per hour and 9.86 tons per year. See b)(2)b.
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)a.
f.	ORC 3704.03(F)(4)(d) OAC rule 3745-114-01	See d)(3) through d)(6) and e)(2).

(2) Additional Terms and Conditions

- a. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.
- b. The emissions limitations for ammonia 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) 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).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (3) The permit-to-install (PTI) application for this/these emissions unit(s), P004 and P005, 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):

$$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$

- 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: Ammonia

TLV (mg/m³): 17.41

Maximum Hourly Emission Rate (pound per hour): 6.22 (This reflects the combined rate for P004 and P005.)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 261

MAGLC (ug/m³): 415

The permittee, has demonstrated that emissions of ammonia, from emissions unit(s) P004 and P005, 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).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (4) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (5) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (6) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

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 in Section A. of this permit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (2) 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 Contaminant 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-114-01 and ORC 3704.03(F)(4)(d)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 pound per hour and 0.09 ton per rolling, 12-month period.

Applicable Compliance Method:

The potential pound of PM₁₀ emissions per hour were calculated by multiplying the maximum re-circulating water flow rate (24,766 gallons per minute) by the maximum TDS concentration (1,100 ppmw) dividing by 10⁶, multiplying by the density of water (8.345 pounds per gallon), 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 pound per hour) by the maximum annual hours of operation (8,760 hours per year) and dividing by (2,000 pounds per 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

b. Emission Limitation:

PM_{2.5} emissions shall not exceed 0.01 pound per hour and 0.06 ton per rolling, 12-month period.

Applicable Compliance Method:

The potential pound of PM_{2.5} emissions per hour were calculated by multiplying the maximum re-circulating water flow rate (24,766 gallons per minute) by the maximum TDS concentration (1,100 ppmw) dividing by 10⁶, multiplying by the density of water (8.345 pounds per gallon), multiplying by the decimal fraction drift loss (0.0005/100) and multiplying by the particle size multiplier (0.189 for PM_{2.5} from Maricopa County Arizona Air Quality Department) to obtain the pound per hour PM_{2.5} emissions.

The annual emission limitation is based on multiplying the hourly emission limitation (0.01 pounds per hour) by the maximum annual hours of operation (8,760 hours per year) and dividing by (2,000 pounds per 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 milligrams per liter.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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:

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)(1)]

f. Emission Limitation:

NH₃ emissions shall not exceed 2.25 pounds per hour and 9.86 tons per year.

Applicable Compliance Method:

The allowable NH₃ emissions limitations were provided by the permittee and are based on an engineering estimate by their technology supplier. If required, the permittee shall demonstrate compliance using Methods 1 through 4 of 40 CFR Part 60, Appendix A and Conditional Test Method (CTM) 027.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(F)]

g) Miscellaneous Requirements

(1) None.

9. 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) None.

- b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI P0126975 issued 12/10/2019)	See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO _x , PM ₁₀ , PM _{2.5} , SO ₂ and VOC emissions from this air contaminant source since the potential to emit is less than 10 tons per year.
c.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0126975 issued 12/10/2019)	Carbon monoxide (CO) emissions shall not exceed 554.06 pounds per hour and 27.57 tons per rolling, 12-month period.
		Nitrogen oxides (NO _x) emissions shall not exceed 121.54 pounds per hour and 6.05 tons per rolling, 12-month period.
		Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 13.32 pounds per hour and 0.66 tons per rolling, 12-month period.
		Particulate matter less than or equal to 2.5 microns in aerodynamic diameter (PM _{2.5}) shall not exceed 13.32 pounds per hour and 0.66 tons per rolling, 12-month period.
		Carbon dioxide equivalent (CO ₂ e) emissions shall not exceed 10,413 tons per rolling, 12-month period.
		See b)(2)b. and b)(2)c.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	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.
e.	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. The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- c. The maximum annual volume of process gas flared for this emissions unit shall not exceed 629 million cubic feet, based upon a rolling, 12-month summation of the process gas volume flared.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (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 per scf (7.45 MJ per scm) for the gas being combusted.
- b. The flare shall be designed for and operated with an exit velocity of less than 18.3 meters per second (60 feet per second), with the following exceptions:
 - i. nonassisted flares, having a net heating value of 1,000 Btu per scf (37.3 MJ per scm) for the gas being combusted, can be designed for and operated with an exit velocity equal to or greater than 18.3 meters per second (60 feet per second), but less than 122 meters per second (400 feet per second); 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):

$$\text{Log}_{10}(V_{\max}) = (H_T + 28.8)/31.7$$

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.

- 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 meters per second (122 feet per second) and less than the velocity, $V_{\max}$, as determined by the following equation:

$$V_{\max} = (X_{H_2} - K_1) K_2$$

Where:

$V_{\max}$ = maximum permitted velocity, meters per second;

K_1 = constant, 6.0 volume-percent hydrogen;

K_2 = constant, 3.9 (meters per second)/volume-percent hydrogen; and

X_{H_2} = the volume-percent of hydrogen, on a wet basis, as calculated by using the ASTM Method D1946-90.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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

- a. the volume of process gas flared for each month; and
- b. the rolling, 12-month summation of the volume of process gas flared.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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 in Section A. of this permit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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

all periods where the volume of process gas flared exceeded 629 MMcf per rolling, 12-month period.

If there were no periods where the volume of process gas flared exceeded 629 MMcf per rolling, 12-month period, the permittee shall submit a quarterly report, indicating that volume of process gas flared did not exceed 629 MMcf 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 554.06 pounds per hour and 27.57 tons per rolling, 12-month period.

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 (1786.583 MMBtu per hour from process + 0.723 MMBtu per hour from pilot) multiplied by the CO emission factor from AP-42 Fifth Edition Table 13.5-2 dated 12/16 (0.31 pound per 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 process gas flow rate to flare (629 MMcf per year) by the process gas heating value (272 MMBtu per MMscf, supplied by permittee based on the GoWest application), multiplied by the CO emission factor from AP-42 Fifth Edition Table 13.5-2 dated 12/16 (0.31 pound per MMBtu) 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 per hour) by the CO emission factor from AP-42 Fifth Edition Table 13.5-2 dated 12/16 (0.31 pound per 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 volume of process gas flared does not exceed 629 MMcf per rolling, 12-month period.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and 3745-31-10 through 20]

b. Emission Limitation:

NO_x emissions shall not exceed 121.54 pounds per hour and 6.05 tons per rolling, 12-month period.

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 (1,786.583 MMBtu per hour from process + 0.723 MMBtu per hour from pilot) multiplied by the NO_x emission factor from AP-42 Fifth Edition Table 13.5-1 dated 12/16 (0.068 pound per 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 are determined by multiplying the maximum process gas flow rate to flare (629 MMcf per year) by the process gas heating value (272 MMBtu per MMscf, supplied by permittee based on the GoWest application), multiplied by the NO_x emission factor from AP-42 Fifth Edition Table 13.5-1 dated 12/16 (0.068 pound per MMBtu) 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 per hour) by the NO_x emission factor from AP-42 Fifth Edition Table 13.5-2 dated 12/16 (0.068 pound per 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 volume of process gas flared does not exceed 629 MMcf per rolling, 12-month period.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

c. Emission Limitation:

PM₁₀ shall not exceed 13.32 pounds per hour and 0.66 tons per rolling, 12-month period.

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 (1,786.583 MMBtu per hour from process + 0.723 MMBtu per hour from pilot) multiplied by the PM₁₀ emission factor from AP-42 Fifth Edition Table 1.4-2 dated July, 1998 (7.6 pound per MMscf) and divided by 1,020 MMBtu per 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 process gas flow rate to flare (629 MMcf per year) by the process gas heating value (272 MMBtu per MMscf, supplied by permittee based on the GoWest application), multiplied by the PM₁₀ emission factor from AP-42 Fifth Edition Table 1.4-2 dated July, 1998 (7.6 pound per

MMscf), divided by the AP-42 natural gas heating value (1,020 Btu per scf) and divided by 2,000 pounds per ton. The potential emissions from the flare pilot flame were determined by multiplying the maximum heat input from the pilot flame (0.723 MMBtu per hour) by the PM₁₀ emission factor from AP-42 Fifth Edition Table 1.4-2 dated July, 1998 (7.6 pound per MMscf), divided by 1,020 MMBtu per 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 volume of process gas flared does not exceed 629 MMcf per rolling, 12-month period.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

d. Emission Limitation:

CO₂e emissions shall not exceed 10,413 tons per rolling, 12-month 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 process gas flow rate to flare (629 MMcf per year) by the process gas heating value (272 MMBtu per MMscf, supplied by permittee based on the GoWest application), multiplied by the CO₂e 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 pound of CO₂e per MMBtu) and divided by 2,000 pounds per ton. The emissions from the flare pilot flame were determined by multiplying the maximum heat input (0.723 MMBtu per hour) multiplied by the CO₂e 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 pound of CO₂e per MMBtu), multiplied 8,760 hours per year and divided by 2,000 pounds per ton.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

e. 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

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

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

Where:

H_T = net heating value of the sample, MJ per 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) (gram-mole per scm) (MJ per 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 per gram 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 per MJ-scf" can be used to convert the net heating value of the gas (H_T) from MJ per scm to Btu per scf.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (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 feet per meter can be used to convert the velocity from meters per second to feet per second.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

g) Miscellaneous Requirements

- (1) None.

10. P010, BLK_MTL_SCR_ENG

Operations, Property and/or Equipment Description:

Portable 225 Hp Diesel engine for bulk material screen.

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

(1) None.

- b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii) (PTI P0132615 issued 12/22/2022)	See b)(2)a.
b.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0132615 issued 12/22/2022)	Carbon monoxide (CO) emissions shall not exceed 1.29 pounds per hour and 5.65 tons per rolling, 12-month period.
		Nitrogen oxides (NO _x) emissions shall not exceed 0.15 pound per hour and 0.66 ton per rolling, 12-month period.
		Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 0.02 pound per hour 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 0.02 pound per hour and 0.09 ton per rolling, 12-month period.
		Carbon dioxide equivalent (CO ₂ e) emissions shall not exceed 1209 tons per rolling, 12-month period.
		See b)(2)b.
c.	OAC rule 3745-17-11(B)(5)(a)	The emission limitation specified by this rule is less stringent than the emission limitation established for PM pursuant to 40 CFR Part 60 Subpart IIII.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-07(A)(1)	Visible PE shall not exceed 20% opacity, as a six-minute average, except as provided by rule
e.	OAC rule 3745-18-06(G)	See b)(2)c.
f.	OAC rule 3745-110-03(F)(3)	See b)(2)d.
g.	40 CFR 60.4207(b) 40 CFR 80.510(c)	The sulfur content of the diesel fuel burned in this engine shall not exceed 15 ppm by weight. See b)(2)e.
h.	40 CFR Part 60, Subpart A	Table 8 to Subpart IIII of 40 CFR Part 60 – “Applicability of General Provisions to Subpart IIII” identifies the parts of the General Provisions in 40 CFR Part 60.1 – 19 that apply
i.	40 CFR Part 60, Subpart IIII 40 CFR 60.4204(b) 40 CFR 60.4201(a) 40 CFR 1039.101(b) Tier 4 Emissions Standards [168 kW non-emergency compression ignition (CI) internal combustion engine (ICE)]	The exhaust emissions from this engine shall not exceed 0.02 grams of particulate matter (PM) per kilowatt-hour The exhaust emissions from this engine shall not exceed 0.40 grams of NO _x per kilowatt-hour The exhaust emissions from this engine shall not exceed 0.19 grams of non-methane hydrocarbon (NMHC) per kilowatt-hour The exhaust emissions from this engine shall not exceed 3.5 grams of CO per kilowatt-hour See b)(2)f.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter less than 10 microns in size (PM₁₀), particulate matter less than 2.5 microns in size (PM_{2.5}) and sulfur dioxide (SO₂) emissions from this air contaminant source since the uncontrolled potential to emit for NO_x, CO, VOC, PM₁₀, PM_{2.5} and SO₂ are each less than 10 tons per year taking into account the federally enforceable rule limits in 40 CFR, Part 1039.
- b. The requirements of this rule also include compliance with the requirements of 40 CFR, Part 60 Subpart IIII.
- c. OAC rule 3745-18-06(B) exempts stationary internal combustion engines which have rated heat input capacities equal to, or less than, 10 MMBtu per hour from the SO₂ emission limit in OAC rule 3745-18-06(G). This emissions unit has a rated heat input of less than 10 MMBtu per hour.

- d. Pursuant to OAC rule 3745-110-03(J)(3), this emissions unit is not subject to this rule because it has an energy output capacity of less than 2,000 horsepower.
- e. The quality of the diesel fuel burned in this engine shall meet the following specifications on an “as received” basis:
 - i. a sulfur content of 15 ppm by weight; and
 - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or oil supplier for each shipment of oil.

- f. The emissions unit has been or shall be purchased certified by the manufacturer, for its useful life, to emission standards as stringent as those identified in 40 CFR 1039.101, Table 1, for engines greater than or equal to 175 horsepower (130 kilowatt) and less than or equal to 750 horsepower (560 kilowatt), and to the opacity standards found in 40 CFR 1039.105.

c) Operational Restrictions

- (1) The permittee shall burn only diesel fuel in this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (2) This emissions unit shall be installed, operated, and maintained according to the manufacturer's specifications, written instructions, and procedures, and/or according to procedures developed by the permittee that have been approved by the engine manufacturer in writing, over the entire life of the engine. The CI ICE must also be installed and operated to meet the applicable requirements from 40 CFR Part 89, Control of Emissions from New and In-use Non-road CI ICE and Part 1068, the General Compliance Provisions for Engine Programs. The permittee shall operate and maintain the stationary CI ICE to achieve the emission standards in Table 1 to 40 CFR 1039.101, as required per 40 CFR 60.4204.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR Part 89, 40 CFR Part 1068, 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

- (3) If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in Table 1 to 40 CFR 1039.101, the diesel particulate filter must be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit. The permittee shall also maintain documentation of the sulfur content of all fuels burned.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20, 40 CFR 80 and 40 CFR Part 60 Subpart IIII]

- (2) For each shipment of diesel fuel received for burning in this engine, the permittee shall maintain records of the total quantity of the diesel fuel received and the supplier's (or permittee's) analyses for sulfur content, in parts per million (40 CFR 80.510) or percent by weight. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR 80.580, using the appropriate ASTM methods. These records shall be retained for a minimum of five years and shall be available for inspection by the Director or his/her representative.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 80 and 40 CFR Part 60, Subpart IIII]

- (3) The permittee shall maintain the manufacturer's certification, to the applicable post-model year 2014 emission standards in Table 1 of 40 CFR 1039.101, on site or at a central location for all facility ICE and it shall be made available for review upon request. If the manufacturer's certification is not kept on site, the permittee shall maintain a log for the location of each ICE, and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the identification number of the certificate. The manufacturer's operations manual and any written instructions or procedures developed by the permittee and approved by the manufacturer shall be maintained at the same location as the ICE.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR Part 89, 40 CFR Part 1068, 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

- (4) If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 1039.101, the permittee shall keep records of the date, time, and any corrective action(s) taken in response to the notification from the backpressure monitor, that the high backpressure limit of the engine has been approached or exceeded.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

e) Reporting Requirements

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20, 40 CFR 80 and 40 CFR Part 60 Subpart IIII]

- (2) The permittee shall submit deviation reports that identify any of the following occurrences:
- a. The permittee shall identify any period of time (date and number of hours) that the quality of diesel fuel burned in this emissions unit did not meet the requirements established in 40 CFR 80.510(c), based upon the required fuel records, and the amount of non-compliant fuel burned on each such occasion.
 - b. If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the permittee shall include any records of the date, time, and any corrective action(s) taken in response to the notification from the monitor that the backpressure has been approached or exceeded.
 - c. All exceedances of the permit emissions limitations and the other requirements under sections c)(2) through (3) and d)(2) through (4).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20, 40 CFR 80 and 40 CFR Part 60 Subpart IIII]

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

[Authority for term: OAC rules 3745-77-07(C)(1)]

- (4) 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.

[Authority for term: OAC rules 3745-77-07(C)(1)]

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:

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

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Reference Method 9 in 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)(1)]

b. Emission Limitation:

Exhaust emissions from this engine shall not exceed 0.02 grams of PM per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-2014 model year compression ignition engines between 175 and 750 horsepower (130 and 560 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

c. Emission Limitation:

Exhaust emissions from this engine shall not exceed 0.40 grams of NO_x per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-2014 model year compression ignition engines between 175 and 750 horsepower (130 and 560 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

d. Emission Limitation:

Exhaust emissions from this engine shall not exceed 0.19 grams of NMHC per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's

specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-model year 2014 compression ignition engines between 175 and 750 horsepower (130 and 560 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

e. Emission Limitation:

Exhaust emissions from this engine shall not exceed 3.5 grams of CO per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-model year 2014 compression ignition engines between 175 and 750 horsepower (130 and 560 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

f. Emission Limitation:

CO emissions shall not exceed 1.29 pounds per hour and 5.65 tons per rolling, 12-month period.

Emission Limitation:

Compliance shall be determined through calculations based on multiplying the emissions factor from 40 CFR 1039.101(b), Tier 4 Emissions Standards for diesel fuel fired engines rated greater than or equal to 130 kilowatt and less than or equal to 560 kilowatt (3.5 grams of CO per kilowatt-hour) times the maximum engine output for this engine in kilowatts (168 kilowatt) divided by 453.6 grams per pound.

The rolling, 12-month limitation was developed by multiplying the allowable hourly emission limitation (1.29 pounds of CO per hour) by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton.

Therefore, as long as the facility demonstrates compliance with the Tier 4 Emissions Standard, compliance with these emission limitations shall also be demonstrated.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

g. Emission Limitation:

NO_x emissions shall not exceed 0.15 pound per hour and 0.66 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be determined through calculations based on multiplying the emissions factor from 40 CFR 1039.101(b), Tier 4 Emissions Standards for diesel fuel fired engines rated greater than or equal to 130 kilowatt and less than or equal to 560 kilowatt (0.4 grams of NO_x per kilowatt -hour) times the maximum engine output for this engine in kilowatts (168 kilowatt) divided by 453.6 grams per pound.

The rolling, 12-month limitation was developed by multiplying the allowable hourly emission limitation (0.15 pounds of NO_x per hour) by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton.

Therefore, as long as the facility demonstrates compliance with the Tier 4 Emissions Standard, compliance with these emission limitations shall also be demonstrated.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

h. Emission Limitation:

PM₁₀ shall not exceed 0.02 pound per hour and 0.09 ton per rolling, 12-month period.

PM_{2.5} shall not exceed 0.02 pound per hour and 0.09 ton per rolling, 12-month period.

Applicable Compliance Method:

The total particulate is the sum of the total filterable particulate and condensable particulate with all the particulate assumed to be 2.5 microns or less in aerodynamic diameter. Compliance shall be determined through calculations based on a filterable particulate emission factor derived from 40 CFR 1039.101(b), Tier 4 Emissions Standards for diesel fuel fired engines rated greater than or equal to 130 kilowatt and less than or equal to 560 kilowatt (0.02 grams of PM per kilowatt -hour) and a condensable particulate emission factor (0.0077 pound of PM₁₀/PM_{2.5} per MMBtu) derived from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.4, Table 3.4-2, dated 10/96. The hourly emissions limit is calculated with a summation of the filterable particulate emission factor times the maximum engine output of 168 kilowatt divided by 453.6 grams per

pound with the condensable particulate emission factor times heat input rate of 1.69 MMBtu per hour.

The rolling, 12-month limitation was developed by multiplying the allowable hourly emission limitation (0.02 pound of PM₁₀/PM_{2.5} per hour) by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton.

Therefore, as long as the facility demonstrates compliance with the Tier 4 Emissions Standard, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

i. Emission Limitation:

CO₂e emissions shall not exceed 1209 tons per rolling, 12-month period

Applicable Compliance Method:

Compliance shall be determined through calculations based on an emission factor derived from 40 CFR Part 98. The emission factor is calculated from a summation of the CO₂e emission factor from Table C-1 (73.95 kilogram of CO₂ per MMBtu) for distillate fuel oil No. 2, the CH₄ emission factor from Table C-2 (0.003 kilogram of CH₄ per MMBtu) for petroleum products and the N₂O emission factor from Table C-2 (0.0006 kilogram of N₂O per MMBtu) for petroleum products times their respective global warming potential from Table A-1 (1 for CO₂, 25 for CH₄ and 298 for N₂O). This summation is then multiplied by 2.2 pounds per kilogram.

This emissions factor is multiplied by the maximum heat input rate in MMBtu per hour (1.69 MMBtu per hour) times 8760 hours per year divided by 2000 pounds per ton.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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

- i. in accordance with 40 CFR 60.4212, conduct the exhaust emissions testing using the in-use testing procedures found in 40 CFR Part 1039, Subpart F, measuring the emissions of the regulated pollutants as specified in 40 CFR 1065; or
- ii. in accordance with 40 CFR 60.4213, conduct exhaust emissions testing using the test methods identified in Table 7 to Subpart IIII of Part 60.

If demonstrating compliance through the in-use testing procedures in 40 CFR part 1039, Subpart F, exhaust emissions from the stationary CI ICE shall not exceed the “not to exceed” (NTE) numerical requirements, rounded to the same number

of decimal places as the applicable standard in 40 CFR 89.112, determined from the following equation:

NTE requirement for each pollutant = $1.25 \times \text{STD}$

Where:

STD = The standard specified for the pollutant in 40 CFR 89.112.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 89.112, 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

g) Miscellaneous Requirements

(1) None.

11. P012, SPASS_SCR_ENG

Operations, Property and/or Equipment Description:

Portable 125 Hp Diesel Engine for Screen Bypass Screen.

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

(1) None.

- b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)a.
b.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0132615 issued 12/22/2022)	Carbon monoxide (CO) emissions shall not exceed 1.03 pounds per hour and 4.51 tons per rolling, 12-month period.
		Nitrogen oxides (NO _x) emissions shall not exceed 0.08 pound per hour and 0.35 ton per rolling, 12-month period.
		Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 0.01 pound per hour and 0.05 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 pound per hour and 0.05 ton per rolling, 12-month period.
		Carbon dioxide equivalent (CO ₂ e) emissions shall not exceed 675 tons per rolling, 12-month period.
		See b)(2)b.
c.	OAC rule 3745-17-11(B)(5)(a)	The emission limitation specified by this rule is less stringent than the emission limitation established for PM pursuant to 40 CFR Part 60 Subpart IIII.
d.	OAC rule 3745-17-07(A)(1)	Visible PE shall not exceed 20% opacity, as a six-minute average, except as provided by rule

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-18-06(G)	See b)(2)c.
f.	OAC rule 3745-110-03(F)(3)	See b)(2)d.
g.	40 CFR 60.4207(b) 40 CFR 80.510(c)	The sulfur content of the diesel fuel burned in this engine shall not exceed 15 ppm by weight. See b)(2)e.
h.	40 CFR Part 60, Subpart A	Table 8 to Subpart IIII of 40 CFR Part 60 – “Applicability of General Provisions to Subpart IIII” identifies the parts of the General Provisions in 40 CFR Part 60.1 – 19 that apply
i.	40 CFR Part 60, Subpart IIII 40 CFR 60.4204(b) 40 CFR 60.4201(a) 40 CFR 1039.101(b) Tier 4 Emissions Standards [93 kW non-emergency compression ignition (CI) internal combustion engine (ICE)]	The exhaust emissions from this engine shall not exceed 0.02 grams of particulate matter (PM) per kilowatt-hour The exhaust emissions from this engine shall not exceed 0.40 grams of NO _x per kilowatt -hour The exhaust emissions from this engine shall not exceed 0.19 grams of non-methane hydrocarbon (NMHC) per kilowatt -hour The exhaust emissions from this engine shall not exceed 5.0 grams of CO per kilowatt -hour See b)(2)f.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter less than 10 microns in size (PM₁₀), particulate matter less than 2.5 microns in size (PM_{2.5}) and sulfur dioxide (SO₂) emissions from this air contaminant source since the uncontrolled potential to emit for NO_x, CO, VOC, PM₁₀, PM_{2.5} and SO₂ are each less than 10 tons per year taking into account the federally enforceable rule limits in 40 CFR, Part 1039
- b. The requirements of this rule also include compliance with the requirements of 40 CFR, Part 60 Subpart IIII.
- c. OAC rule 3745-18-06(B) exempts stationary internal combustion engines which have rated heat input capacities equal to, or less than, 10 MMBtu per hour from the SO₂ emission limit in OAC rule 3745-18-06(G). This emissions unit has a rated heat input of less than 10 MMBtu per hour.
- d. Pursuant to OAC rule 3745-110-03(J)(3), this emissions unit is not subject to this rule because it has an energy output capacity of less than 2,000 horsepower.

- e. The quality of the diesel fuel burned in this engine shall meet the following specifications on an “as received” basis:
 - i. a sulfur content of 15 ppm by weight; and
 - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.
- f. The emissions unit has been or shall be purchased certified by the manufacturer, for its useful life, to emission standards as stringent as those identified in 40 CFR 1039.101, Table 1, for engines greater than or equal to 75 horsepower (56 kilowatt) and less than or equal to 175 horsepower (130 kilowatt), and to the opacity standards found in 40 CFR 1039.105.

c) Operational Restrictions

- (1) The permittee shall burn only diesel fuel in this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (2) This emissions unit shall be installed, operated, and maintained according to the manufacturer's specifications, written instructions, and procedures, and/or according to procedures developed by the permittee that have been approved by the engine manufacturer in writing, over the entire life of the engine. The CI ICE must also be installed and operated to meet the applicable requirements from 40 CFR Part 89, Control of Emissions from New and In-use Non-road CI ICE and Part 1068, the General Compliance Provisions for Engine Programs. The permittee shall operate and maintain the stationary CI ICE to achieve the emission standards in Table 1 to 40 CFR 1039.101, as required per 40 CFR 60.4204.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR Part 89, 40 CFR Part 1068, 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

- (3) If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in Table 1 to 40 CFR 1039.101, the diesel particulate filter must be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit. The permittee shall also maintain documentation of the sulfur content of all fuels burned.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20, 40 CFR 80 and 40 CFR Part 60 Subpart IIII]

- (2) For each shipment of diesel fuel received for burning in this engine, the permittee shall maintain records of the total quantity of the diesel fuel received and the supplier's (or permittee's) analyses for sulfur content, in parts per million (40 CFR 80.510) or percent by weight. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR 80.580, using the appropriate ASTM methods. These records shall be retained for a minimum of five years and shall be available for inspection by the Director or his/her representative.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 80 and 40 CFR Part 60, Subpart IIII]

- (3) The permittee shall maintain the manufacturer's certification, to the applicable post-model year 2014 emission standards in Table 1 of 40 CFR 1039.101, on site or at a central location for all facility ICE and it shall be made available for review upon request. If the manufacturer's certification is not kept on site, the permittee shall maintain a log for the location of each ICE, and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the identification number of the certificate. The manufacturer's operations manual and any written instructions or procedures developed by the permittee and approved by the manufacturer shall be maintained at the same location as the ICE.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR Part 89, 40 CFR Part 1068, 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

- (4) If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 1039.101, the permittee shall keep records of the date, time, and any corrective action(s) taken in response to the notification from the backpressure monitor, that the high backpressure limit of the engine has been approached or exceeded.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

e) **Reporting Requirements**

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20, 40 CFR 80 and 40 CFR Part 60 Subpart IIII]

- (2) The permittee shall submit deviation reports that identify any of the following occurrences:
- a. The permittee shall identify any period of time (date and number of hours) that the quality of diesel fuel burned in this emissions unit did not meet the requirements established in 40 CFR 80.510(c), based upon the required fuel records, and the amount of non-compliant fuel burned on each such occasion.

- b. If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the permittee shall include any records of the date, time, and any corrective action(s) taken in response to the notification from the monitor that the backpressure has been approached or exceeded.
- c. All exceedances of the permit emissions limitations and the other requirements under sections c)(2) through (3) and d)(2) through (4).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20, 40 CFR 80 and 40 CFR Part 60 Subpart IIII]

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

[Authority for term: OAC rules 3745-77-07(C)(1)]

- (4) 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.

[Authority for term: OAC rules 3745-77-07(C)(1)]

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:**

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

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Reference Method 9 in 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)(1)]

- b. **Emission Limitation:**

Exhaust emissions from this engine shall not exceed 0.02 grams of PM per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's

specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-2014 model year compression ignition engines between 75 and 150 horsepower (56 and 130 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

c. Emission Limitation:

Exhaust emissions from this engine shall not exceed 0.40 grams of NO_x per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-2014 model year compression ignition engines between 75 and 150 horsepower (56 and 130 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

d. Emission Limitation:

Exhaust emissions from this engine shall not exceed 0.19 grams of NMHC per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-model year 2014 compression ignition engines between 75 and 150 horsepower (56 and 130 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

e. Emission Limitation:

Exhaust emissions from this engine shall not exceed 5.0 grams of CO per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-model year 2014 compression ignition engines between 75 and 150 horsepower (56 and 130 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

f. Emission Limitation:

CO emissions shall not exceed 1.03 pounds per hour and 4.51 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be determined through calculations based on multiplying the emissions factor from 40 CFR 1039.101(b), Tier 4 Emissions Standards for diesel fuel fired engines rated greater than or equal to 56 kilowatt and less than or equal to 130 kilowatt (5.0 grams of CO per kilowatt-hour) times the maximum engine output for this engine in kilowatts (93 kilowatt) divided by 453.6 grams per pound.

The rolling, 12-month limitation was developed by multiplying the allowable hourly emission limitation (1.29 pounds of CO per hour) by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton.

Therefore, as long as the facility demonstrates compliance with the Tier 4 Emissions Standard, compliance with these emission limitations shall also be demonstrated.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

g. Emission Limitation:

NO_x emissions shall not exceed 0.08 pound per hour and 0.35 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be determined through calculations based on multiplying the emissions factor from 40 CFR 1039.101(b), Tier 4 Emissions Standards for diesel fuel fired engines rated greater than or equal to 56 kilowatt and less than or equal to 130 kilowatt (0.4 grams of NO_x per kilowatt -hour) times the maximum engine output for this engine in kilowatts (93 kilowatt) divided by 453.6 grams per pound.

The rolling, 12-month limitation was developed by multiplying the allowable hourly emission limitation (0.08 pounds of NO_x per hour) by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton.

Therefore, as long as the facility demonstrates compliance with the Tier 4 Emissions Standard, compliance with these emission limitations shall also be demonstrated.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

h. Emission Limitation:

PM₁₀ shall not exceed 0.01 pound per hour and 0.05 ton per rolling, 12-month period.

PM_{2.5} shall not exceed 0.01 pound per hour and 0.05 ton per rolling, 12-month period.

Applicable Compliance Method:

The total particulate is the sum of the total filterable particulate and condensable particulate with all the particulate assumed to be 2.5 microns or less in aerodynamic diameter. Compliance shall be determined through calculations based on a filterable particulate emission factor derived from 40 CFR 1039.101(b), Tier 4 Emissions Standards for diesel fuel fired engines rated greater than or equal to 56 kW and less than or equal to 130 kilowatt (0.02 grams of PM per kilowatt - hour) and a condensable particulate emission factor (0.0077 pound of PM₁₀/PM_{2.5} per MMBtu) derived from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.4, Table 3.4-2, dated 10/96. The hourly emissions limit is calculated with a summation of the filterable particulate emission factor times the maximum engine output of 93 kilowatt divided by 453.6 grams per pound with the condensable particulate emission factor times heat input rate of 0.94 MMBtu per hour.

The rolling, 12-month limitation was developed by multiplying the allowable hourly emission limitation (0.01 pound of PM₁₀/PM_{2.5} per hour) by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton.

Therefore, as long as the facility demonstrates compliance with the Tier 4 Emissions Standard, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

i. Emission Limitation:

CO₂e emissions shall not exceed 675 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be determined through calculations based on an emission factor derived from 40 CFR Part 98. The emission factor is calculated from a summation of the CO₂e emission factor from Table C-1 (73.95 kilogram of CO₂ per MMBtu) for distillate fuel oil No. 2, the CH₄ emission factor from Table C-2 (0.003 kilogram of CH₄ per MMBtu) for petroleum products and the N₂O emission factor from Table C-2 (0.0006 kilogram of N₂O per MMBtu) for petroleum products times their respective global warming potential from Table A-1 (1 for CO₂, 25 for CH₄ and 298 for N₂O). This summation is then multiplied by 2.2 pounds per kilogram.

This emissions factor is multiplied by the maximum heat input rate in MMBtu per hour (0.94 MMBtu per hour) times 8760 hours per year divided by 2000 pounds per ton.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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

- i. in accordance with 40 CFR 60.4212, conduct the exhaust emissions testing using the in-use testing procedures found in 40 CFR Part 1039, Subpart F, measuring the emissions of the regulated pollutants as specified in 40 CFR 1065; or
- ii. in accordance with 40 CFR 60.4213, conduct exhaust emissions testing using the test methods identified in Table 7 to Subpart IIII of Part 60.

If demonstrating compliance through the in-use testing procedures in 40 CFR part 1039, Subpart F, exhaust emissions from the stationary CI ICE shall not exceed the "not to exceed" (NTE) numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112, determined from the following equation:

NTE requirement for each pollutant = 1.25 x STD

Where:

STD = The standard specified for the pollutant in 40 CFR 89.112.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 89.112, 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]



Final Title V Permit
IronUnits LLC
Permit Number: P0132087
Facility ID: 0448011992
Effective Date: 10/16/2023

g) Miscellaneous Requirements

(1) None.

12. P901, MTR-5,TR-1,TR-2,TR-5,TR-6,TR-7,TR10,SR1,TR13a,TR-13b,TR14, TR-28a, TR-40, TR-41, SR-2, TR-42, TR-44

Operations, Property and/or Equipment Description:

Iron oxide material handling consisting of: MTR-5 (Midwest hopper to conveyor with baghouse), 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-13a (oxide transfer to bucket elevator with baghouse), TR-13b (fines conveyor to Transfer Tower IV with baghouse), TR-14 (coating storage and mixing and fines transfer tower with baghouse) and TR-28a (transfer from oxide conveyor to furnace feed conveyor with baghouse), TR-40 (bypass feed screener transfer from hopper to conveyor), TR-41 (bypass feed screener transfer from conveyor to screen), SR-2 (screening for bypass feed), TR-42 (bypass feed screener transfer from screen to conveyor), TR-44 (bypass feed stacker transfer from hopper to conveyor).

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM ₁₀ and PM _{2.5} emissions from this air contaminant source since the potential to emit is less than 10 tons per year.
b.	OAC rule 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (P0134308 issued 7/11/2023)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 1.32 pounds per hour and 4.17 tons per rolling, 12-month period.
		Particulate matter less than or equal to 2.5 microns in aerodynamic diameter (PM _{2.5}) shall not exceed 1.29 pounds per hour and 4.14 tons per rolling, 12-month period.
		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)a. through b)(2)c.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	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.
d.	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.
e.	OAC rule 3745-17-11(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.
f.	40 CFR Part 64 - Compliance Assurance Monitoring (40 CFR 64.1 – 64.10) [In accordance with 40 CFR 64.2, this emissions unit is a major source of PM ₁₀ emissions controlled with baghouses.]	The permittee has included a CAM plan for this emissions unit whose pre-controlled potential emissions exceed major source thresholds. The elements of the CAM plan have been incorporated in the monitoring requirements outlined in d)(1) - d)(4), e)(1) and e)(2)a. – e)(2)e.

(2) Additional Terms and Conditions

- a. 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
MTR-5, TR-1, TR-6, TR-7, TR-10, SR-1, TR-13a, TR-13b, TR-14, TR-28a	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 PM _{2.5} .
TR-2, TR-5, TR-40, TR-41, SR-2 TR-42, TR-44	full enclosure with water or chemical spray controls

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

- b. 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.

- c. This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate the rolling, 12-month summation of the iron oxide received, upon issuance of this permit. The maximum annual iron oxide received for this emissions unit shall not exceed 3,594,666 tons, based upon a rolling, 12-month summation of the production rates.

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. The permittee has committed to controlling fugitive emissions as outlined in b)(2)a. above. This work practice plan shall include, at a minimum, the following elements:

- a. An identification of each emission point for which the plan applies, and the method employed to minimize or eliminate fugitive dust for each such emission point;
- b. The identification of the record keeping form/record that will be used to track the visible emissions inspection as outlined in d(4) below for each of the emission points;
- c. The identification of the record keeping form/record that will be used to track the operation and maintenance of each baghouse as outlined in d(3) below for each of the emission points; and
- d. A description of how and where the records shall be maintained.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 40 CFR Part 64]

- (2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the minimum pressure drop across baghouses has been established to be no less than 0.5 inches of water column for the baghouses identified as Oxide Material Handling Baghouse FL-F02, Oxide Material Handling Baghouse FL-F03, Oxide Material Handling Baghouse FL-F04, Oxide Material Handling Baghouse FL-F05, Oxide Screen Baghouse FL-F07, Oxide Material Handling Baghouse FL-F08, Oxide Material Handling Baghouse FL-F09 and Oxide Material Handling Baghouse FL-F11.

[Authority for term: OAC rules 3745-77-07(C)(1) and 40 CFR Part 64]

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouses when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. 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 permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

- a. all 3-hour blocks of time, when the emissions unit(s) controlled by the baghouse was/were in operation, during which the average pressure drop within the baghouse deviated from the minimum limit(s) established in this permit; and
- b. a log or record of the operating time for the capture (collection) system, baghouse, monitoring equipment, and the associated emissions unit(s).

Whenever any 3-hour blocks of time of the monitored value for the pressure drop deviates from the limit 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:

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

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

- h. a description of the corrective action;
- i. the date corrective action was completed;
- j. the date and time the deviation ended;
- k. the total period of time (in minutes) during which there was a deviation;
- l. the pressure drop readings immediately after the corrective action was implemented; and

m. the name(s) of the personnel who performed the work.

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

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 40 CFR Part 64]

- (4) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-10 through 20, 3745-17-07(A)(1) and 3745-17-07(B)]

- (5) The permittee shall maintain monthly records of the following information:
- a. the tons of iron oxide received at the facility for each month;
 - b. the rolling, 12-month summation of tons of iron oxide received at the facility.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that identify:
- a. 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
 - b. any corrective actions taken to minimize or eliminate the 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A)(1) and 3745-17-07(B)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. each period of time (start time and date, and end time and date) when the 3-hour average pressure drop across a baghouse was below the minimum operating limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken;
 - e. each incident of deviation described in "a" 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; and
 - f. all exceedances of the rolling, 12-month tons of iron oxide received at the facility limitation.

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

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-10 through 20 and 40 CFR Part 64]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 shall not exceed 1.32 pounds per hour and 4.17 tons per rolling, 12-month period; PM_{2.5} shall not exceed 1.29 pounds per hour and 4.14 tons per rolling, 12-month period.

Applicable Compliance Method:

This emission limitation was established calculating the sum of the fugitive and stack emissions from MTR-5, TR-1, TR-2, TR-5, TR-6, TR-7, TR-10, SR-1, TR-13a, TR-13b, TR-14, TR-28a, TR-40, TR-41, SR-2 TR-42 and TR-44.

For stack emissions from MTR-5, TR-1, TR-6, TR-7, TR-10, SR-1, TR-13a, TR-13b, TR-14 and TR-28a, multiply the design PM grain loading (0.0025 grain per 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 PM_{2.5} emissions.

For fugitive emissions from TR-2, TR-5, TR-40, TR-1, SR-2 TR-42, and TR-44 the maximum hourly throughput in tons per hour 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, TR-5, TR-40, TR-1, SR-2 TR-42, and TR-44 based on these points being fully enclosed. A 95% control efficiency will be used for the water or chemical spray control.

If required, the permittee shall determine the PM and PM₁₀ emission rate from the baghouses serving MTR-5, TR-1, TR-6, TR-7, TR-10, SR-1, TR-13a, TR-13b, TR-14 and TR-28a 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 restriction contained in b)(2). Compliance with the annual emission limitation will be assumed if compliance with the hourly emission limitation and the 12-month rolling tons of iron oxide received restriction are maintained.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

b. 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).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)]

g) Miscellaneous Requirements

(1) None.

13. P902, TR-17,TR-18,TR-19,TR-21b,TR-22,TR-23,TR-24,TR-25,TR-26,TR-27, TR-33, TR-34, SR-3, TR-35, TR-37, TR-46, TR-47

Operations, Property and/or Equipment Description:

Hot briquetted iron (HBI)/Direct reduced iron (DRI) material handling: TR-17 (HBI conveyor transfer tower), TR-18 (two HBI conveyor transfer towers), TR-19 (HBI Conveyor to Stacker), TR-21b (HBI conveyor from reclaim machine to conveyor), TR-22 (HBI from hopper to conveyor), TR-23 (HBI conveyor from transfer tower to HBI loadout building w/baghouse), TR-24 (Conveyor transfer to loading bin w/baghouse), TR-25 (HBI truck loadout vented to baghouse), TR-26 (HBI railcar loading inside shed with two sides and roof, strip curtains at the entrance and exit of the loading shed, telescoping loading chute, and water or chemical spray during loading), TR-27 (HBI truck loading fugitive emissions), TR-33 (Bulk Material (BM) screener from hopper to conveyor), TR-34 (BM screener from conveyor to screen), SR-3 (BM screener), TR-35 (BM screener from screen to conveyor), TR-37 (BM stacker from hopper to conveyor), TR-46 (REMET from hopper to conveyor), TR-47 (REMET stacker from conveyor to hopper)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM ₁₀ and PM _{2.5} emissions from this air contaminant source since the potential to emit is less than 10 tons per year.
b.	OAC rule 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0134308 issued 7/11/2023)	Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 0.41 pound per hour and 1.43 tons per rolling, 12-month period.
		Particulate matter less than or equal to 2.5 microns in aerodynamic diameter (PM _{2.5}) shall not exceed 0.40 pound per hour and 1.40 tons per rolling, 12-month period.
		See b)(2)a. through b)(2)c.
c.	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
d.	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.
e.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant OAC rule 3745-31-10 through 20.
f.	40 CFR Part 64 - Compliance Assurance Monitoring (40 CFR 64.1 – 64.10) [In accordance with 40 CFR 64.2, this emissions unit is a major source of PM ₁₀ emissions controlled with baghouses.]	The permittee has included a CAM plan for this emissions unit whose pre-controlled potential emissions exceed major source thresholds. The elements of the CAM plan have been incorporated in the monitoring requirements outlined in d)(1) - d)(3), e)(1) and e)(2)a. – e)(2)e.

(2) Additional Terms and Conditions

- a. 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-23, TR-24, TR-25	Full enclosure vented to a baghouse 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-17, TR-18, TR-19, TR-21b, TR-22, TR-33, TR-34, SR-3, TR-35, TR-37, TR-46, TR-47	full enclosure with water or chemical spray controls
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.

- b. The maximum annual truck HBI loading rate for this emissions unit shall not exceed 2,562,300 tons, based upon a rolling, 12-month summation of the loading rates.
- c. The maximum HBI railcar loading rate shall not exceed 7000 tons per day.
- d. The maximum HBI truck loading rate shall not exceed 7020 tons per day.

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 minimum pressure drop across baghouses has been established to be no less than 0.5 inches of water column for the baghouses identified as DRI/HBI Material Handling Baghouse FL-J07, DRI/HBI Material Handling Baghouse FL-J08 and DRI/HBI Material Handling Baghouse FL-J09.

[Authority for term: OAC rules 3745-77-07(C)(1) and 40 CFR Part 64]

- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouses when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. 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 permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

- a. all 3-hour blocks of time, when the emissions unit(s) controlled by the baghouse was/were in operation, during which the average pressure drop within the baghouse deviated from the minimum limit(s) established in this permit; and
- b. a log or record of the operating time for the capture (collection) system, baghouse, monitoring equipment, and the associated emissions unit(s).

Whenever any 3-hour blocks of time of the monitored value for the pressure drop deviates from the limit or range 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:

- c. the date and time the deviation began;
- d. the magnitude of the deviation at that time;
- e. the date the investigation was conducted;

- f. the name(s) of the personnel who conducted the investigation; and
- g. the findings and recommendations.

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

- h. a description of the corrective action;
- i. the date corrective action was completed;
- j. the date and time the deviation ended;
- k. the total period of time (in minutes) during which there was a deviation;
- l. the pressure drop readings immediately after the corrective action was implemented; and
- m. 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.

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 40 CFR Part 64]

- (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 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.

[Authority for term: OAC rule 3745-77-07(C)(1), 3745-17-07(A)(1), and 3745-17-07(B)]

- (4) 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. the rolling, 12-month summation of the railcar loading rates; and
- d. the rolling, 12-month summation of the truck loading rates.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (6) The permittee shall maintain daily records of amount of HBI loaded into trucks in tons per day

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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.

[Authority for term: OAC rule 3745-77-07(C)(1), 3745-17-07(A)(1), and 3745-17-07(B)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. each period of time (start time and date, and end time and date) when the 3-hour average pressure drop across a baghouse was below the minimum operating limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken;
 - e. each incident of deviation described in "a" 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;
 - f. all exceedances of the rolling, 12-month truck loading rate limitation;
 - g. all exceedances of the daily railcar HBI loading limitation; and
 - h. all exceedances of the daily truck HBI loading limitation.

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

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-10 through 20 and 40 CFR Part 64]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 shall not exceed 0.41 pound per hour and 1.43 tons per rolling, 12-month period; PM_{2.5} shall not exceed 0.40 pound per hour and 1.40 tons per rolling, 12-month period.

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-21b, TR-22, TR-23, TR-24, TR-25, TR-26, TR-27, TR-33, TR-34, SR-3, TR-35, TR-37, TR-46 and TR-47

For stack emissions from TR-23, TR-24, and TR-25, multiply the design PM grain loading (0.0025 grain per 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 PM_{2.5} emissions.

For fugitive emissions from TR-17, TR-18, TR-19, TR-21b, TR-22, TR-26, TR-27, TR-33, TR-34, TR-35, TR-37, TR-46 and TR-47 multiply the maximum hourly throughput in tons per hour 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, TR-21b, TR-22, TR-27, TR-33, TR-34, SR-3, TR-35, TR-37, TR-46 and TR-47 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 these emissions points for use of water or chemical spray. The permittee shall use data from tumble testing conducted 4/2017 to determine PM₁₀ emissions as being 16% of PM emissions, and PM_{2.5} emissions as being 7% of PM emissions.

For emissions from TR-17 and TR-18, compliance has been demonstrated with Method 5 of 40 CFR Part 60, Appendix A conducted on 5/21/2021 with 0.004 pounds of PE for TR-17 and 0.07 pounds of PE per hour for TR-18.

If required, the permittee shall determine the grain per dscf of PM and hourly PM₁₀ and PM_{2.5} emission rates from the stacks serving 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)(1)]

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).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)]

g) Miscellaneous Requirements

(1) None.

14. Emissions Unit Group - Portable 100 Hp diesel engines: P011, P013,

EU ID	Operations, Property and/or Equipment Description
P011	Portable 100 Hp Diesel Engine for Bulk Material Stacker
P013	Portable 100 Hp Diesel Engine for Screen Bypass Stacker

- 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:

None.

- b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii) (PTI P0132615 issued 12/22/2022)	See b)(2)a.
b.	OAC rules 3745-31-10 through 20 (Prevention of Significant Deterioration of Air Quality) (PTI P0132615 issued 12/22/2022)	Carbon monoxide (CO) emissions shall not exceed 0.83 pound per hour and 3.64 tons per rolling, 12-month period. Nitrogen oxides (NO _x) emissions shall not exceed 0.07 pound per hour and 0.31 ton per rolling, 12-month period. Particulate matter emissions less than or equal to 10 microns in aerodynamic diameter (PM ₁₀) shall not exceed 0.01 pound per hour and 0.04 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 pound per hour and 0.04 ton per rolling, 12-month period. Carbon dioxide equivalent (CO ₂ e) emissions shall not exceed 539 tons per rolling, 12-month period. See b)(2)b.
c.	OAC rule 3745-17-11(B)(5)(a)	The emission limitation specified by this rule is less stringent than the emission limitation established for PM pursuant to 40 CFR Part 60 Subpart IIII.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-07(A)(1)	Visible PE shall not exceed 20% opacity, as a six-minute average, except as provided by rule
e.	OAC rule 3745-18-06(G)	See b)(2)c.
f.	OAC rule 3745-110-03(F)(3)	See b)(2)d.
g.	40 CFR 60.4207(b) 40 CFR 80.510(c)	The sulfur content of the diesel fuel burned in this engine shall not exceed 15 ppm by weight. See b)(2)e.
h.	40 CFR Part 60, Subpart A	Table 8 to Subpart IIII of 40 CFR Part 60 – “Applicability of General Provisions to Subpart IIII” identifies the parts of the General Provisions in 40 CFR Part 60.1 – 19 that apply
i.	40 CFR Part 60, Subpart IIII 40 CFR 60.4204(b) 40 CFR 60.4201(a) 40 CFR 1039.101(b) Tier 4 Emissions Standards [75 kW non-emergency compression ignition (CI) internal combustion engine (ICE)]	The exhaust emissions from this engine shall not exceed 0.02 grams of particulate matter (PM) per kilowatt-hour The exhaust emissions from this engine shall not exceed 0.40 grams of NO _x per kilowatt -hour The exhaust emissions from this engine shall not exceed 0.19 grams of non-methane hydrocarbon (NMHC) per kilowatt -hour The exhaust emissions from this engine shall not exceed 5.0 grams of CO per kilowatt -hour

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter less than 10 microns in size (PM₁₀), particulate matter less than 2.5 microns in size (PM_{2.5}) and sulfur dioxide (SO₂) emissions from this air contaminant source since the uncontrolled potential to emit for NO_x, CO, VOC, PM₁₀, PM_{2.5} and SO₂ are each less than 10 tons per year taking into account the federally enforceable rule limits in 40 CFR, Part 1039.
- b. The requirements of this rule also include compliance with the requirements of 40 CFR, Part 60 Subpart IIII.
- c. OAC rule 3745-18-06(B) exempts stationary internal combustion engines which have rated heat input capacities equal to, or less than, 10 MMBtu per hour from the SO₂ emission limit in OAC rule 3745-18-06(G). This emissions unit has a rated heat input of less than 10 MMBtu per hour.

- d. Pursuant to OAC rule 3745-110-03(K)(3), this emissions unit is not subject to this rule because it has an energy output capacity of less than 500 horsepower.
- e. The quality of the diesel fuel burned in this engine shall meet the following specifications on an “as received” basis:
 - i. a sulfur content of 15 ppm by weight; and
 - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.
- f. The emissions unit has been or shall be purchased certified by the manufacturer, for its useful life, to emission standards as stringent as those identified in 40 CFR 1039.101, Table 1, for engines greater than or equal to 75 horsepower (56 kilowatt) and less than or equal to 175 horsepower (130 kilowatt), and to the opacity standards found in 40 CFR 1039.105.

c) **Operational Restrictions**

- (1) The permittee shall burn only diesel fuel in this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

- (2) This emissions unit shall be installed, operated, and maintained according to the manufacturer’s specifications, written instructions, and procedures, and/or according to procedures developed by the permittee that have been approved by the engine manufacturer in writing, over the entire life of the engine. The CI ICE must also be installed and operated to meet the applicable requirements from 40 CFR Part 89, Control of Emissions from New and In-use Non-road CI ICE and Part 1068, the General Compliance Provisions for Engine Programs. The permittee shall operate and maintain the stationary CI ICE to achieve the emission standards in Table 1 to 40 CFR 1039.101, as required per 40 CFR 60.4204.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR Part 89, 40 CFR Part 1068, 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

- (3) If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in Table 1 to 40 CFR 1039.101, the diesel particulate filter must be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

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

- (1) For each day during which the permittee burns a fuel other than diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit. The permittee shall also maintain documentation of the sulfur content of all fuels burned.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20, 40 CFR 80 and 40 CFR Part 60 Subpart IIII]

- (2) For each shipment of diesel fuel received for burning in this engine, the permittee shall maintain records of the total quantity of the diesel fuel received and the supplier's (or permittee's) analyses for sulfur content, in parts per million (40 CFR 80.510) or percent by weight. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR 80.580, using the appropriate ASTM methods. These records shall be retained for a minimum of five years and shall be available for inspection by the Director or his/her representative.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 80 and 40 CFR Part 60, Subpart IIII]

- (3) The permittee shall maintain the manufacturer's certification, to the applicable post-model year 2014 emission standards in Table 1 of 40 CFR 1039.101, on site or at a central location for all facility ICE and it shall be made available for review upon request. If the manufacturer's certification is not kept on site, the permittee shall maintain a log for the location of each ICE, and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the identification number of the certificate. The manufacturer's operations manual and any written instructions or procedures developed by the permittee and approved by the manufacturer shall be maintained at the same location as the ICE.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR Part 89, 40 CFR Part 1068, 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

- (4) If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 1039.101, the permittee shall keep records of the date, time, and any corrective action(s) taken in response to the notification from the backpressure monitor, that the high backpressure limit of the engine has been approached or exceeded.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

e) Reporting Requirements

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20, 40 CFR 80 and 40 CFR Part 60 Subpart IIII]

- (2) The permittee shall submit deviation reports that identify any of the following occurrences:
 - a. The permittee shall identify any period of time (date and number of hours) that the quality of diesel fuel burned in this emissions unit did not meet the requirements

established in 40 CFR 80.510(c), based upon the required fuel records, and the amount of non-compliant fuel burned on each such occasion.

- b. If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the permittee shall include any records of the date, time, and any corrective action(s) taken in response to the notification from the monitor that the backpressure has been approached or exceeded.
- c. All exceedances of the permit emissions limitations and the other requirements under sections c)(2) through (3) and d)(2) through (4).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20, 40 CFR 80 and 40 CFR Part 60 Subpart IIII]

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

[Authority for term: OAC rules 3745-77-07(C)(1)]

- (4) 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.

[Authority for term: OAC rules 3745-77-07(C)(1)]

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:**

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

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Reference Method 9 in 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)(1)]

- b. **Emission Limitation:**

Exhaust emissions from this engine shall not exceed 0.02 grams of PM per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-2014 model year compression ignition engines between 75 and 150 horsepower (56 and 130 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

c. Emission Limitation:

Exhaust emissions from this engine shall not exceed 0.40 grams of NO_x per kilowatt -hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-2014 model year compression ignition engines between 75 and 150 horsepower (56 and 130 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

d. Emission Limitation:

Exhaust emissions from this engine shall not exceed 0.19 grams of NMHC per kilowatt -hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-model year 2014 compression ignition engines between 75 and 150 horsepower (56 and 130 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

e. Emission Limitation:

Exhaust emissions from this engine shall not exceed 5.0 grams of CO per kilowatt-hour.

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's specifications. The gram per kilowatt-hour limit is the emission limitation from Table 1 of 40 CFR 1039.101, the exhaust emission standards for post-model year 2014 compression ignition engines between 75 and 150 horsepower (56 and 130 kilowatts).

If required, the permittee shall demonstrate compliance with the emission limitations through performance tests conducted in accordance with the provisions in term f)(1)(j) below.

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

f. Emission Limitation:

CO emissions shall not exceed 0.83 pound per hour and 3.64 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be determined through calculations based on multiplying the emissions factor from 40 CFR 1039.101(b), Tier 4 Emissions Standards for diesel fuel fired engines rated greater than or equal to 56 kW and less than or equal to 130 kilowatt (5.0 grams of CO per kilowatt-hour) times the maximum engine output for this engine in kilowatts (75 kilowatt) divided by 453.6 grams per pound.

The rolling, 12-month limitation was developed by multiplying the allowable hourly emission limitation (0.83 pound of CO per hour) by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton.

Therefore, as long as the facility demonstrates compliance with the Tier 4 Emissions Standard, compliance with these emission limitations shall also be demonstrated.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

g. Emission Limitation:

NO_x emissions shall not exceed 0.07 pound per hour and 0.31 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be determined through calculations based on multiplying the emissions factor from 40 CFR 1039.101(b), Tier 4 Emissions Standards for diesel fuel fired engines rated greater than or equal to 56 kilowatt and less than or equal to 130 kilowatt (0.4 grams of NO_x per kilowatt -hour) times the maximum engine output for this engine in kilowatts (75 kilowatt) divided by 453.6 grams per pound.

The rolling, 12-month limitation was developed by multiplying the allowable hourly emission limitation (0.07 pound of NO_x per hour) by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton.

Therefore, as long as the facility demonstrates compliance with the Tier 4 Emissions Standard, compliance with these emission limitations shall also be demonstrated.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

h. Emission Limitation:

PM₁₀ shall not exceed 0.01 pound per hour and 0.04 ton per rolling, 12-month period.

PM_{2.5} shall not exceed 0.01 pound per hour and 0.04 ton per rolling, 12-month period.

Applicable Compliance Method:

The total particulate is the sum of the total filterable particulate and condensable particulate with all the particulate assumed to be 2.5 microns or less in aerodynamic diameter. Compliance shall be determined through calculations based on a filterable particulate emission factor derived from 40 CFR 1039.101(b), Tier 4 Emissions Standards for diesel fuel fired engines rated greater than or equal to 56 kilowatt and less than or equal to 130 kilowatt (0.02 grams of PM per kilowatt -hour) and a condensable particulate emission factor (0.0077 pound of PM₁₀/PM_{2.5} per MMBtu) derived from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.4, Table 3.4-2, dated 10/96. The hourly emissions limit is calculated with a summation of the filterable particulate emission factor times the maximum engine output of 75 kilowatt divided by 453.6 grams per pound with the condensable particulate emission factor times heat input rate of 0.75 MMBtu per hour.

The rolling, 12-month limitation was developed by multiplying the allowable hourly emission limitation (0.01 pound of PM₁₀/PM_{2.5} per hour) by the maximum annual hours of operation (8,760 hours per year), and then dividing by 2,000 pounds per ton.

Therefore, as long as the facility demonstrates compliance with the with the Tier 4 Emissions Standard, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

i. Emission Limitation:

CO₂e emissions shall not exceed 539 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be determined through calculations based on an emission factor derived from 40 CFR Part 98. The emission factor is calculated from a summation of the CO₂e emission factor from Table C-1 (73.95 kilogram of CO₂ per MMBtu) for distillate fuel oil No. 2, the CH₄ emission factor from Table C-2 (0.003 kilogram of CH₄ per MMBtu) for petroleum products and the N₂O emission factor from Table C-2 (0.0006 kilogram of N₂O per MMBtu) for petroleum products times their respective global warming potential from Table A-1 (1 for CO₂, 25 for CH₄ and 298 for N₂O). This summation is then multiplied by 2.2 pounds per kilogram.

This emissions factor is multiplied by the maximum heat input rate in MMBtu per hour (0.75 MMBtu per hour) times 8760 hours per year divided by 2000 pounds per ton.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-10 through 20]

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

- i. in accordance with 40 CFR 60.4212, conduct the exhaust emissions testing using the in-use testing procedures found in 40 CFR Part 1039, Subpart F, measuring the emissions of the regulated pollutants as specified in 40 CFR 1065; or
- ii. in accordance with 40 CFR 60.4213, conduct exhaust emissions testing using the test methods identified in Table 7 to Subpart IIII of Part 60.

If demonstrating compliance through the in-use testing procedures in 40 CFR part 1039, Subpart F, exhaust emissions from the stationary CI ICE shall not exceed the “not to exceed” (NTE) numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112, determined from the following equation:

NTE requirement for each pollutant = 1.25 x STD

Where:

STD = The standard specified for the pollutant in 40 CFR 89.112.



Final Title V Permit
IronUnits LLC
Permit Number: P0132087
Facility ID: 0448011992
Effective Date: 10/16/2023

[Authority for term: OAC rules 3745-77-07(C)(1), 40 CFR 89.112, 40 CFR 1039.101 and 40 CFR Part 60, Subpart IIII]

g) Miscellaneous Requirements

(1) None.