



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

11/09/2023

Certified Mail

Caitlin Schiebel  
Cardinal Power Plant (Cardinal Operating Company)  
6677 Busch Blvd  
Columbus, OH 43229

Facility ID: 0641050002  
Permit Number: P0133672  
County: Jefferson

RE: FINAL AIR POLLUTION CONTROL TITLE V PERMIT  
Permit Type: Minor Permit Modification

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](http://www.ohioairquality.org)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://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 Ohio EPA DAPC, Southeast District Office 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*  
Ohio EPA DAPC, Southeast District Office



**FINAL**

**Division of Air Pollution Control  
Title V Permit**

for

**Cardinal Power Plant (Cardinal Operating Company)**

Facility ID:	0641050002
Permit Number:	P0133672
Permit Type:	Minor Permit Modification
Issued:	11/09/2023
Effective:	11/09/2023
Expiration:	01/28/2026





**Division of Air Pollution Control**  
**Title V Permit**  
for  
Cardinal Power Plant (Cardinal Operating Company)

**Table of Contents**

Authorization .....	1
List of Commonly Used Abbreviations .....	2
A. Standard Terms and Conditions .....	3
1. Federally Enforceable Standard Terms and Conditions .....	4
2. Monitoring and Related Record Keeping and Reporting Requirements.....	4
3. Reporting of Any Exceedance of a Federally Enforceable Emission Limitation or Control Requirement Resulting from Scheduled Maintenance.....	7
4. Risk Management Plans .....	8
5. Title IV Provisions .....	8
6. Severability Clause .....	8
7. General Requirements .....	8
8. Fees.....	9
9. Marketable Permit Programs.....	10
10. Reasonably Anticipated Operating Scenarios .....	10
11. Reopening for Cause .....	10
12. Federal and State Enforceability .....	10
13. Compliance Requirements.....	11
14. Permit Shield .....	12
15. Operational Flexibility.....	12
16. Emergencies.....	13
17. Off-Permit Changes .....	13
18. Compliance Method Requirements .....	14
19. Insignificant Activities or Emissions Levels.....	14
20. Permit-to-Install Requirement.....	14
21. Air Pollution Nuisance .....	14
22. Permanent Shutdown of an Emissions Unit .....	14
23. Title VI Provisions .....	15
24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only.....	15
25. Records Retention Requirements Under State Law Only.....	15
26. Inspections and Information Requests .....	16
27. Scheduled Maintenance/Malfunction Reporting for State-Only Requirements.....	16



28. Permit Transfers .....	16
29. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations .....	16
30. Submitting Documents Required by this Permit .....	17
B. Facility-Wide Terms and Conditions.....	18
C. Emissions Unit Terms and Conditions .....	25
1. Emissions Unit Group - Main EGU Boilers: B001, B002 and B009.....	26
2. B008, Unit 3 Auxiliary Boiler.....	44
3. B010, Units 1 and 2 Auxiliary Boiler .....	49
4. F001, Plant Roadways and Parking Areas .....	59
5. F002, Coal Handling and Transport Operations .....	64
6. F003, Coal Storage Piles .....	69
7. F010, Coal Truck Unloading Facility.....	75
8. F012, Residual Waste Landfill Roadways .....	79
9. P008, Unit 3 SO <sub>3</sub> Mitigation System.....	84
10. P009, Lime Materials Handling for WWTP .....	88
11. P010, Units 1 and 2 SO <sub>3</sub> Mitigation System .....	92
12. Emissions Unit Group - Diesel Engines - IEUs: P012, P013.....	96
13. P014, John Deere 4045HF Diesel Engine.....	101
14. P015, Caterpillar C9 Pump - 250kw .....	106
15. P901, FGD Material Handling, Transfer and Conveying.....	111
16. P902, Dry Fly Ash Transfer Stations .....	119



**Final Title V Permit**  
 Cardinal Power Plant (Cardinal Operating Company)  
**Permit Number:** P0133672  
**Facility ID:** 0641050002  
**Effective Date:** 11/09/2023

## Authorization

Facility ID: 0641050002  
 Facility Description: Electric power generation  
 Application Number(s): A0073525  
 Permit Number: P0133672  
 Permit Description: Title V minor permit modification to incorporate PTI terms for three emergency generators, one emergency pump and a permit by rule for insignificant emergency generator.  
 Permit Type: Minor Permit Modification  
 Issue Date: 11/09/2023  
 Effective Date: 11/09/2023  
 Expiration Date: 01/28/2026  
 Superseded Permit Number: P0089700

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

Cardinal Power Plant (Cardinal Operating Company)  
 306 County Road 7 East  
 Jefferson County  
 Brilliant, OH 43913-1088

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

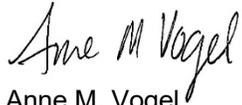
Ohio EPA DAPC, Southeast District Office  
 2195 Front St.  
 Logan, OH 43138  
 (740)385-8501

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 Ohio EPA DAPC, Southeast District Office. 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:

  
 Anne M. Vogel  
 Director

Date: 11/09/2023

## 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 <sub>10</sub> = 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 <sub>2.5</sub> = 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 <sup>3</sup> = 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 <sub>4</sub> = 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 <sub>2</sub> = carbon dioxide	NAAQS = National Ambient Air Quality Standard	RACM = Reasonably Available Control Measures
COM = Continuous Opacity Monitor	NESHAP = National Emission Standard for Hazardous Air Pollutants	RACT = Reasonably Available Control Technology
DAPC = Division of Air Pollution Control	NG = natural gas	RATA = Relative Accuracy Test Audit
DO/LAA = District Office/Local Air Agency	ng/m <sup>3</sup> = nanograms per cubic meter	RTO = regenerative thermal oxidizer
dscf = dry standard cubic foot	NH <sub>3</sub> = ammonia	SB265 = Senate Bill 265
EAC = Emissions Activity Category	NMHC = non-methane hydrocarbons	scfm = standard cubic feet per minute
eDocs = Electronic Documents Database	NMOC = non-methane organic compound	SI = spark ignition
ERAC = Environmental Review Appeals Commission	NNSR = Nonattainment New Source Review	SIP = State Implementation Plan
ESP = electrostatic precipitator	NO = nitrogen oxide	SM = Synthetic Minor
EU = Emissions Unit	NO <sub>2</sub> = nitrogen dioxide	SO <sub>2</sub> = sulfur dioxide
FEPTIO = Federally Enforceable Permit-to-Install and Operate	NO <sub>x</sub> = nitrogen oxides	SOB = Statement of Basis
FER = Fee Emissions Report	NSPS = New Source Performance Standard	SSMP = Startup, Shutdown and Malfunction Plan
FR = Federal Register	NSR = New Source Review	T & C = Term and Condition
GACT = Generally Achievable Control Technology	NTV = Non-Title V	TDS = total dissolved solids
GHG = greenhouse gases	O&M = Operation and Maintenance	TLV = Threshold Limit Value
gr = grains	O <sub>3</sub> = ozone	TO = thermal oxidizer
gr/dscf = grains per dry standard cubic foot	OAC = Ohio Administrative Code	TPH = ton(s) per hour
H <sub>2</sub> S = hydrogen sulfide	OC = organic compound	TPY = ton(s) per year
H <sub>2</sub> SO <sub>4</sub> = sulfuric acid	OEPA = Ohio Environmental Protection Agency	TSP = total suspended particulates
HAP = hazardous air pollutant	ORC = Ohio Revised Code	VE = visible emissions
HCl = hydrochloride	Pb = lead	VMT = vehicle miles traveled
HF = hydrogen fluoride	PBR = Permit-By-Rule	VOC = volatile organic compound
Hg = mercury	PCB = polychlorinated biphenyl	WPP = Work Practice Plan
HON = Synthetic Organic Chemical Manufacturing NESHAP	PE = particulate emissions	µg/m <sup>3</sup> = micrograms per cubic meter
hp = horsepower	PEMS = Predictive Emissions Monitoring System	
HVLP = high volume, low pressure		



**Final Title V Permit**  
Cardinal Power Plant (Cardinal Operating Company)  
**Permit Number:** P0133672  
**Facility ID:** 0641050002  
**Effective Date:** 11/09/2023

## **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 Ohio EPA DAPC, Southeast District Office. 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 Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
- 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 Ohio EPA DAPC, Southeast District Office) 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 Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office.
- 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 Ohio EPA DAPC, Southeast District Office. 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 Ohio EPA DAPC, Southeast District Office 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 Ohio EPA DAPC, Southeast District Office 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 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 Ohio EPA DAPC, Southeast District Office, 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.



**Final Title V Permit**  
Cardinal Power Plant (Cardinal Operating Company)  
**Permit Number:** P0133672  
**Facility ID:** 0641050002  
**Effective Date:** 11/09/2023

## **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 insignificant emissions units located at this facility are subject to one or more applicable requirements as defined in OAC rule 3745-77-01(H):

EU ID	Operations, Property and/or Equipment Description
F004	Bottom Ash Handling (OAC Chapter 17)
F006	Limestone and gypsum storage piles (PTI P0122403 issued 11/10/2020)
F011	FGD landfill operations (PTI P0122403 issued 11/10/2020)
P002	Unit 1 Diesel Fire Pump - Caterpillar 275 HP firefighting water pump (PBR02715 and MACT Subpart ZZZZ)
P003	Unit 1 Diesel Fire Pump - Caterpillar 275 HP firefighting water pump (PBR02716 and MACT Subpart ZZZZ)
P005	Units 1&2 FGD Emergency Generator - Cummins Power Model 400DFEH (PBR02718 and MACT Subpart ZZZZ)
P006	Unit 3 Diesel Fire Pump - Clarke 420 HP firefighting water pump (PBR02719, NSPS Subpart IIII and MACT Subpart ZZZZ)
P007	Unit 3 FGD Emergency Generator - Caterpillar Model D125-6 150 HP emergency generator (PBR06588, NSPS Subpart IIII and MACT Subpart ZZZZ)
P011	Bottom Ash Pond Project Emergency Generator - John Deere 6090CI550 Diesel Engine - 233 kW (PBR19360, NSPS Subpart IIII and MACT Subpart ZZZZ)

Each insignificant emissions unit at this facility must comply with all applicable state and federal regulations, as well as any emissions limitations and/or control requirements contained within a permit-to-install for that emissions unit. Insignificant emissions units listed above that are not subject to specific permit-to-install requirements are subject to one or more applicable requirements contained in the federally approved versions of OAC Chapters 3745-17, 3745-18, and/or 3745-21, 3745-31, and/or 40 CFR Part 60 or 63.

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

3. The Ohio EPA has determined that this facility operates affected sources that are subject to the requirements of 40 CFR Part 63, Subpart ZZZZ, the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines. Ohio EPA is not accepting the delegation authority to implement and enforce the area source requirements of this NESHAP standard. The area source requirements of this NESHAP standard are implemented and enforced by U.S. EPA, Region 5. The promulgated version of this NESHAP standard and the 40 CFR Part 63, General Provisions may be accessed via the Internet from the Electronic Code of Federal Regulations (e-CFR) website <http://www.ecfr.gov/> or by contacting Ohio EPA, Southeast District Office.

The following affected sources are subject to the area source requirements of this NESHAP standard: emissions units P002, P003, P005, P006 and P007.



4. The facility is subject to the applicable requirements specified in OAC rule 3745-25. In accordance with Ohio EPA Engineering Guide No. 64, the emission control action programs, as specified in OAC rule 3745-25-03, shall be developed and submitted within 60 days after receiving notification from the Ohio EPA.

*(Authority for term: OAC rule 3745-25)*

5. All asbestos renovation and demolition activities conducted at this facility shall be performed in accordance with the applicable requirements specified in 40 CFR Part 61, Subpart M and OAC Chapter 3745-20.

*(Authority for term: 40 CFR Part 61, Subpart M, and OAC rule 3745-20-02)*

6. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subparts A and UUUUU, National Emission Standards for Hazardous Air Pollutants (NESHAP) Coal- and Oil-fired Electric Utility Steam Generating Units: B001 (Unit 1), B002 (Unit 2) and B009 (Unit 3). The complete NESHAP requirements, including the NESHAP General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://www.ecfr.gov> or by contacting Ohio EPA, Southeast District Office.

*(Authority for term: 40 CFR Part 63, Subpart UUUUU)*

7. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subparts A and DDDDD, National Emission Standards for Hazardous Air Pollutants (NESHAP) Industrial, Commercial, and Institutional Boilers and Process Heaters: B008 and B010. The complete NESHAP requirements, including the NESHAP General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://www.ecfr.gov> or by contacting Ohio EPA, Southeast District Office.

*(Authority for term: 40 CFR Part 63)*

8. The following emissions unit contained in this permit is subject to 40 CFR Part 60, Subparts A and Db, Standards of Performance for Electric Utility Steam Generating Units (NSPS): B010. 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://www.ecfr.gov> or by contacting Ohio EPA, Southeast District Office.

*(Authority for term: 40 CFR Part 60)*

9. The following emissions unit contained in this permit is subject to 40 CFR Part 60, Subparts A and OOO, Standards of Performance for Nonmetallic Mineral Processing Plants (NSPS): P901 (formerly F005). 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://www.ecfr.gov> or by contacting Ohio EPA, Southeast District Office.

*(Authority for term: 40 CFR Part 60)*

10. Acid Rain Permits and Compliance

The permittee shall ensure that any affected unit complies with the requirements of 40 CFR Part 72, 40 CFR Part 75, and OAC Chapter 3745-103, which includes submitting timely permit applications.

Emissions exceeding any allowances that are lawfully held pursuant to this rule are prohibited. The requirements of this rule will be specified in the Title V permit issued to this facility.

*(Authority for term: 40 CFR Part 72, 40 CFR Part 75, and OAC Chapter 3745-103)*

11. Pursuant to 40 CFR 64.2(b)(1)(vi), the quarterly PM emission testing for emissions units B001, B002 and B009 required pursuant to 40 CFR Part 63, Subpart UUUUU meets the definition of a “continuous compliance determination method” such that the CAM requirements of Part 64 do not apply to the PM SIP limit of 0.1 lb/MMBtu. Also, pursuant to 40 CFR 64.2(b)(1)(i), CAM does not apply to the 40 CFR Part 63, Subpart UUUUU limit of 0.03 lb/MMBtu.

*(Authority for term: 40 CFR Part 64)*

12. NOx Budget Program (OAC Chapter 14)

- a) Pursuant to OAC rule 3745-14-01(C)(2)(a), emissions units B001, B002 and B009 are exempt from OAC rule 3745-14 because they are subject the federal CSAPR requirements in 40 CFR Part 97, Subparts AAAAA – DDDDD.

The emissions units identified below are non-electric generating unit (non-EGU) NOx budget units and Clean Air Interstate Rule (CAIR) NOx units, as defined in OAC rules 3745-14(C)(1)(b)(i) and (iii).

Emissions Unit B008 – Unit 3 Auxiliary Boiler

Emissions Unit B010 – Unit 1 and 2 Auxiliary Boiler

The permittee shall comply with the NOx monitoring, recordkeeping and reporting provisions of OAC Chapter 3745-14 applicable to owner/operators of non-EGU NOx budget units.

*(Authority for term: OAC rules 3745-14-01(C)(1)(i) and (iii) and (C)(2)(a))*

- b) Monitoring, Recordkeeping and Reporting

Units B008 and B010 qualify for the low mass emissions excepted methodology under 40 CFR 75.19 and are not subject to an acid rain emission limitation. The permittee shall meet the applicable general operating requirements of 40 CFR 75.10 and the applicable requirements of 40 CFR 75.19. The permittee shall also meet the applicable certification and recertification procedures of OAC rule 3745-14-08(B)(2), except that the excepted methodology shall be deemed provisionally certified for use under the NOx budget program as of the dates in OAC rule 3745-14-08(B)(3)(a)-(c).

*(Authority for term: OAC rule 3745-14-08(B)(3))*

13. Transport Rule (TR) Trading Program Requirements

- a) The permittee shall comply with all applicable Cross-State Air Pollution Rule (CSAPR) requirements (40 CFR Part 97, Subparts AAAAA – DDDDD) by the compliance date specified in 40 CFR 97, Subparts AAAAA – DDDDD.



- b) The TR subject units, and the unit-specific monitoring provisions at this source, are identified in the following table. These units are subject to the requirements for the TR NO<sub>x</sub> Annual Trading Program and TR NO<sub>x</sub> Ozone Season Trading Program and/or TR SO<sub>2</sub> Group 1 Trading Program.

Unit ID:					
B001 5,275 MMBtu/hr pulverized coal-fired boiler, Unit 1					
B002 5,275 MMBtu/hr pulverized coal-fired boiler, Unit 2					
B009 5,975 MMBtu/hr pulverized coal-fired boiler, Unit 3					
Parameter	Continuous emission monitoring system or systems (CEMS) requirements pursuant to 40 CFR part 75, subpart B (for SO <sub>2</sub> monitoring) and 40 CFR part 75, subpart H (for NO <sub>x</sub> monitoring)	Excepted monitoring system requirements for gas- and oil-fired units pursuant to 40 CFR part 75, appendix D	Excepted monitoring system requirements for gas- and oil-fired peaking units pursuant to 40 CFR part 75, appendix E	Low Mass Emissions excepted monitoring (LME) requirements for gas- and oil-fired units pursuant to 40 CFR 75.19	EPA-approved alternative monitoring system requirements pursuant to 40 CFR part 75, subpart E
SO <sub>2</sub>	x				
NO <sub>x</sub>	x				
Heat input					

- c) The above descriptions of the monitoring used by a unit does not change, create an exemption from, or otherwise affect the monitoring, recordkeeping and reporting requirements applicable to the unit under 40 CFR 97.430 through 97.435 (TR NO<sub>x</sub> Annual Trading Program), 97.530 through 97.535 (TR NO<sub>x</sub> Ozone Season Trading Program), and 40 CFR 97.630 through 97.635 (TR SO<sub>2</sub> Group 1 Trading Program), as applicable. The monitoring, recordkeeping and reporting requirements applicable to each unit are included below in the standard conditions for the applicable TR trading programs.
- d) Owners and operators must submit to the Administrator a monitoring plan for each unit in accordance with 40 CFR 75.53, 75.62 and 75.73, as applicable. The monitoring plan for each unit is available at the EPA's website at: <http://epa.gov/airmarkets/emissions/monitoringplans.html>.
- e) Owners and operators that want to use an alternative monitoring system must submit to the Administrator a petition requesting approval of the alternative monitoring system in accordance with 40 CFR Part 75, subpart E and 40 CFR 75.66 and 97.435 (TR NO<sub>x</sub> Annual Trading Program),



97.535 (TR NO<sub>x</sub> Ozone Season Trading Program), and 40 CFR Part 75, subpart E and 40 CFR 97.635 (TR SO<sub>2</sub> Group 1 Trading Program). The Administrator’s response approving or disapproving any petition for an alternative monitoring system is available on the EPA’s website at <http://www.epa.gov/airmarkets/emissions/petitions.html>.

- f) Owners and operators that want to use an alternative to any monitoring, recordkeeping, or reporting requirement under 40 CFR 97.430 through 97.434 (TR NO<sub>x</sub> Annual Trading Program), 97.530 through 97.534 (TR NO<sub>x</sub> Ozone Season Trading Program), and 40 CFR 97.630 through 97.634 (TR SO<sub>2</sub> Group 1 Trading Program) must submit to the Administrator a petition requesting approval of the alternative in accordance with 40 CFR 75.66 and 97.435 (TR NO<sub>x</sub> Annual Trading Program), 97.535 (TR NO<sub>x</sub> Ozone Season Trading Program), and 40 CFR 97.635 (TR SO<sub>2</sub> Group 1 Trading Program). The Administrator’s response approving or disapproving any petition for an alternative to a monitoring, recordkeeping, or reporting requirement is available on EPA’s website at <http://www.epa.gov/airmarkets/emissions/petitions.html>.
- g) The descriptions of monitoring applicable to the unit included above meet the requirement of 40 CFR 97.430 through 97.434 (TR NO<sub>x</sub> Annual Trading Program), 97.530 through 97.534 (TR NO<sub>x</sub> Ozone Season Trading Program), and 40 CFR 97.630 through 97.634 (TR SO<sub>2</sub> Group 1 Trading Program), and therefore minor permit modification procedures, in accordance with 40 CFR 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B), may be used to add to or change this unit’s monitoring system description.
- h) TR SO<sub>2</sub> Group 1 Trading Program Requirements

Designated representative requirements	97.606(a), 97.613-97.618
Emissions monitoring, reporting and recordkeeping requirements	97.606(b), 97.630-97.635
SO <sub>2</sub> emissions requirements	97.606(c)
Title V permit revision requirements	97.606(d)
Additional recordkeeping and reporting requirements	97.606(e)
Liability	97.606(f)
Effect on other authorities	97.606(g)

- i) TR NO<sub>x</sub> Ozone Season Trading Program requirements

Designated representative requirements	97.506(a), 97.513-97.518
Emissions monitoring, reporting and recordkeeping requirements	97.506(b), 97.530-97.535
NO <sub>x</sub> emissions requirements	97.506(c)
Title V permit revision requirements	97.506(d)
Additional recordkeeping and reporting requirements	97.506(e)
Liability	97.506(f)
Effect on other authorities	97.506(g)

- j) TR SO<sub>2</sub> Group 1 Trading Program requirements



**Final Title V Permit**  
Cardinal Power Plant (Cardinal Operating Company)  
**Permit Number:** P0133672  
**Facility ID:** 0641050002  
**Effective Date:** 11/09/2023

Designated representative requirements	97.606(a), 97.613-97.618
Emissions monitoring, reporting and recordkeeping requirements	97.606(b), 97.630-97.635
SO <sub>2</sub> emissions requirements	97.606(c)
Title V permit revision requirements	97.606(d)
Additional recordkeeping and reporting requirements	97.606(e)
Liability	97.606(f)
Effect on other authorities	97.606(g)

*(Authority for term: 40 CFR Part 97)*



**Final Title V Permit**  
Cardinal Power Plant (Cardinal Operating Company)  
**Permit Number:** P0133672  
**Facility ID:** 0641050002  
**Effective Date:** 11/09/2023

## **C. Emissions Unit Terms and Conditions**



**1. Emissions Unit Group - Main EGU Boilers: B001, B002 and B009**

EU ID	Operations, Property and/or Equipment Description
B001	Unit 1 - Babcock and Wilcox pulverized coal-fired, dry bottom, wall-fired boiler with a nominal capacity of 5,275 MMBtu/hr and equipped with selective catalytic reduction (SCR) for control of nitrogen oxides (NO <sub>x</sub> ), electrostatic precipitators (ESP) for particulate control and flue gas desulfurization (FGD) for sulfur dioxide (SO <sub>2</sub> ) control
B002	Unit 2 - Babcock and Wilcox pulverized coal-fired, dry bottom, wall-fired boiler with a nominal capacity of 5,275 MMBtu/hr and equipped with SCR for control of NO <sub>x</sub> , ESP for particulate control and FGD for SO <sub>2</sub> control
B009	Unit 3 - Babcock and Wilcox pulverized coal-fired, dry bottom, wall-fired boiler with a nominal capacity of 5,275 MMBtu/hr and equipped with SCR for control of NO <sub>x</sub> , ESP for particulate control and FGD for SO <sub>2</sub> control vented through the wet cooling tower

- 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(F) (as established in PTIs P0104411 and P0104412 issued 2/17/2011)	For emissions units B001 (Unit 1) and B002 (Unit 2), SO <sub>2</sub> emissions from each unit shall not exceed 1.056 pounds per million Btu (lbs/MMBtu) of actual heat input based upon a rolling, 30-day average.  For emissions unit B009 (Unit 3), SO <sub>2</sub> emissions shall not exceed 0.66 lb/MMBtu of actual heat input based upon a rolling, 30-day average.
b.	OAC rule 3745-31-05(F) (as established in PTIs P0104411 and P0104412 issued 2/17/2011)  (United States, et al. v. American Electric Power Service Corp., et al., Civil Action Nos. C2-99-1182 and C2-99-1250 and United States, et al. v.	Emissions units B001 (Unit 1), B002 (Unit 2) and B009 (Unit 3) shall be equipped with a flue gas desulfurization (FGD) system which shall be continuously operated for the reduction of SO <sub>2</sub> emissions.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	American Electric Power Service Corp., et al., Civil Action Nos. C2-04-1098 and C2-05-360 (Consent Decree))	<p>Emissions units B001 (Unit 1), B002 (Unit 2) and B009 (Unit 3) shall be equipped with a selective catalytic reduction (SCR) system which shall be continuously operated for the reduction of NO<sub>x</sub> emissions.</p> <p>Emissions units B001 (Unit 1) and B002 (Unit 2) shall be operated such that particulate matter (PM) emissions, shall not exceed 0.030 lb/MMBtu heat input for each unit as measured by Method 5, 5B, or 17, 40 C.F.R. Part 60, including Appendix A.</p> <p>See b)(2)a.-b. below.</p>
c.	40 CFR Part 97	See Section B.13.
d.	OAC rule 3745-17-07(A)(1)	<p>Visible particulate emissions (PE) from the stacks for Unit 1 (emissions unit B001), Unit 2 (emissions unit B002) and Unit 3 (emissions unit B009) shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.</p> <p>See b)(2)c. and c)(1) below.</p>
e.	OAC rule 3745-17-10(C)(1)	<p>For Unit 3 (emissions unit B009), the PE limitation of 0.1 lb/MMBtu actual heat input specified by this rule is less stringent than the emissions limitation established pursuant to 40 CFR Part 63, Subpart UUUUU.</p> <p>For Unit 1 (emissions unit B001) and Unit 2 (emissions unit B002), the PE limitation specified by this rule is less stringent than the PE limitation established pursuant to b)(1)b. above and 40 CFR Part 63, Subpart UUUUU.</p>
f.	OAC rules 3745-18-47(D)(1)-(3)	<p>The SO<sub>2</sub> emissions limitations specified in this rule for Unit 1 (emissions unit B001) and Unit 2 (emissions unit B002) are equivalent to the SO<sub>2</sub> emissions limitations established pursuant to OAC rule 3745-31-05(F).</p> <p>The SO<sub>2</sub> emissions limitation specified in this rule for Unit 3 (emissions unit B009) is</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>equivalent to the SO<sub>2</sub> emissions limitations established pursuant to OAC rule 3745-31-05(F).</p> <p>SO<sub>2</sub> emissions from Units 1, 2 and 3 (emissions units B001, B002 and B009), combined shall not exceed a maximum of 4,858.75 pounds per hour as a rolling, thirty-day average.</p>
g.	40 CFR Part 75 and OAC Chapter 3745-103	See b)(2)d.-g. below.
h.	<p>40 CFR Part 63, Subpart UUUUU (40 CFR 63.9980-10042)</p> <p>(In accordance with 40 CFR 63.9980 to 63.9982 and the definitions in 63.10042, this emissions unit is an existing coal-fired electric utility steam generating unit (EGU), constructed prior to May 3, 2011, subject to the emissions limitations and control measures specified in this section.)</p>	<p>Except as provided under the emissions averaging provisions specified in 63.10009, the permittee shall comply with the following emission limitations:</p> <p>PM: 0.03 lb/MMBtu or 0.30 lb/MWh;</p> <p>Acid Gases:</p> <p>Hydrogen chloride (HCl): 2.0E-3 lb/MMBtu or 2.0E-2 lb/MWh, OR</p> <p>Sulfur dioxide (SO<sub>2</sub>): 2.0E-1 lb/MMBtu or 1.5E0 lb/MWh.</p> <p>Mercury (HG): 1.2E0 lb/TBtu or 1.3E-2 lb/GWh</p> <p>[40 CFR 63.9991 and 40 CFR Part 63, Subpart UUUUU Table 2 (1.)</p> <p>See c)(2) below.</p>
i.	40 CFR Part 63, Subpart A (40 CFR 63.1-63.16)	Table 9 to Subpart UUUUU of 40 CFR Part 63 - "Applicability of General Provisions (Subpart A) to Subpart UUUUU of Part 63" identifies which parts of the General Provisions in 40 CFR Part 63.1-15 apply.
j.	<p>40 CFR Part 64 (40 CFR 64.1-64.10)</p> <p>(Compliance Assurance Monitoring)</p>	Pursuant to 40 CFR 64.2(b), CAM does not apply to the MACT emission limitations or standards in 40 CFR Part 63, Subpart UUUUU.

(2) Additional Terms and Conditions

- a. “Continuously operated” means that when SCR, FGD and/or an electrostatic precipitator (ESP) is/are used at a unit, except during a malfunction, it/they shall be operated at all times such unit is in operation, consistent with the technological limitations, manufacturers’ specifications, and good engineering and maintenance practices for such equipment and the unit so as to minimize emissions to the greatest extent practicable.

*(Authority for term: PTIs P0104411 and P0104412; OAC rule 3745-77-07(A)(1); and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- b. The permittee shall continuously operate the ESPs on emissions units B001 (Unit 1), B002 (Unit 2) to maximize PM emission reductions at all times when the emissions unit is in operation, provided that such operation of the ESP is consistent with the technological limitations, manufacturers' specifications, and good engineering and maintenance practices for the ESP. The permittee shall, at a minimum, to the extent reasonably practicable:

- i. fully energize each section of the ESP for each unit, and repair any failed ESP section at the next planned unit outage (or unplanned outage of sufficient length);
- ii. operate automatic control systems on each ESP to maximize PM collection efficiency;
- iii. maintain power levels delivered to the ESP, consistent with manufacturers' specifications, the operational design of the emissions unit, and good engineering practices; and
- iv. inspect for and repair during the next planned unit outage (or unplanned outage of sufficient length) any openings in ESP casings, ductwork, and expansion joints to minimize air leakage.

*(Authority for term: PTIs P0104411 and P0104412; OAC rule 3745-77-07(A)(1); and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- c. Pursuant to ORC 3704.03(l) and 40 CFR Part 51, Appendix P, Section 6.1 pertaining to alternative monitoring, the Director has determined that it is not technically feasible to install and operate a continuous opacity monitor on a stack with a saturated plume. Ohio EPA has determined that the permittee’s use of quarterly emission testing in accordance with the requirements of 40 CFR Part 63, Subpart UUUUU, as effective April 16, 2012, is sufficient for purposes of demonstrating compliance with the requirements of OAC rule 3745-17-03(C) so long as compliance with the particulate limits of 40 CFR 63, Subpart UUUUU continue to be achieved. Ohio EPA considers the use of quarterly emission testing as an acceptable alternative to a continuous opacity monitor. The permittee’s use

of the prescribed monitoring methods in OAC rule 3745-17-03 are also acceptable alternatives to a continuous opacity monitor.

- d. The permittee is subject to the requirements of OAC Chapter 103 and 40 CFR Parts 72 and 75 concerning acid rain, so 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.
- e. The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

*(Authority for term: 40 CFR 60.2 and/or 40 CFR 63.2 and Appendix F to 40 CFR Part 60)*

- f. The permittee shall maintain a written quality assurance/quality control plan for the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system), designed to ensure continuous valid and representative readings of SO<sub>2</sub> (and CO<sub>2</sub> or O<sub>2</sub>) emissions in units of the applicable standard(s). Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F and 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) in accordance with the frequencies required pursuant to 40 CFR Part 60 and 40 CFR Part 75; or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B, in lieu of frequencies required in 40 CFR Part 60. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits pursuant to 40 CFR Part 60, and linearity checks pursuant to 40 CFR Part 75; however, linearity checks completed pursuant to 40 CFR Part 75, Appendix B, may be substituted for the quarterly cylinder gas or relative accuracy audits required per 40 CFR Part 60.

*(Authority for term: 40 CFR 60.13, 40 CFR Part 60, Appendix F and 40 CFR Part 75)*

- g. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system), designed to ensure continuous valid and representative readings of NO<sub>x</sub> (and CO<sub>2</sub> or O<sub>2</sub>) emissions in units of the applicable standard(s). The fuel flow monitor/meter shall be maintained as required in Part 75, Appendix



D. Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F and 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) in accordance with the frequencies required pursuant to 40 CFR Part 60 and 40 CFR Part 75; or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B, in lieu of frequencies required in 40 CFR Part 60. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits pursuant to 40 CFR Part 60, and linearity checks pursuant to 40 CFR Part 75; however, linearity checks completed pursuant to 40 CFR Part 75, Appendix B, may be substituted for the quarterly cylinder gas or relative accuracy audits required per 40 CFR Part 60.

*(Authority for term: 40 CFR 60.13, 40 CFR Part 60, Appendix F and 40 CFR Part 75 and OAC rule 3745-77-07(C)(1))*

c) Operational Restrictions

- (1) To qualify for an exemption pursuant to OAC rule 3745-17-07(A)(3)(a)(i) or (A)(3)(b)(i), the permittee shall operate and maintain a temperature monitor that measures the temperature of the boiler exhaust gases entering the ESP during (a) all periods of start-up until the ESP is operational or until the inlet temperature of the ESP achieves the temperature level specified in OAC rule 3745-17-07(A)(3)(a)(i) and (b) all periods of shutdown until the inlet temperature of the ESP drops below the temperature level specified in OAC rule 3745-17-07(A)(3)(b)(i). An electronic or hardcopy record of the temperatures during periods of start-up and shutdown shall be maintained.

The temperature monitor shall be installed, calibrated, operated, and maintained in accordance with manufacturer's recommendations, with any modifications deemed necessary by the permittee, and shall be capable of accurately measuring the temperature of the boiler exhaust gases in units of degrees Fahrenheit.

- (2) The permittee shall comply with the applicable operational restrictions required under 40 CFR Part 63, Subpart UUUUU.

*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart UUUUU)*

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall record the duration of any period during which the FGD did not continuously operate, including the specific dates and times that the FGD did not operate,



the reason why permittee did not continuously operate the FGD, and the measures taken to reduce emissions of SO<sub>2</sub> controlled by the FGD.

*(Authority for term: OAC rule 3745-77-07(C)(1) and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- (2) The permittee shall record the duration of any period during which the SCR did not continuously operate, including the specific dates and times that the SCR did not operate, the reason why permittee did not continuously operate the SCR, and the measures taken to reduce emissions of NO<sub>x</sub> controlled by the SCR.

*(Authority for term: OAC rule 3745-77-07(C)(1) and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- (3) The permittee shall maintain on-site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 3; and has been certified by U.S. EPA or recommended for certification by Ohio EPA to U.S. EPA under 40 CFR Part 75. The letter(s)/document(s) of certification under Part 60 and certification or recommendation for certification under Part 75 shall be made available to the Director (Ohio EPA, Southeast District Office) upon request.

*(Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR 60.13; 40 CFR Part 60, Appendix B; and 40 CFR Part 75)*

- (4) The permittee shall operate and maintain equipment to continuously monitor and record SO<sub>2</sub> emissions and CO<sub>2</sub> or O<sub>2</sub> emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60 and 40 CFR Part 75.

The permittee shall maintain records of all data obtained by the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) including, but not limited to:

- a. emissions of SO<sub>2</sub> in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of SO<sub>2</sub> in units of the applicable standard(s) in the appropriate averaging period;
- c. the percent CO<sub>2</sub> or O<sub>2</sub> with each cycle time of the analyzer, with no resolution less than one data point per minute required;
- d. results of quarterly cylinder gas audits or linearity checks;
- e. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;

- f. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- g. hours of operation of the emissions unit, continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system), and control equipment;
- h. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system);
- i. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system); as well as,
- j. the reason (if known) and the corrective actions taken (if any) for each such event in h. and i.

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

*(Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(F), 40 CFR 60.13, 40 CFR Part 60, Appendices B & F, 40 CFR Part 75, and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- (5) A logbook documenting activities relating to the continuous SO<sub>2</sub> monitoring system for emissions units B001 (Unit 1) and B002 (Unit 2) must be kept on site and available for inspection during regular office hours.

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

- (6) The permittee shall maintain on-site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 3; and has been certified by U.S. EPA or recommended for certification by Ohio EPA to U.S. EPA under 40 CFR Part 75. The letter(s)/document(s) of certification under Part 60 and certification or recommendation for certification under Part 75 shall be made available to the Director (Ohio EPA, Southeast District Office) upon request.

The permittee shall operate and maintain equipment to continuously monitor and record NO<sub>x</sub> emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60 and 40 CFR Part 75.

The permittee shall maintain records of all data obtained by the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) including, but not limited to:

- a. emissions of NO<sub>x</sub> in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NO<sub>x</sub> in units of the applicable standard(s) in the appropriate averaging period;
- c. the percent CO<sub>2</sub> or O<sub>2</sub> with each cycle time of the analyzer, with no resolution less than one data point per minute required;
- d. results of quarterly cylinder gas audits or linearity checks;
- e. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- f. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- g. hours of operation of the emissions unit, continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system), and control equipment;
- h. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system);
- i. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system); as well as,
- j. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

*(Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 60.13, 40 CFR Part 60, Appendices B & F, 40 CFR Part 75, and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- (7) The permittee shall install, calibrate, operate, certify, and maintain a PM CEMS on the stack for emissions units Unit 1 (B001) and Unit 2 (B002). Each PM CEMS shall be comprised of a continuous particle mass monitor measuring particulate matter concentration, directly or indirectly, on an hourly average basis and a diluent monitor used to convert the concentration to units of pound(s)/million Btu. The permittee shall maintain, in an electronic database, the hourly average emission values produced by all PM CEMS at this facility in pound(s)/million Btu. The permittee shall use

reasonable efforts to keep each PM CEMS running and producing data whenever the emissions unit served by the PM CEMS is operating.

The permittee shall operate each PM CEMS in accordance with the QA/QC protocol developed using the criteria set forth in 40 CFR Part 60, Appendix B, Performance Specification 11 and Appendix F, Procedure 3 and approved by Ohio EPA.

*(Authority for term: PTI P0122403; OAC rule 3745-77-07(C)(1); and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- (8) The permittee shall operate the PM CEMS, for emissions units Unit 1 (B001) and Unit 2 (B002), for at least two years on these emissions units. After two years of operation, the permittee may attempt to demonstrate that it is infeasible to continue operating the PM CEMS. As part of such demonstration, the permittee shall submit an alternative PM monitoring plan for review and approval by U.S. EPA. The plan shall explain the basis for stopping operation of the PM CEMS. If U.S. EPA disapproves the alternative PM monitoring plan, or if U.S. EPA rejects the permittee's claim that it is infeasible to continue operating PM CEMS, such disagreement is subject to Section XV (Dispute Resolution) of the Consent Decree.

*(Authority for term: PTI P0122403; OAC rule 3745-77-07(C)(1); and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- (9) Operation of a PM CEMS, for emissions units Unit 1 (B001) and Unit 2 (B002), shall be considered no longer feasible if:
- a. the PM CEMS cannot be kept in proper condition for sufficient periods of time to produce reliable, adequate, or useful data consistent with the QA/QC protocol; or
  - b. the permittee demonstrates that recurring, chronic, or unusual equipment adjustment or servicing needs in relation to other types of continuous emission monitors cannot be resolved through reasonable expenditures of resources.

If U.S. EPA determines that the permittee has demonstrated that operation of the PM CEMS is no longer feasible, the permittee shall be entitled to discontinue operation of and remove the PM CEMS.

*(Authority for term: PTI P0122403; OAC rule 3745-77-07(C)(1); and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- (10) Until U.S. EPA approves an alternative monitoring plan, or until the conclusion of any proceeding under Section XV (Dispute Resolution) of the Consent Decree, the permittee shall continue to operate the PM CEMS, for emissions units Unit 1 (B001) and Unit 2 (B002). If U.S. EPA has not issued a decision regarding an alternative



monitoring plan within 120 days, the permittee may initiate action under Section XV (Dispute Resolution) of the Consent Decree.

*(Authority for term: PTI P0122403; OAC rule 3745-77-07(C)(1); and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- (11) The permittee shall comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 63, Subpart UUUUU.

*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 63, Subpart UUUUU)*

e) Reporting Requirements

- (1) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system):
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of SO<sub>2</sub> emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, 40 CFR Part 75, OAC Chapter 3745-18, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
  - b. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA Southeast District Office, documenting all instances of continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system downtime and malfunction while the emissions unit was on line.
  - c. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
    - i. the facility name and address;
    - ii. the manufacturer and model number of the continuous SO<sub>2</sub> and CO<sub>2</sub> or O<sub>2</sub> and other associated monitors;
    - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;

- iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
- v. the total SO<sub>2</sub> emissions for the calendar quarter (tons);
- vi. the total operating time (hours) of the emissions unit;
- vii. the total operating time of the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) while the emissions unit was in operation;
- viii. results and dates of quarterly cylinder gas audits or linearity checks;
- ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing the continuous SO<sub>2</sub> and CO<sub>2</sub> or O<sub>2</sub> monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any/each malfunction of the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system), emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime of the continuous SO<sub>2</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter. Data substitution procedures from 40 CFR 75 are not to be used for showing compliance with the short term OAC 3745-31-05(A)(3) rule-based or NSPS-based limitation(s) in this permit.

\* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

*(Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR 60.7 and 40 CFR Part 75)*

- (2) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system):
  - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within

30 days following the end of each calendar quarter to Ohio EPA, Southeast District Office, documenting all instances of NO<sub>x</sub> emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, 40 CFR Parts 75 and 76, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).

- b. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA Southeast District Office, documenting all instances of continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system downtime and malfunction while the emissions unit was on line.
- c. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
  - i. the facility name and address;
  - ii. the manufacturer and model number of the continuous NO<sub>x</sub> and CO<sub>2</sub> or O<sub>2</sub> and other associated monitors;
  - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
  - iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
  - v. the total NO<sub>x</sub> emissions for the calendar quarter (tons);
  - vi. the total operating time (hours) of the emissions unit;
  - vii. the total operating time of the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) while the emissions unit was in operation;
  - viii. results and dates of quarterly cylinder gas audits or linearity checks;
  - ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
  - x. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO<sub>x</sub> and CO<sub>2</sub> or O<sub>2</sub> monitor out-of-control and the compliant results following any corrective actions;

- xi. the date, time, and duration of any/each malfunction of the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system), emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime of the continuous NO<sub>x</sub> monitoring system (including the associated continuous CO<sub>2</sub> or O<sub>2</sub> monitoring system) and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter. Data substitution procedures from 40 CFR 75 are not to be used for showing compliance with the short term OAC 3745-31-05(A)(3) rule-based or NSPS-based limitation(s) in this permit.

\* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

*(Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(F), 40 CFR 60.7 and 40 CFR Part 75)*

- (3) The permittee shall collect, record, and maintain measurements, data, records, and reports required per 40 CFR Part 75; and shall submit certification, recertification, notifications, applications, monitoring plans, petitions for alternative monitoring systems, electronic quarterly reports, and any other pertinent record and/or report to the Administrator (U.S. EPA), as required by 40 CFR Part 75.

*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 75)*

- (4) The permittee shall comply with all periodic reporting requirements described in Section XI and Appendix B of the Consent Decree, including the following:
  - a. paragraphs 143 and 144: progress reports, due annually on March 31, and provisions for relevant Title V permit reporting;
  - b. paragraph 145: 15-day notification for violation(s) of the requirements of the Consent Decree;
  - c. paragraph 146: responsible signatories and certification;
  - d. Appendix B, paragraph I.F.: continuous operation reporting for SCR/FGD, including periods where SCR/FGD did not operate, due annually by March 31;
  - e. Appendix B, paragraph I.H.: continuous operation reporting for PM CEMS, including data recorded by the PM CEMS, expressed in lb/MMBtu on a 3-hour rolling average basis in electronic format for the prior calendar year, due annually by March 31;



- f. Appendix B, paragraph I.L.: report the PM emission rate as defined in Paragraph 51, for Cardinal Unit 1 and Cardinal Unit 2 and attach a copy of the executive summary and results of any stack test performed during the calendar year covered by the annual report; and
- g. Appendix B, paragraph II.: deviation reporting, due annually by March 31.

*(Authority for term: OAC rule 3745-77-07(C)(1) and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

- (5) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 63, Subpart UUUUU.

*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 63, Subpart UUUUU)*

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 Limitation:

For emissions units B001 (Unit 1) and B002 (Unit 2), SO<sub>2</sub> emissions from each unit shall not exceed 1.056 lbs/MMBtu of actual heat input based upon a rolling, 30-day average.

Applicable Compliance Method:

Ongoing compliance with the SO<sub>2</sub> emissions limitations contained in this permit, 40 CFR Parts 60 and 75, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Recordkeeping Section of this permit, and the recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.

Ongoing compliance with the associated CO<sub>2</sub> or O<sub>2</sub> monitoring requirements contained in this permit, 40 CFR Parts 60 and 75, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Recordkeeping section of this permit and demonstration of compliance with the quality assurance/quality control plan, which shall meet all of the testing and recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.

*(Authority for term: OAC rule 3745-77-07(C)(1) and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*



b. Emissions Limitation:

For emissions unit B009 (Unit 3), SO<sub>2</sub> emissions shall not exceed 0.66 lb/MMBtu of actual heat input based upon a rolling, 30-day average.

Applicable Compliance Method:

Ongoing compliance with the SO<sub>2</sub> emissions limitations contained in this permit, 40 CFR Parts 60 and 75, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record Keeping Section of this permit, and the recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.

Ongoing compliance with the associated CO<sub>2</sub> or O<sub>2</sub> monitoring requirements contained in this permit, 40 CFR Parts 60 and 75, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Recordkeeping section of this permit and demonstration of compliance with the quality assurance/quality control plan, which shall meet all of the testing and recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.

*(Authority for term: OAC rule 3745-77-07(C)(1) and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

c. Emissions Limitation:

PM emissions from Unit 1 (emissions unit B001) and Unit 2 (emissions unit B002) shall not exceed 0.030 lb/MMBtu heat input for each unit (based on a 3-hour average).

Applicable Compliance Method:

The permittee shall conduct annual stack tests for PM on each stack serving Units 1 and 2. The annual stack test requirement may be satisfied by stack tests conducted by the permittee as required by its permits for any year that such stack tests are required under the permits.

The reference methods and procedures for determining compliance with PM emission rates shall be those specified in 40 CFR Part 60, Appendix A, Method 5, 5B, or 17, or an alternative method that is promulgated by EPA, requested for use by the permittee and approved for use by Ohio EPA. Use of any particular method shall conform to the EPA requirements specified in 40 CFR Part 60, Appendix A and 40 CFR 60.48Da(b) and (e), or any federally-approved method contained in Ohio's State Implementation Plan. The permittee shall calculate the PM emission rates from the stack test results in accordance with 40 CFR 60.8(f). The results of each PM stack test shall be submitted to EPA within forty-five (45) days of completion of each test.



Compliance with the PM limitation above shall also be demonstrated based on the results of emission testing conducted in accordance with 40 CFR UUUUU, which is deemed acceptable to fulfill this testing requirement.

Ongoing compliance with the PM limitations contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit, and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.

*(Authority for term: OAC rule 3745-77-07(C)(1) and Consent Decree, Civil Action Nos. C2-05-360, C2-99-1250, and C2-04-1098, United States District Court, Southern District of Ohio)*

d. Emissions Limitation:

Visible PE from the stacks for Unit 1 (emissions unit B001), Unit 2 (emissions unit B002) and Unit 3 (emissions unit B003) shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Ongoing compliance with the opacity limitation contained in this permit shall be demonstrated by compliance with the PE limitation of 0.030 lb/MMBtu actual heat input. Ongoing compliance with the PE limitation of 0.030 lb/MMBtu shall demonstrated based on the data collected by the Continuous Particulate Emission Monitor or by the alternative monitoring methods in OAC rule 3745-17-03.

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

*(Authority for term: OAC rules 3745-17-07(A) and 3745-77-07(C)(1), 40 CFR 60.13, and 40 CFR Part 60, Appendix B)*

e. Emissions Limitation:

SO<sub>2</sub> emissions from Units 1, 2 and 3 (emissions units B001, B002 and B009), combined shall not exceed a maximum of 4,858.75 pounds per hour as a rolling, thirty-day average.

Applicable Compliance Method:

Compliance with the combined SO<sub>2</sub> emissions limitation shall be demonstrated through the data collected as required in the Monitoring and Recordkeeping Section of this permit, and the recertification requirements of 40 CFR Part 60 and 40 CFR Part 75, and the procedures in OAC rule 3745-18-04(D)(11).



f. Emissions Limitations:

Except as provided under the emissions averaging provisions specified in 63.10009, the permittee shall comply with the following emission limitations:

PM: 0.03 lb/MMBtu or 0.30 lb/MWh;

Acid Gases:

Hydrogen chloride (HCl): 2.0E-3 lb/MMBtu or 2.0E-2 lb/MWh,

OR

Sulfur dioxide (SO<sub>2</sub>): 2.0E-1 lb/MMBtu or 1.5E0 lb/MWh.

Mercury (HG): 1.2E0 lb/TBtu or 1.3E-2 lb/GWh

Applicable Compliance Method:

Compliance with the applicable limit(s) shall be demonstrated in accordance with the requirements of 40 CFR Part 63, Subpart UUUUU. See f)(2) below.

(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 63, Subpart UUUUU)

- (2) The permittee shall comply with the applicable performance testing and compliance requirements required under 40 CFR Part 63, Subpart UUUUU.

*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 63, Subpart UUUUU)*

g) Miscellaneous Requirements

- (1) Any amendment to the Consent Decree shall supersede the specified requirements of the Consent Decree contained in this permit.

**2. B008, Unit 3 Auxiliary Boiler**

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

Babcock and Wilcox ultra-low sulfur diesel (ULSD)-fired steam boiler with a nominal capacity of 498 MMBtu/hr

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) 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(D) (P0118443 issued 1/25/2016; restriction to qualify as a "limited-use boiler" per 40 CFR Part 63, Subpart DDDDD.)	See c)(1) below.
b.	OAC Chapter 3745-14	See Section B.12.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 lb/MMBtu actual heat input.
e.	OAC rule 3745-18-47(B)	Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.8 lb/MMBtu of actual heat input.
f.	OAC rule 3745-110-03	See b)(2)a. below.
g.	40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480 – 63.7575)  [In accordance 40 CFR 63.7485, 63.7490(d) and 63.7499(o), this emissions unit is an existing limited-use industrial boiler subject to the emissions limitations/control measures specified in this section.]	Tune-up requirements [40 CFR 63.7500(c) and Table 3 of 40 CFR Part 63, Subpart DDDDD]  See b)(2)b. and c. and c)(3) below.
h.	40 CFR Part 63, Subpart A (40 CFR 63.1-16)	Table 10 to Subpart DDDDD of 40 CFR Part 63 - Applicability of General Provisions (Subpart A) to Subpart DDDDD of Part 63 identifies which parts of the



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		General Provisions in 40 CFR Part 63.1-16 apply. [40 CFR 63.7565]

(2) Additional Terms and Conditions

- a. This emissions unit is not subject to the requirements of OAC rule 3745-110-03 because it is an existing emissions unit and is not located in one of the counties listed in OAC rule 3745-110-02(A)(1)(b).
- b. Per 40 CFR 63.7495(b), the permittee must comply with the requirements of 40 CFR Part 63, Subpart DDDDD for this emissions unit no later than January 31, 2016.

*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart DDDDD)*

- c. Per 40 CFR 63.7500(c) and 63.7575, this emissions unit is a limited-use boiler and is not subject to the emission limits in Tables 1 and 2 or 11 through 13 to 40 CFR Part 63, Subpart DDDDD, the annual tune-up or the energy assessment requirements in Table 3 to 40 CFR Part 63, Subpart DDDDD, or the operating limits in Table 4 to this subpart.

*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart DDDDD)*

c) Operational Restrictions

- (1) The maximum annual heat input for this emissions unit shall not exceed 436,248 MMBtu per rolling, 12-month period.

*(Authority for term: OAC rule 3745-31-05(D) and OAC rule 3745-77-07(A)(1))*

- (2) The permittee shall burn only distillate oil in this emissions unit. The distillate oil shall meet U.S. EPA's specifications for Ultra Low Sulfur Diesel (ULSD) found in 40 CFR 80.510(c).

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

- (3) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart DDDDD, including the following sections:

63.7500(c) and 63.7540(a)(12)	Complete a tune-up every five years
63.7510(e)	Complete the initial tune-up of the limited use boiler in accordance with 40 CFR 63.7540(a)(10)(i)-(vi) no later than the compliance date (January 31, 2016).



63.7515(d)	Conduct each 5-year tune-up no more than 61 months from the previous tune-up.
------------	---

*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart DDDDD)*

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain the following information for this emissions unit on a monthly basis:
  - a. the distillate oil usage, in gallons;
  - b. the heat input, in MMBtu, calculated based on the heat content analyses as required in d)(2) and the distillate oil gallon usage from d)(1)a. above; and
  - c. the rolling, 12-month summation of heat input, in MMBtu.

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 hours of operation, upon issuance of this permit.

*(Authority for term: OAC rule 3745-31-05(D) and OAC rule 3745-77-07(C)(1))*

- (2) The permittee shall perform or require the supplier to perform the analyses for heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240), or equivalent methods as approved by the Director.

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

- (3) The permittee shall maintain documents provided by the oil supplier for each shipment of distillate oil to demonstrate compliance with the ULSD requirement. These documents must include the receipt or bill of lading that includes confirmation that the fuel meets the #2 diesel fuel ULSD standard.

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

- (4) The permittee shall comply with the applicable monitoring and recordkeeping requirements under 40 CFR Part 63, Subpart DDDDD, including the following sections:

63.7525(k) and 63.7555(a)	Maintain copies of each notification and report submitted, a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10% and fuel use records for the days the boiler was operating.
---------------------------	---

*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart DDDDD)*



e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than distillate oil meeting U.S. EPA’s specifications for Ultra Low Sulfur Diesel (ULSD) 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 quarterly deviation (excursion) reports that identify any record which shows an exceedance of heat input limit of 436,248 MMBtu per rolling, 12-month period.

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 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*

- (3) The permittee shall comply with the applicable reporting requirements under 40 CFR Part 63, Subpart DDDDD, including the following sections:

63.7530(f) and 63.7545(e)	Submit a Notification of Compliance Status in accordance with 40 CFR 63.9(h)(2) within 60 days of the compliance date.
63.7540(b), 63.7550 and Table 9	Submit 5-year compliance reports containing the applicable information in 40 CFR 63.7550(c) and Table 9 by January 31. The first 5-year compliance report must cover the period beginning on the compliance date and ending on December 31 within five years after the compliance date. Subsequent 5-year compliance reports must cover the applicable 5-year period from January 1 to December 31.

*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart DDDDD)*

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 Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.



Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

*(Authority for term: OAC rules 3745-17-03(B)(1)(a), 3745-17-17(A)(1) and 3745-77-07(C)(1))*

b. Emissions Limitation:

PE shall not exceed 0.020 lb/MMBtu actual heat input.

Applicable Compliance Method:

Compliance with the PE limitation is demonstrated by multiplying the maximum fuel oil capacity of the emissions unit (3,600 gallons/hr) by the emission factor for number two fuel oil (2.0 lbs of particulate/ 1,000 gallons from AP-42 Table 1.3-1 (9/98)), and then dividing by the maximum hourly heat input capacity of the emissions unit (498 MMBtu/hr).

If required, the permittee shall demonstrate compliance with the PE limitation above in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9) or other appropriate U.S. EPA-approved methods.

*(Authority for term: OAC rules 3745-17-10(B)(1) and 3745-77-07(C)(1))*

c. Emissions Limitation:

SO<sub>2</sub> emissions shall not exceed 0.8 lb/MMBtu of actual heat input.

Applicable Compliance Method:

Compliance with the allowable SO<sub>2</sub> emission limitation shall be demonstrated by the recordkeeping in d)(4) above.

If required, the permittee shall demonstrate compliance with the allowable SO<sub>2</sub> emission limitation above in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6 or other appropriate U.S. EPA-approved methods.

*(Authority for term: OAC rules 3745-18-47(B) and 3745-77-07(C)(1))*

g) Miscellaneous Requirements

(1) None.

**3. B010, Units 1 and 2 Auxiliary Boiler**

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

Babcock and Wilcox Model FM 220-124 auxiliary steam boiler using only distillate oil (number 2 fuel oil and diesel fuel), or a blend of distillate oil (number 2 fuel oil and diesel fuel) and biodiesel fuel, with a nominal capacity of 652.58 million Btu/hr

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) 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(D) (PTI P0113983 issued 2/13/14; restriction to qualify as a "limited use boiler" per 40 CFR Part 63, subpart DDDDD)	Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 42.87 tons per rolling, 12-month period.  Carbon monoxide (CO) emissions shall not exceed 89.18 tons per rolling, 12-month period.  Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 14.86 tons per rolling, 12-month period.  Particulate emissions (PE) shall not exceed 5.72 tons per rolling, 12-month period.  Volatile organic compound (VOC) emissions shall not exceed 1.43 tons per rolling, 12-month period.  See c)(1) below.
b.	ORC 3703.04(T) and OAC rule 3745-31-05(A)(3) (PTI P0113983 issued 2/13/14)	Install a boiler that is designed to meet 0.15 lb NO <sub>x</sub> /MMBtu of actual heat input, as a 3-hour average.  Install a boiler that is designed to meet 0.312 lb CO/MMBtu of actual heat input, as a 3-hour average.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Install a boiler that is designed to meet 0.052 lb SO <sub>2</sub> /MMBtu of actual heat input, as a 3-hour average.
c.	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 VOC and PE from this air contaminant source since the potential to emit is less than 10 tons/year taking into account the federally enforceable restriction in OAC rule 3745-31-05(D).
d.	OAC Chapter 3745-14	See Section B.12.
e.	OAC rule 3745-17-07(A)(1)	The visible emissions limitation specified by this rule is less stringent than the visible emissions limitation established pursuant to 40 CFR Part 60, Subpart Db.
f.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 pound per MMBtu of actual heat input.
g.	OAC rule 3745-18-47(B)	The SO <sub>2</sub> emissions limitation specified by this rule is less stringent than the emissions limitation established pursuant to pursuant to 40 CFR Part 60, Subpart Db.
h.	OAC rule 3745-110-03(D)	Pursuant to OAC rule 3745-110-03(K)(9), this emissions unit is exempt from the requirements in OAC rule 3745-110-03.
i.	40 CFR Part 60, Subpart Db (40 CFR 60.40b – 60.49b)  (In accordance with 40 CFR 60.40b(a) and 60.44b, this emissions unit is a high heat release natural gas and distillate oil fired industrial boiler for which construction, modification, or reconstruction commenced after June 19, 1984 and that has a maximum design heat input capacity of greater than 29 megawatts (MW) (100 MMBtu/hr) subject to the emissions limitations and control measures specified in this section)	Visible PE shall not exceed 20% opacity, as a 6-minute average except for not more than 6 consecutive minutes in any 60 minutes, but shall not exceed 27 percent opacity, as a 6-minute average, at any time. [40 CFR 60.43b(f)]  The PE limitation specified by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-17-10(B)(1). [40 CFR 60.43b(h)(1)]  See b)(2)a. and b. below.
j.	40 CFR Part 60, Subpart A (40 CFR 60.1-19)	General Provisions
k.	40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480 – 63.7575)	Tune-up requirements [40 CFR 63.7500(c) and Table 3 (1.) of 40 CFR Part 63, Subpart DDDDD]



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	[In accordance 40 CFR 63.7485, 63.7490(d) and 63.7499(o), this emissions unit is an existing limited-use industrial boiler subject to the emissions limitations/control measures specified in this section.]	See b)(2)c.-d. and c)(4) below.
I.	40 CFR Part 63, Subpart A (40 CFR 63.1-16)	Table 10 to Subpart DDDDD of 40 CFR Part 63 - Applicability of General Provisions (Subpart A) to Subpart DDDDD of Part 63 identifies which parts of the General Provisions in 40 CFR Part 63.1-16 apply. [40 CFR 63.7565]

(2) Additional Terms and Conditions

- a. Pursuant to 40 CFR 60.42b(j) and (k)(2), this emissions unit is exempt from the SO<sub>2</sub> emissions limit in 40 CFR 60.42b(k)(1) and the reduction requirements in 40 CFR 60.42b(j) because only low sulfur fuel is combusted.  
  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 60, Subpart Db)*
- b. Pursuant to 40 CFR 60.44b(l)(1), this emissions unit is not subject to the NO<sub>x</sub> limit because it is subject to and in compliance with a federally enforceable annual capacity factor of 10% or less. Thus, the NO<sub>x</sub> limit in 40 CFR 60.44b does not apply.  
  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 60, Subpart Db)*
- c. Per 40 CFR 63.7495(b), the permittee must comply with the requirements of 40 CFR Part 63, Subpart DDDDD for this emissions unit no later than January 31, 2016.  
  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart DDDDD)*
- d. Per 40 CFR 63.7500(c), this emissions unit is identified as limited-use boiler and is not subject to the emission limits in Tables 1 and 2 or 11 through 13 to 40 CFR Part 63, Subpart DDDDD, the annual tune-up or the energy assessment requirements in Table 3 to 40 CFR Part 63, Subpart DDDDD, or the operating limits in Table 4 to this subpart.  
  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart DDDDD)*



c) Operational Restrictions

- (1) The maximum annual heat input for this emissions unit shall not exceed 571,660 MMBtu per rolling, 12-month period.

*(Authority for term: OAC rules 3745-31-05(D) and 3745-77-07(A)(1))*

- (2) The permittee shall burn only distillate oil in this emissions unit. The distillate oil shall meet U.S. EPA's specifications for Ultra Low Sulfur Diesel (ULSD) found in 40 CFR 80.510(c).

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

- (3) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart DDDDD, including the following sections:

63.7500(c) and 63.7540(a)(12)	Complete a tune-up every five years.
63.7510(e)	Complete the initial tune-up of the limited use boiler in accordance with 40 CFR 63.7540(a)(10)(i)-(vi) no later than the compliance date (January 31, 2016).
63.7515(d)	Conduct each 5-year tune-up no more than 61 months from the previous tune-up.

*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart DDDDD)*

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain the following information for this emissions unit on a monthly basis:

- a. the distillate oil usage, in gallons;
- b. the heat input, in MMBtu, calculated based on the heat content analyses as required in d)(2) and the distillate oil gallon usage from d)(1)a. above; and
- c. the rolling, 12-month summation of heat input, in MMBtu.

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 hours of operation, upon issuance of this permit.

*(Authority for term: OAC rules 3745-31-05(D) and 3745-77-07(A)(1))*

- (2) The permittee shall perform or require the supplier to perform the analyses for heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM

methods (such as, ASTM methods D240 for heat content), or equivalent methods as approved by the Director.

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

- (3) The permittee shall maintain documents provided by the oil supplier for each shipment of distillate oil to demonstrate compliance with the ULSD requirement. These documents must include the receipt or bill of lading that includes confirmation that the fuel meets the #2 diesel fuel ULSD standard.

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

- (4) The permittee shall comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 60, Subpart Db, including the following sections:

60.42b(j)(2), 60.45b(k), 60.47b(f), 60.49b(d)(2) and 60.49b(r)	Maintain fuel records as described in 40 CFR 60.49b(r).
60.48b(j)(7)	Operate according to the written site-specific opacity monitoring plan approved by the permitting authority. See g)(1) below.

*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 60, Subpart Db)*

- (5) The permittee shall comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 63, Subpart DDDDD, including the following sections:

63.7525(k) and 63.7555(a)	Maintain copies of each notification and report submitted, a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10% and fuel use records for the days the boiler was operating.
------------------------------	---

*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 63, Subpart DDDDD)*

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than distillate oil meeting U.S. EPA’s specifications for ULSD 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 quarterly deviation (excursion) reports that identify any record which shows an exceedance of heat input limit of 571,660 MMBtu per rolling, 12-month period.



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 3745-31-05(D) and 3745-77-07(A)(3)(c)).*

- (3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than distillate oil (number 2 fuel oil and diesel fuel), or a blend of distillate oil (number 2 fuel oil and diesel fuel) and biodiesel fuel 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))*

- (4) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subpart Db, including the following sections:

60.49b(a)	Submit notifications as required in 40 CFR 60.7(a). The notification of the date of initial startup shall include the information in 40 CFR 60.49b(a)(1)-(4), as applicable.
60.49b(d)(2) and (k)	Submit the performance test data from the initial performance test.
60.49b(h), (v) and (w)	Submit excess emissions reports within 30 days of the end of each 6-month reporting period.

*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 60, Subpart Db)*

- (5) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 63, Subpart DDDDD, including the following sections:

63.7530(f) and 63.7545(e)	Submit a Notification of Compliance Status in accordance with 40 CFR 63.9(h)(2) within 60 days of the compliance date.
63.7540(b), 63.7550 and Table 9	Submit 5-year compliance reports containing the applicable information in 40 CFR 63.7550(c) and Table 9 by January 31. The first 5-year compliance report must cover the period beginning on the compliance date and ending on December 31 within five years after the compliance date. Subsequent 5-year compliance reports must cover the applicable 5-year period from January 1 to December 31.

*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 63, Subpart DDDDD)*

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:

NO<sub>x</sub> emissions shall not exceed 42.87 tons per rolling, 12-month period.

CO emissions shall not exceed 89.18 tons per rolling, 12-month period.

SO<sub>2</sub> emissions shall be shall not exceed 14.86 tons per rolling, 12-month period.

PE shall not exceed 5.72 tons per rolling, 12-month period.

VOC emissions shall not exceed 1.43 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the emissions limitations above shall be demonstrated by the record keeping required pursuant to d)(1) above and the associated emission factors derived from the emission testing specified in f)(2) below.

*(Authority for term: OAC rules 3745-31-05(D) and 3745-77-07(C)(1))*

b. Emissions Limitation:

Install a boiler that is designed to meet 0.15 lb NO<sub>x</sub>/MMBtu of actual heat input, as a 3-hour average.

Applicable Compliance Method:

This emissions limitation is based on the results of the emissions testing conducted on February 1, 2007. See f)(2) below.

If required, NO<sub>x</sub> emissions shall be determined in accordance with test Methods 1 - 4, and 7E as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

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

c. Emissions Limitation:

Install a boiler that is designed to meet 0.312 lb CO/MMBtu of actual heat input, as a 3-hour average.

Applicable Compliance Method:

This emissions limitation is based on the results of the emissions testing conducted on February 1, 2007. See f)(2) below.

If required, CO emissions shall be determined according to test Methods 1 - 4, and 10 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards



of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

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

d. Emissions Limitation:

Install a boiler that is designed to meet 0.052 lb SO<sub>2</sub>/MMBtu of actual heat input, as a 3-hour average.

Applicable Compliance Method:

This emissions limitation is based on the results of the emissions testing conducted on February 1, 2007. See f)(2) below.

If required, SO<sub>2</sub> emissions shall be determined in accordance with test Methods 1 - 4, and 6 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

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

e. Emissions Limitation:

PE shall not exceed 0.020 pound per MMBtu of actual heat input

Applicable Compliance Method:

This emissions limitation is based on the results of the emissions testing conducted on February 1, 2007. See f)(2) below.

If required, PE shall be determined according to test Methods 1 - 4, and 5 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

*(Authority for term: OAC rules 3745-17-10(B)(1), 3745-31-05(A)(3) and OAC rule 3745-77-07(C)(1))*

f. Emissions Limitation:

Visible PE shall not exceed 20 percent opacity, as a 6-minute average except for not more than 6 consecutive minutes in any 60 minutes, but shall not exceed 27 percent opacity, as a 6-minute average, at any time.

Applicable Compliance Method:

Compliance with the visible PE limitation shall be demonstrated as outlined in g)(1) below.

If required, visible PE shall be determined according to USEPA Method 9.

*(Authority for term: OAC rule 3745-77-07(C)(1), and 40 CFR Part 60, Subpart Db)*

- (2) Testing to demonstrate compliance with the short-term emission limitations for PE, NO<sub>x</sub>, CO, and VOC was completed on February 1, 2007. The emission factors established for PE, NO<sub>x</sub>, CO and VOC based on the results of the emission testing were 0.02 lb/MMBtu, 0.15 lb/MMBtu, 0.312 lb/MMBtu and 0.005 lb/MMBtu, respectively.

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

g) **Miscellaneous Requirements**

- (1) The Cardinal Operating Company submitted a petition request to U.S. EPA for an alternative opacity monitoring requirement in lieu of the continuous opacity monitoring system that is required by Subpart Db.

Pursuant to that request, U.S. EPA granted an alternative opacity monitoring protocol via a letter, dated March 15, 2006, to Mr. Douglas Shearn, Cardinal Plant Manager. This letter contained the following operating conditions and requirements:

- a. At the auxiliary boiler, Cardinal must not exceed a total annual heat input of 571,660 MMBtu, or 10 percent of its annual capacity. If Cardinal exceeds 571,660 MMBtu of total annual heat input, Cardinal must immediately submit to Ohio EPA and U.S. EPA a schedule for installing and certifying a continuous opacity monitor (COM) within 6 months or less. Cardinal must immediately notify Ohio EPA and U.S. EPA that Cardinal exceeded the 571,660 MMBtu limit.
- b. Cardinal must conduct its routine operational checks during daytime hours only.
- c. At least once every 4 hours of operation, during daylight hours, an observer certified in accordance with Method 9 must perform three 6-minute observations of the auxiliary boiler stack. If any 6-minute average opacity exceeds 20%, the observer must collect two additional 6-minute sets of visible emissions readings.
- d. Cardinal must maintain on-site for a period of 5 years from the date of observation, records of the date and time of visible emissions observations, along with the results of each observation.
- e. Cardinal must maintain on-site, for a period of 5 years, records of the auxiliary boiler's heat input.
- f. Within 30 days of the end of each calendar quarter, Cardinal must submit to Ohio EPA and U.S. EPA excess emission reports. The excess emission reports must identify the total heat input and number of hours of operation in that quarter, the total heat input and number of hours of operation in previous quarters within the same calendar year, the total number of observations performed under the above conditions and any excess opacity readings observed. The excess emission report shall denote that the boiler must comply with a 20 percent opacity limit as a 6-minute average.



**Final Title V Permit**  
Cardinal Power Plant (Cardinal Operating Company)  
**Permit Number:** P0133672  
**Facility ID:** 0641050002  
**Effective Date:** 11/09/2023

- g. Cardinal shall maintain the boiler in accordance with good air pollution control practices.

*(Authority for term: PTI P0113983, OAC rule 3745-77-07(C)(1), and 40 CFR Part 60, Subpart Db)*



**4. F001, Plant Roadways and Parking Areas**

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

Plant paved and unpaved roadways and parking areas installed prior to 1974

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 3745-17-07(B)(7)(a)(ii)	No visible emissions of fugitive dust from the paved roadways and/or parking areas except for a period of time not to exceed six minutes during any 60-minute observation period.  No visible emissions of fugitive dust from the unpaved roadways and/or parking areas except for a period of time not to exceed thirteen minutes during any 60-minute observation period.
b.	OAC rule 3745-17-08(B) (Paved roadways and parking areas)	Reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.  See b)(2)a., c.-d., f. and h.-i. below.
c.	OAC rule 3745-17-08(B) (Unpaved roadways and parking areas)	Reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.  See b)(2)b. and e.-i. below.

(2) Additional Terms and Conditions

a. The paved roadways and parking areas that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:

i. All paved roadways

ii. All paved parking areas

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

b. The unpaved roadways and parking areas that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:

i. All unpaved roadways

iii. All unpaved parking areas

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

c. The permittee shall employ reasonably 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 permit application, the permittee has committed to treat the paved roadways and parking areas by flushing with water, sweeping, and/or watering at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

d. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, 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.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

e. The permittee shall employ reasonably available control measures on all unpaved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved roadways and parking areas with water and/or any other suitable dust suppression chemicals and/or by resurfacing at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

f. The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for a paved or unpaved 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. Implementation of any control



measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

- g. Any unpaved roadway or parking area, which during the term of this permit is paved or takes the characteristics of a paved surface due to the application of certain types of dust suppressants, may be controlled with the control measure specified above for paved surfaces. Any unpaved roadway or parking area that takes the characteristics of a paved roadway or parking area due to the application of certain type of dust suppressants shall remain subject to the visible emission limitation for unpaved roadways and parking areas. Any unpaved roadway or parking area that is paved shall be subject to the visible emission limitation for paved roadways and parking areas.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

- h. 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.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

- i. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas in accordance with the following frequencies:

<u>paved roadways and parking areas</u>	<u>minimum inspection frequency</u>
all	weekly when in use
<u>unpaved roadways and parking areas</u>	<u>minimum inspection frequency</u>
all	weekly when in use

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

- (2) The purpose of the inspections is to determine the need for implementing the above-mentioned 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 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

- (3) The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements. Such modified inspection frequencies would not be considered a minor or significant modification that would be subject to the Title V permit modification requirements in paragraphs (C)(1) and (C)(3) of OAC rule 3745-77-08.

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

- (4) The permittee shall maintain records of the following information:
- a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
  - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. the dates the control measures were implemented; and
  - d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in d)(4)d. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. each week 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 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 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*

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 Limitation:

No visible emissions of fugitive dust from the paved roadways and/or parking areas except for a period of time not to exceed six minutes during any 60-minute observation period.

Applicable Compliance Method:

If required, visible emissions of fugitive dust shall be determined according to U.S. EPA Method 22, with the modifications found in OAC rule 3745-17-03(B)(4).

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-03(B)(3) and 3745-77-07(C)(1))*

b. Emissions Limitation:

No visible emissions of fugitive dust from the unpaved roadways and/or parking areas except for a period of time not to exceed 13 minutes during any 60-minute observation period.

Applicable Compliance Method:

If required, visible emissions of fugitive dust shall be determined according to U.S. EPA Method 22, with the modifications found in OAC rule 3745-17-03(B)(4).

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-03(B)(3) and e 3745-77-07(C)(1))*

g) Miscellaneous Requirements

(1) None.

**5. F002, Coal Handling and Transport Operations**

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

Coal handling and transport operations; includes equipment installed prior to 1974 including conveyors, chutes, gates, hoppers, trippers, samplers, scales, tramp iron removal, transfer stations, silos and stackers controlled with enclosures, dust suppression, dust collection and ventilating systems and the radial stacker installed in 2005 and permitted in PTI 06-07825 under EU F002 (new equipment only)

- 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 P0122403 issued 11/10/2020)	Particulate emissions (PE) from the radial stacker shall not exceed 1.60 tons per year.  The radial stacker shall employ best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(B)(7)(b) for the radial stacker.  See b)(2)a.-d. below.
b.	OAC rule 3745-17-07(B)(7)(b)	Visible PE shall not exceed 20% opacity as a three-minute average for any material handling operation.
c.	OAC rule 3745-17-08(B)(6)	Reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.  See b)(2)a.-d. below.

(2) Additional Terms and Conditions

- a. The coal material handling operations that are covered by this permit and subject to the requirements of OAC rule 3745-17-07 and 3745-17-08 are listed below:
- i. bucket ladder unloading station
  - ii. railcar rotary dumping station
  - iii. all coal transfer points at the plant (i.e., conveyor to conveyor, conveyor loading and unloading, etc.)
  - iv. mobile coal handling equipment (i.e., pan scraper, front-end loader, bulldozer, etc.)
  - v. under pile gravity load-out to conveyor
  - vi. loading of stacker belt conveyor
  - vii. stacker belt conveyor to radial stacker

*(Authority for term: OAC rules 3745-17-08(B)(6) and 3745-77-07(A)(1))*

- b. The permittee shall employ best/reasonably available control measures on all coal unloading stations for barges, railcars and/or trucks, coal conveyors, coal handling operations, and coal transfer points for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to employ partial enclosures for the coal conveying operations, employ total enclosures for the coal transfer points and treat the coal unloading stations and coal handling operations with water and/or any other suitable dust suppression chemicals at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

*(Authority for term: OAC rules 3745-17-08(B)(6) and 3745-77-07(A)(1))*

- c. For each coal conveyor and transfer point that is not adequately enclosed, such conveyor or transfer point shall be treated with water and/or suitable dust suppression chemicals if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measures are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measures shall continue during operation of any coal conveyor or coal transfer point until further observation confirms that use of the control measures is unnecessary.

*(Authority for term: OAC rules 3745-17-08(B)(6) and 3745-77-07(A)(1))*

- d. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rules 3745-17-08 and 3745-31-05(A)(3).

*(Authority for term: OAC rules 3745-17-08(B)(6) and 3745-77-07(A)(1))*

c) Operational Restrictions

- (1) None.



d) Monitoring and/or Recordkeeping Requirements

- (1) For coal material handling operations that are not adequately enclosed, the permittee shall perform inspections of such coal unloading stations in accordance with the following frequencies:

<u>Coal Material Handling Operations</u>	<u>Minimum Inspection Frequency</u>
bucket ladder unloading station	weekly when in operation
railcar rotary dumping station	weekly when in operation
all coal transfer points at the plant	weekly when in operation
mobile coal handling equipment	weekly when in operation
under pile gravity load-out to conveyor	weekly when in operation
loading of stacker belt conveyor	weekly when in operation
stacker belt conveyor to radial stacker	weekly when in operation

The above-mentioned inspections shall be performed during representative, normal operating conditions.

*(Authority for term: OAC rules 3745-17-07(B)(7)(b), 3745-17-08(B)(6) and 3745-77-07(C)(1))*

- (2) The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements. Such modified inspection frequencies would not be considered a minor or significant modification that would be subject to the Title V permit modification requirements in paragraphs (C)(1) and (C)(3) of OAC rule 3745-77-08.

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

- (3) The permittee shall maintain records of the following information:
- a. The date and reason any required inspection was not performed;
  - b. The date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. The dates the control measures were implemented; and
  - d. On a calendar quarter basis, the total number of days the control measures were implemented.

The information in d)(3)d. shall be kept separately for (i) the coal unloading stations, (ii) the coal conveyors, (iii) the coal handling operations, and (iv) the coal transfer points, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

*(Authority for term: OAC rules 3745-17-07(B)(7)(b), 3745-17-08(B)(6) and 3745-77-07(C)(1))*



e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. each week during which an inspection was not performed by the required frequency; and
  - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

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 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*

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 Limitation:

Fugitive PE from the radial stacker shall not exceed 1.60 tons per year.

Applicable Compliance Method:

Compliance with the annual emission limitation for the radial stacker is demonstrated by the following one-time calculation based on the emission factors in AP-42 sections 13.2.4 (11/06), a maximum annual throughput of 17,870,400 TPY of coal, two transfer points and a control efficiency of 90% for watering/chemical dust suppression and enclosures:

$$EF = k(0.0032)(U/5)^{1.3}/[(M/2)^{1.4}] = 0.000898 \text{ lb PE/ton}$$

Where:

k = 0.74; particle size multiplier

U = 9 mph; mean wind speed (as submitted in permittee's application)

M = 6.9%; moisture content (as submitted in the permittee's application)

PE (tons/year)

$$= \text{coal EF (lb/ton)} \times \text{max annual throughput (TPY)} \times \text{\# transfer points} \times 1 \text{ ton}/2,000 \text{ lbs}$$

$$= 0.000898 \text{ lb/ton} \times 17,870,400 \text{ tons/yr} \times 2 \text{ transfer points} \times 1 \text{ ton}/2,000 \text{ lbs} \times (1-0.90)$$



= 1.60 tons/year

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

b. Emissions Limitation:

Visible PE shall not exceed 20% opacity as a three-minute average for any material handling operation.

Applicable Compliance Method:

If required, visible PE shall be determined according to U.S. EPA Method 9, with the modifications found in OAC rule 3745-17-03(B)(3)(a) and (b).

*(Authority for term: OAC rules 3745-17-07(B)(7)(b), 3745-17-03(B)(3) and 3745-77-07(C)(1))*

g) Miscellaneous Requirements

(1) None.

**6. F003, Coal Storage Piles**

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

Load-in, load-out, maintenance and wind erosion of coal storage piles

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 3745-17-07(B)(7)(b)	Visible particulate emissions (PE) shall not exceed 20% opacity as a 3-minute average for the load-in or load-out of coal storage piles.  See b)(2)a. below.
b.	OAC rule 3745-17-07(B)(7)(c)	Visible PE shall not exceed 20% opacity as a 3-minute average from the operation of vehicles on top of any coal storage pile (emissions from the combustion of fuels in such vehicles are not subject to this limitation).  See b)(2)a. below.
c.	OAC rule 3745-17-07(B)(7)(d)	No visible PE from any coal storage pile due to wind erosion, except for a period of time not to exceed 13-minutes during any 60-minute observation period.  See b)(2)a. below.
d.	OAC rule 3745-17-08(B)(6)	Reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.  See b)(2)a.-g. below.

(2) Additional Terms and Conditions

- a. The coal storage pile activities that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:

Load-in of all coal storage piles

Load-out of all coal storage piles

Maintenance of coal storage piles

Wind erosion of coal storage piles

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(A)(1))*

- b. The permittee shall employ reasonably available control measures on all coal load-in and load-out operations associated with the coal storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to employ enclosures for load-in operations and employ under pile gravity load-out to covered conveyors to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(A)(1))*

- c. The above-mentioned control measures shall be employed for each coal load-in and load-out operation of each storage pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measures are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measures shall continue during any such operation until further observation confirms that the use of the measures is no longer necessary.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(A)(1))*

- d. The permittee shall employ reasonably available control measures on all pile maintenance operations associated with the coal storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. The permittee shall employ good operating practices for the pile working operations to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(A)(1))*



- e. The permittee shall employ reasonably available control measures for wind erosion from pile surfaces associated with the coal storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee’s permit application, the permittee has committed to reduce the height of the piles and/or compact the piles to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(A)(1))*

- f. The above-mentioned control measures shall be employed for each pile working operation and wind erosion from each pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measures are necessary to ensure compliance with the above-mentioned applicable requirements. Implementation of the control measures shall not be necessary for a coal storage pile 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.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(A)(1))*

- g. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit are appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each coal load-in operation in accordance with the following frequencies:

<u>coal storage pile identification</u>	<u>minimum coal load-in inspection frequency</u>
all coal storage piles at the plant	weekly when in operation

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

- (2) Except as otherwise provided in this section, the permittee shall perform inspections of each pile maintenance operation in accordance with the following frequencies:

coal storage pile identification                      minimum coal load-out inspection frequency

all coal storage piles at the plant              weekly when in operation

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

- (3) Except as otherwise provided in this section, the permittee shall perform inspections of each coal load-in operation in accordance with the following frequencies:

coal storage pile identification                      minimum coal pile working inspection frequency

all coal storage piles at the plant              weekly when in operation

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

- (4) Except as otherwise provided in this section, the permittee shall perform inspections of the wind erosion from pile surfaces associated with each coal storage pile in accordance with the following frequencies:

coal storage pile identification                      minimum wind erosion inspection frequency

all coal storage piles at the plant              weekly when in operation

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

- (5) No inspection shall be necessary for wind erosion from the surface of the pile when the pile is covered with snow and/or ice and for any storage pile activity 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 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

- (6) The purpose of the inspections is to determine the need for implementing the control measures specified in this permit for coal load-in or load-out of a storage pile, pile working operations, and wind erosion from the surface of a coal storage pile. The inspections shall be performed during representative, normal storage pile operating conditions.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

- (7) The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements. Such modified inspection frequencies would not be considered a minor or significant modification that would be subject to the Title V permit modification requirements in paragraphs (C)(1) and (C)(3) of OAC rule 3745-77-08.

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

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

- a. The date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
- b. The date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
- c. The dates the control measures were implemented; and
- d. On a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in d)(8)d. shall be kept separately for (i) the coal load-in operations, (ii) the coal load-out operations, (iii) the coal pile working operations, and (iv) the coal pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

e) Reporting Requirements

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

- a. each week during which the required frequency did not perform an inspection, 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 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 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*

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 Limitation:

Visible PE shall not exceed 20% opacity as a 3-minute average for the load-in or load-out of coal storage piles.



Applicable Compliance Method:

If required, visible PE shall be determined according to U.S. EPA Method 9, with the modifications found in OAC rule 3745-17-03(B)(3)(a) and (b).

*(Authority for term: OAC rules 3745-17-07(B)(7)(b) and 3745-77-07(C)(1))*

b. Emissions Limitation:

Visible PE shall not exceed 20% opacity as a 3-minute average from the operation of vehicles on top of any coal storage pile.

Applicable Compliance Method:

If required, visible PE shall be determined according to U.S. EPA Method 9, with the modifications found in OAC rule 3745-17-03(B)(3)(a) and (b).

*(Authority for term: OAC rules 3745-17-07(B)(7)(c) and 3745-77-07(C)(1))*

c. Emissions Limitation:

There shall be no visible PE from any coal storage pile due to wind erosion, except for a period of time not to exceed thirteen minutes during any sixty-minute observation period.

Applicable Compliance Method:

If required, visible PE shall be determined according to U.S. EPA Method 22 and the procedures specified in OAC rule 3745-17-03(B)(4).

*(Authority for term: OAC rules 3745-17-07(B)(7)(d) and 3745-77-07(C)(1))*

g) Miscellaneous Requirements

- (1) None.



**7. F010, Coal Truck Unloading Facility**

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

Coal truck unloading facility consisting of a three-bin drive over truck dump, three enclosed belt feeders, one conveyor and chute-work and an enclosure at the top of an existing silo

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(D)  (Synthetic minor to avoid PSD major modification and BAT requirements for PE as established in PTI 06-08163 issued final 4/5/2007)	Particulate emissions (PE) shall not exceed 9.9 tons per rolling, 12-month period.  See c)(1) below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE from this air contaminant source since the calculated annual emission rate for PE is less than 10 tons/yr taking into account the federally enforceable rule limit under OAC rule 3745-31-05(D).
c.	OAC rule 3745-17-07(B)(7)(b)	Visible PE shall not exceed 20% opacity as a three-minute average.
d.	OAC rule 3745-17-08(B)(6)	Reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust.  See b)(2)a.-c. below.

(2) Additional Terms and Conditions

a. The permittee shall employ reasonably available control measures for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's application, the permittee has committed to

maintain partial enclosures (3/4 conveyor covers), full enclosures and a dust control fogging system, to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

*(Authority for term: OAC rules 3745-17-08(B)(6) and 3745-77-07(A)(1))*

- b. For each material handling operation that is not adequately enclosed, the above-identified control measure(s) shall be implemented if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) is (are) necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during the operation of the material handling operation(s) until further observation confirms that use of the control measure(s) is unnecessary.

*(Authority for term: OAC rules 3745-17-08(B)(6) and 3745-77-07(A)(1))*

- c. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit are appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08.

*(Authority for term: OAC rules 3745-17-08(B)(6) and 3745-77-07(A)(1))*

c) Operational Restrictions

- (1) The maximum throughput for the coal truck dump station shall not exceed 3,500,000 tons based upon a rolling, 12-month summation of the material throughput.

*(Authority for term: OAC rules 3745-31-05(D) and 3745-77-07(A)(1))*

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for the coal truck dump station to monitor compliance with the applicable material throughput restriction:

- a. the material throughput for each month; and  
b. the rolling, 12-month summation of the material throughput.

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 material throughput, upon issuance of this permit.

*(Authority for term: OAC rules 3745-31-05(D) and 3745-77-07(A)(1))*

- (2) For coal material handling operations that are not adequately enclosed, the permittee shall perform inspections of such coal unloading stations in accordance with the following frequencies:



Truck Unloading Operations

Minimum Inspection Frequency

truck unloading to dump bins  
 dump bin transfer to coal conveyor  
 coal conveyor transfer to Silo #6

weekly when in operation  
 weekly when in operation  
 weekly when in operation

The above-mentioned inspections shall be performed during representative, normal operating conditions.

*(Authority for term: OAC rules 3745-17-07(B)(7)(b), 3745-17-08(B)(6) and 3745-77-07(C)(1))*

- (3) The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements. Such modified inspection frequencies would not be considered a minor or significant modification that would be subject to the Title V permit modification requirements in paragraphs (C)(1) and (C)(3) of OAC rule 3745-77-08.

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

- (4) The permittee shall maintain records of the following information:
  - a. The date and reason any required inspection was not performed;
  - b. The date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. The dates the control measures were implemented; and
  - d. On a calendar quarter basis, the total number of days the control measures were implemented.

The information in d)(4)d. shall be kept separately for each portion of the truck unloading operation, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

*(Authority for term: OAC rules 3745-17-07(B)(7)(b), 3745-17-08(B)(6) and 3745-77-07(C)(1))*

e) Reporting Requirements

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling, 12-month throughput limitation. 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 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*



- (2) The permittee shall submit semiannual deviation (excursion) reports that identify:
  - a. each day during which an inspection was not performed by the required frequency; and
  - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

The semi-annual 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 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*

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 Limitation:

PE shall not exceed 9.9 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation shall be demonstrated by the record keeping requirements specified in d)(1), the equations in AP-42 13.2.4 (11/06) and the information in the permittee's application.

*(Authority for term: OAC rules 3745-31-05(D) and 3745-77-07(C)(1))*

- b. Emissions Limitation:

Visible PE shall not exceed 20% opacity as a three-minute average.

Applicable Compliance Method:

If required, visible PE shall be determined according to U.S. EPA Method 9, with the modifications found in OAC rule 3745-17-03(B)(3)(a) and (b).

*(Authority for term: OAC rules 3745-17-07(B)(7)(b), 3745-17-03(B)(3) and 3745-77-07(C)(1))*

g) Miscellaneous Requirements

- (1) None.



**8. F012, Residual Waste Landfill Roadways**

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

Paved and unpaved roadways for residual waste disposal; includes hauling of gypsum to the landfill, hauling of gypsum from the landfill for beneficial reuse, and hauling of WWTP sludge, dry fly ash and bottom ash with a maximum of 556,324 vehicle miles traveled per year on paved roadways and 38,782 vehicle miles traveled per year on unpaved roadways

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T) and OAC rule 3745-31-05(A)(3) (PTI P0122403 issued 11/10/2020)	Fugitive particulate emissions (PE) shall not exceed 1.0 ton per month averaged over a 12-month rolling period.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A) do not apply to the fugitive emissions of particulate matter less than 10 microns (PM10) and the fugitive emissions of particulate matter less than 2.5 microns (PM2.5) from this air contaminant source since the potential to emit is less than 10 tons/year.
c.	OAC rules 3745-17-07(B)(7)(a)(ii)	No visible PE from paved roadways or parking areas except for a period of time not to exceed six minutes during any 60-minute observation period.  No visible PE from unpaved roadways or parking areas except for a period of time not to exceed thirteen minutes during any 60-minute observation period.
d.	OAC rule 3745-17-08(B)	Reasonably available control measures that are sufficient to minimize or eliminate visible PE of fugitive dust.  See b)(2)a.-e. below.

(2) Additional Terms and Conditions

- a. The permittee shall employ reasonably 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 application of chemical stabilization/dust suppressants and/or watering at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

- b. The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for paved roadways and parking areas that are 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. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

- c. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, 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.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

- d. 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.

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

- e. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-17-08(B).

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(A)(1))*

c) Operational Restrictions

- (1) None.



e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. each week 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 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 3745-17-08(B) and 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:

Fugitive PE shall not exceed 1.0 ton per month averaged over a 12-month rolling period.

Applicable Compliance Method:

Compliance with fugitive PE limitation shall be determined using the emission factor equations in AP-42 Section 13.2.1 for paved roadways (1/11) and Section 13.2.2 for unpaved roadways (11/06), a maximum of 556,324 vehicle miles traveled per year on paved roadways, a maximum of 38,782 vehicle miles traveled per year on unpaved roadways, a 97.9% control efficiency for sweeping and watering of paved roadways, a 95% control efficiency for watering of unpaved roadways of and the information presented in the permittee's application (A0064025).

*(Authority for term: ORC 3704.03(T) and OAC rules 3745-31-05(A)(3) and 3745-77-07(C)(1))*

b. Emission Limitations:

No visible PE from paved roadways or parking areas except for a period of time not to exceed one minute during any 60-minute observation period.

No visible PE from unpaved roadways or parking areas except for a period of time not to exceed three minutes during any 60-minute observation period.



**Final Title V Permit**  
Cardinal Power Plant (Cardinal Operating Company)  
**Permit Number:** P0133672  
**Facility ID:** 0641050002  
**Effective Date:** 11/09/2023

Applicable Compliance Method:

If required, visible emissions of fugitive dust shall be determined according to U.S. EPA Method 22, with the modifications found in OAC rule 3745-17-03(B)(4).

*(Authority for term: OAC rules 3745-17-08(B) and 3745-77-07(C)(1))*

- g) Miscellaneous Requirements
  - (1) None.



**9. P008, Unit 3 SO<sub>3</sub> Mitigation System**

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

SO<sub>3</sub> mitigation material handling and storage system for Unit 3 with a maximum throughput of 13,140 tons per year of trona and 13,140 tons per year of hydrated lime; includes pneumatic truck unloading of trona and hydrated lime into two silos controlled with bin vent filters and four vent hoppers controlled with bin vent filters; formerly permitted as EU F008

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 particulate emissions (PE), emissions of particulate matter less than 10 microns (PM10) and emissions of particulate matter less than 2.5 microns (PM2.5) from this air contaminant source since the calculated annual emissions rate is less than 10 tons/year taking into account the voluntary restriction from OAC rule 3745-31-05(E).
b.	OAC rule 3745-31-05(E) (PTI P0122403 issued 11/10/2020)	PE shall not exceed 1.28 tons per year.  Install and operate bin vent filters with a minimum of 99% control efficiency.  See b)(2)a. below.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a six-minute average, except as specified by rule.
d.	OAC rule 3745-17-11(A)	PE from any stack shall not exceed 92.7 lbs/hr.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to baghouses with a minimum of 99% control efficiency at all times the emissions unit is in operation.

*(Authority for term: OAC rules 3745-31-05(E) and 3745-77-07(A)(1))*

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from any 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 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 emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission 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 3745-31-05(E) and 3745-77-07(A)(1))*

e) Reporting Requirements

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

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



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

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 3745-31-05(E), 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*

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 Limitation:

PE shall not exceed 1.28 tons per year.

Applicable Compliance Method:

The annual limit is based on the following calculation:

PE/PM<sub>10</sub>/PM<sub>2.5</sub> (tons/year)

$$= [((0.01 \text{ gr/dscf} \times 1,100 \text{ acfm} \times 2 \text{ bin vents}) + (0.01 \text{ gr/dscf} \times 300 \text{ acfm} \times 4 \text{ bin vents})) \times 1 \text{ lb}/7,000 \text{ gr} \times 60 \text{ min}/\text{hour} \times 8,760 \text{ hours}/\text{year} \times 1 \text{ ton}/2,000 \text{ pounds}]$$

$$= 1.28 \text{ tons}/\text{year}$$

*(Authority for term: OAC rules 3745-31-05(E) and 3745-77-07(C)(1))*

- b. Emission Limitation:

Visible PE from any stack shall not exceed 20% opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, visible PE shall be determined according to U.S. EPA Method 9, with the modifications found in OAC rule 3745-17-03(B)(3)(a) and (b).

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

- c. Emissions Limitation:

PE from any stack shall not exceed 92.7 lbs/hr.



Applicable Compliance Method:

If required, PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources", and the procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

*(Authority for term: OAC rules 3745-17-11(A) and 3745-77-07(C)(1))*

- g) Miscellaneous Requirements
  - (1) None.



**10. P009, Lime Materials Handling for WWTP**

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

FGD wastewater treatment plant chemical handling; includes pneumatic truck unloading of hydrated lime into two silos equipped with bin vent filters; formerly permitted as EU F009

- 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 operations(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. 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 particulate emissions (PE), emissions of particulate matter less than 10 microns (PM10) and emissions of particulate matter less than 2.5 microns (PM2.5) from this air contaminant source since the calculated annual emissions rate is less than 10 tons/year taking into account the voluntary restriction from OAC rule 3745-31-05(E).
b.	OAC rule 3745-31-05(E) (PTI P0122403 issued 11/10/2020)	PE shall not exceed 1.98 tons per year.  Install and operate bin vent filters with a minimum of 99% control efficiency.  See b)(2)a. below.
c.	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.
d.	OAC rule 3745-17-11(A)	PE from any stack shall not exceed 100.97 lbs/hr.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to bin vent filters with a minimum of 99% control efficiency at all times the emissions unit is in operation.

*(Authority for term: OAC rules 3745-31-05(E) and 3745-77-07(A)(1))*

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from any 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 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 emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under d)(1)d. or continue the daily check until the incident has ended. The observer may indicate that the visible emission 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 3745-31-05(E) and 3745-77-07(A)(1))*

e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that
- a. identify all days during which any visible particulate emissions were observed from any stack serving this emissions unit; and



- b. describe 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 periods.

*(Authority for term: OAC rules 3745-31-05(A)(3), 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*

f) Testing Requirements

- (1) Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:

- a. Emissions Limitation:

PE shall not exceed 1.98 tons per year

Applicable Compliance Method:

The annual limit is based on the following calculation:

PE/PM<sub>10</sub>/PM<sub>2.5</sub> (tons/year)

$$\begin{aligned} &= (0.022 \text{ gr/dscf} \times 1,200 \text{ acfm} \times 2 \text{ bin vents}) \times 1 \text{ lb}/7,000 \text{ gr} \times 60 \text{ min}/\text{hour} \times \\ & \quad 8,760 \text{ hours}/\text{year} \times 1 \text{ ton}/2,000 \text{ pounds} \\ &= 1.98 \text{ tons}/\text{year} \end{aligned}$$

*(Authority for term: OAC rules 3745-31-05(E) and 3745-77-07(C)(1))*

- b. Emissions Limitation:

Visible PE from any stack shall not exceed 20% opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, visible PE shall be determined according to USEPA Method 9, with the modifications found in OAC rule 3745-17-03(B)(3)(a) and (b).

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

- c. Emissions Limitation:

PE from any stack shall not exceed 100.97 lbs/hr.

Applicable Compliance Method:

If required, PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance



**Final Title V Permit**  
Cardinal Power Plant (Cardinal Operating Company)  
**Permit Number:** P0133672  
**Facility ID:** 0641050002  
**Effective Date:** 11/09/2023

for New Stationary Sources", and the procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

- g) Miscellaneous Requirements
  - (1) None.



**11. P010, Units 1 and 2 SO<sub>3</sub> Mitigation System**

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

a) SO<sub>3</sub> mitigation material handling and storage systems for Units 1 and 2; includes pneumatic truck unloading of a maximum of 17,520 tons per year of hydrated lime into a storage silo controlled with a baghouse and pneumatic truck unloading of a maximum of 28,908 tons per year of trona into a day bin controlled with a baghouse; formerly permitted as EU F008

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

a. 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 P0122403 issued 11/10/2020)	Particulate emissions (PE) and emissions of particulate matter <10 microns (PM <sub>10</sub> ) from any stack serving this emissions unit shall not exceed 0.011 gr/dscf.  PE shall not exceed 1.40 tons per year.  The requirements of this rule include compliance with OAC rule 3745-17-07(A).  See b)(2)a. below.
b.	OAC rule 3745-17-11(A)	The emissions limitation specified by this rule is less stringent than the emissions limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20% opacity as a six-minute average, except as specified by rule.

(2) Additional Terms and Conditions

- a. The emissions from the pneumatic truck unloading of hydrated lime and trona shall be vented to baghouses with a minimum of 99% control efficiency at all times the emissions unit is in operation.

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

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from any 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 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 emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission 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 3745-31-05(A)(3), 3745-17-08(B) and 3745-77-07(A)(1))*

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all days during which any visible particulate emissions were observed from any stack serving this emissions unit; and



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

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 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*

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 Limitation:

PE and emissions of PM<sub>10</sub> and PM<sub>2.5</sub> from any stack serving this emissions unit shall not exceed 0.011 gr/dscf.

Applicable Compliance Method:

The short-term emissions limitation is based on the baghouse information in the permittee's application.

If required, PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources", and the procedures specified in OAC rule 3745-17-03(B)(9). If required, PM<sub>10</sub> and PM<sub>2.5</sub> emissions shall be determined according to test Methods 201/201A, and 202 as set forth in 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

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

- b. Emissions Limitation:

PE shall not exceed 1.40 tons per year.

Applicable Compliance Method:

The annual limit is based on the following calculation and the worst case of the three mitigation systems:

PE/PM<sub>10</sub>/PM<sub>2.5</sub> (tons/year)



$$= (0.011 \text{ gr/dscf} \times 1,100 \text{ acfm} \times 2) + (0.011 \text{ gr/dscf} \times 300 \text{ acfm} \times 4) \times 1 \text{ lb}/7,000 \text{ gr} \times 60 \text{ min}/\text{hour} \times 8,760 \text{ hours}/\text{year} \times 1 \text{ ton}/2,000 \text{ pounds}$$

$$= 1.40 \text{ tons}/\text{year}$$

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

c. Emissions Limitation:

Visible PE from any stack shall not exceed 20% opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, visible PE shall be determined according to U.S. EPA Method 9, with the modifications found in OAC rule 3745-17-03(B)(3)(a) and (b).

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

g) Miscellaneous Requirements

- (1) None.

**12. Emissions Unit Group - Diesel Engines - IEUs: P012, P013**

EU ID	Operations, Property and/or Equipment Description
P012	2021 John Deere 4045TFC03 Diesel Engine - 55 kW Engine
P013	2021 Isuzu CP-4LE2X Diesel Engine - 46 kW Engine

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) g)(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)(a)(ii) (PTI P0132137 issued 7/1/2022)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO <sub>2</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons/year.  The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM <sub>10</sub> /PM <sub>2.5</sub> , NO <sub>x</sub> , VOC, CO emissions from this air contaminant source since the potential to emit is less than 10 tons/year taking into account the federally enforceable rule limits established by 40 CFR Part 60, Subpart IIII. See b)(1)e.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)(5)(a)	PE from the engine's exhaust shall not exceed 0.310 pound per million Btu of actual heat input for a stationary small internal combustion engine (less than or equal to 600 HP).
d.	OAC rule 3745-18-06(G)	This emissions unit has a rated heat input capacity less than 10 MMBtu/hr and is therefore exempt from OAC rule 3745-18-



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		06(G), pursuant to OAC rule 3745-18-06(B).
e.	40 CFR Part 60, Subpart IIII 40 CFR 60.4200 – 60.4219 [In accordance with 40 CFR Part 60.4200, this emission unit is a new non-road, non-emergency stationary compression ignition (CI) internal combustion engine (ICE) with a displacement of less than 30 liters per cylinder, with a maximum engine power of less than or equal to 2,237 kW, that commenced construction after July 11, 2005, and is a model year of 2007 or later.]	In accordance with 40 CFR 60.4201(a), this engine shall be certified to the certification emission standards in 40 CFR 1039.101 Table 1, Tier 4 standards.  In accordance with 40 CFR 1039.101, Table 1: PM emissions shall not exceed 0.03 g/kW-hr; NOx+NMHC emissions shall not exceed 4.7 g/kW-hr; and CO emissions shall not exceed 5.0 g/kW-hr.  Per 40 CFR 60.4207(b), diesel fuel burned in this emissions unit must meet the requirements of 40 CFR 1090.305.
f.	40 CFR Part 63, Subpart ZZZZ 40 CFR Part 63.6580 – 63.6675 [In accordance with 40 CFR 63.6580, this emissions unit is a new stationary reciprocating internal combustion engine (RICE) with a site rating of 500 hp or less installed at a major source of hazardous air pollutants (HAPs) after June 12, 2006.]	In accordance with 40 CFR 63.6590(c)(7), this emissions unit must meet the requirements of 40 CFR Part 63, Subpart ZZZZ, by meeting the requirements of 40 CFR Part 60, Subpart IIII. No further requirements apply for this engine under this part.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The permittee shall burn only number two fuel oil in this emissions unit.

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

(2) Diesel fuel burned in this emissions unit shall not exceed the Ultra Low Sulfur Diesel (ULSD) limit for sulfur as specified by 40 CFR 1090.305, i.e., the maximum sulfur content of diesel fuel shall not exceed 15 ppm or 0.0015% sulfur by weight.

*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR, Part 60, Subpart IIII)*

- (3) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR, Part 60, Subpart IIII)*
  - (4) See 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675).  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR, Part 63, Subpart ZZZZ)*
- d) Monitoring and/or Recordkeeping Requirements
- (1) For each day during which the permittee burns a fuel other than number two fuel oil, 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 maintain documents provided by the oil supplier for each shipment of number 2 fuel oil to demonstrate compliance with the ULSD requirement. These documents must include the receipt or bill of lading that includes confirmation that the fuel meets the number 2 diesel fuel ULSD standard.  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 60, Subpart IIII)*
  - (3) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 60, Subpart IIII)*
  - (4) See 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart ZZZZ)*
- e) Reporting Requirements
- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than number two fuel oil 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) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 60, Subpart IIII)*
  - (3) See 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart ZZZZ)*
- 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 Limitation:

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

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to U.S. EPA Method 9.

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

b. Emissions Limitation:

PE from the engine's exhaust shall not exceed 0.310 pound per million Btu of actual heat input for a stationary small internal combustion engine (less than or equal to 600 HP).

Applicable Compliance Method:

Compliance with this emissions limitation is demonstrated by the following calculation:

$(0.03 \text{ g PE/kW-hr (40 CFR 1039.101 Table 1 Tier 4 Exhaust Emissions Standards, post 2014 model)}) \times (1 \text{ kg/1,000 g}) \times (1 \text{ lb/0.454 kg}) \times (1 \text{ kW/1,000 W}) \times (745.7 \text{ W/hp}) \times (1 \text{ hp-hr/7,000 Btu}) \times (1,000,000 \text{ Btu/MMBtu}) = 0.007 \text{ lb PE/MMBtu}$

If required, PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources", and the procedures specified in OAC rule 3745 17 03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

(Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(B)(5)(a))

c. Emissions Limitations:

In accordance with 40 CFR 60.420140(a), this engine shall be certified to the certification emission standards in 40 CFR 1039.101 Table 1, Tier 4 standards.

In accordance with 40 CFR 1039.101, Table 1:

PM emissions shall not exceed 0.03 g/kW-hr;

NOx+NMHC emissions shall not exceed 4.7 g/kW-hr; and

CO emissions shall not exceed 5.0 g/kW-hr.



Applicable Compliance Method:

Compliance with these emissions limitations is demonstrated by the engine certification.

(Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR, Part 60, Subpart IIII and 40 CFR, Part 1039)

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install (PTI) prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

*(Authority for term: ORC 3704.03(F)(3)(c) and F(4), OAC rule 3745-114-01 and Option A, Engineering Guide #70)*



**13. P014, John Deere 4045HF Diesel Engine**

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

2021 John Deere 4045HF Diesel Engine - 129 kW

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) g)(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)(a)(ii) (PTI P0132137 issued 7/1/2022)	<p>The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO<sub>2</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons/year.</p> <p>The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM<sub>10</sub>/PM<sub>2.5</sub>, NO<sub>x</sub>, VOC, CO emissions from this air contaminant source since the potential to emit is less than 10 tons/year taking into account the federally enforceable rule limits established by 40 CFR Part 60, Subpart IIII.</p> <p>See b)(1)e.</p>
b.	OAC rule 3745-17-07(A)	Visible PE from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)(5)(a)	PE from the engine's exhaust shall not exceed 0.310 pound per million Btu of actual heat input for a stationary small internal combustion engine (less than or equal to 600 HP).
d.	OAC rule 3745-18-06(G)	This emissions unit has a rated heat input capacity less than 10 MMBtu/hr and is therefore exempt from OAC rule 3745-18-



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		06(G), pursuant to OAC rule 3745-18-06(B).
e.	40 CFR Part 60, Subpart IIII 40 CFR 60.4200 – 60.4219 [In accordance with 40 CFR Part 60.4200, this emission unit is a new non-road, non-emergency stationary compression ignition (CI) internal combustion engine (ICE) with a displacement of less than 30 liters per cylinder, with a maximum engine power of less than or equal to 2,237 kW, that commenced construction after July 11, 2005, and is a model year of 2007 or later.]	In accordance with 40 CFR 60.4201(a), this engine shall be certified to the certification emission standards in 40 CFR 1039.101 Table 1, Tier 4 standards.  In accordance with 40 CFR 1039.101, Table 1: PM emissions shall not exceed 0.02 g/kW-hr; NOx emissions shall not exceed 0.40 g/kW-hr; NMHC emissions shall not exceed 0.19 g/kW-hr; and CO emissions shall not exceed 5.0 g/kW-hr.  Per 40 CFR 60.4207(b), diesel fuel burned in this emissions unit must meet the requirements of 40 CFR 1090.305.
f.	40 CFR Part 63, Subpart ZZZZ 40 CFR Part 63.6580 – 63.6675 [In accordance with 40 CFR 63.6580, this emissions unit is a new stationary reciprocating internal combustion engine (RICE) with a site rating of 500 hp or less installed at a major source of hazardous air pollutants (HAPs) after June 12, 2006.]	In accordance with 40 CFR 63.6590(c)(7), this emissions unit must meet the requirements of 40 CFR Part 63, Subpart ZZZZ, by meeting the requirements of 40 CFR Part 60, Subpart IIII. No further requirements apply for this engine under this part.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The permittee shall burn only number two fuel oil in this emissions unit.

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

(2) Diesel fuel burned in this emissions unit shall not exceed the Ultra Low Sulfur Diesel (ULSD) limit for sulfur as specified by 40 CFR 1090.305, i.e., the maximum sulfur content of diesel fuel shall not exceed 15 ppm or 0.0015% sulfur by weight.

*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR, Part 60, Subpart IIII)*

- (3) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR, Part 60, Subpart IIII)*
  - (4) See 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675).  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR, Part 63, Subpart ZZZZ)*
- d) Monitoring and/or Recordkeeping Requirements
- (1) For each day during which the permittee burns a fuel other than number two fuel oil, 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 maintain documents provided by the oil supplier for each shipment of number 2 fuel oil to demonstrate compliance with the ULSD requirement. These documents must include the receipt or bill of lading that includes confirmation that the fuel meets the number 2 diesel fuel ULSD standard.  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 60, Subpart IIII)*
  - (3) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 60, Subpart IIII)*
  - (4) See 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart ZZZZ)*
- e) Reporting Requirements
- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than number two fuel oil 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) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 60, Subpart IIII)*
  - (3) See 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart ZZZZ)*
- 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 Limitation:

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

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to U.S. EPA Method 9.

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

b. Emissions Limitation:

PE from the engine's exhaust shall not exceed 0.310 pound per million Btu of actual heat input for a stationary small internal combustion engine (less than or equal to 600 HP).

Applicable Compliance Method:

Compliance with this emissions limitation is demonstrated by the following calculation:

$(0.02 \text{ g PE/kW-hr (40 CFR 1039.101 Table 1 Tier 4 Exhaust Emissions Standards, post 2014 model)}) \times (1 \text{ kg/1,000 g}) \times (1 \text{ lb/0.454 kg}) \times (1 \text{ kW/1,000 W}) \times (745.7 \text{ W/hp}) \times (1 \text{ hp-hr/7,000 Btu}) \times (1,000,000 \text{ Btu/MMBtu}) = 0.005 \text{ lb/MMBtu}$

If required, PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources", and the procedures specified in OAC rule 3745 17 03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

(Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(B)(5)(a))

c. Emissions Limitations:

In accordance with 40 CFR 60.420140(a), this engine shall be certified to the certification emission standards in 40 CFR 1039.101 Table 1, Tier 4 standards.

In accordance with 40 CFR 1039.101, Table 1:

PM emissions shall not exceed 0.02 g/kW-hr;

NOx emissions shall not exceed 0.40 g/kW-hr;

NMHC emissions shall not exceed 0.19 g/kW-hr; and

CO emissions shall not exceed 5.0 g/kW-hr.



Applicable Compliance Method:

Compliance with these emissions limitations is demonstrated by the engine certification.

(Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR, Part 60, Subpart IIII and 40 CFR, Part 1039)

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install (PTI) prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

*(Authority for term: ORC 3704.03(F)(3)(c) and F(4), OAC rule 3745-114-01 and Option A, Engineering Guide #70)*



**14. P015, Caterpillar C9 Pump - 250kw**

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

2021 Diesel fired engine Caterpillar C9 Pump - 250kw

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) g)(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.

a.	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(A)(3)(a)(ii) (PTI P0132488 issued 8/4/2022)	<p>The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO<sub>2</sub> emissions from this air contaminant source since the potential to emit is less than 10 tons/year.</p> <p>The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM<sub>10</sub>/PM<sub>2.5</sub>, NO<sub>x</sub>, VOC, CO emissions from this air contaminant source since the potential to emit is less than 10 tons/year taking into account the federally enforceable rule limits established by 40 CFR Part 60, Subpart IIII. See b)(1)e.</p>
c.	OAC rule 3745-17-07(A)	Visible PE 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)(5)(a)	PE from the engine's exhaust shall not exceed 0.310 pound per million Btu of actual heat input for a stationary small internal combustion engine (less than or equal to 600 HP).



a.	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-18-06(G)	This emissions unit has a rated heat input capacity less than 10 MMBtu/hr and is therefore exempt from OAC rule 3745-18-06(G), pursuant to OAC rule 3745-18-06(B).
f.	40 CFR Part 60, Subpart IIII 40 CFR 60.4200 – 60.4219  [In accordance with 40 CFR Part 60.4200, this emission unit is a new non-road, non-emergency stationary compression ignition (CI) internal combustion engine (ICE) with a displacement of less than 30 liters per cylinder, with a maximum engine power of less than or equal to 2,237 kW, that commenced construction after July 11, 2005, and is a model year of 2007 or later.]	In accordance with 40 CFR 60.4201(a), this engine shall be certified to the certification emission standards in 40 CFR 1039.101 Table 1, Tier 4 standards.  In accordance with 40 CFR 1039.101, Table 1:  PM emissions shall not exceed 0.02 g/kW-hr;  NOx emissions shall not exceed 0.40 g/kW-hr;  NMHC emissions shall not exceed 0.19 g/kW-hr; and  CO emissions shall not exceed 3.5 g/kW-hr.  Per 40 CFR 60.4207(b), diesel fuel burned in this emissions unit must meet the requirements of 40 CFR 1090.305.
g.	40 CFR Part 63, Subpart ZZZZ 40 CFR Part 63.6580 – 63.6675  [In accordance with 40 CFR 63.6580, this emissions unit is a new stationary reciprocating internal combustion engine (RICE) with a site rating of 500 hp or less installed at a major source of hazardous air pollutants (HAPs) after June 12, 2006.]	In accordance with 40 CFR 63.6590(c)(7), this emissions unit must meet the requirements of 40 CFR Part 63, Subpart ZZZZ, by meeting the requirements of 40 CFR Part 60, Subpart IIII. No further requirements apply for this engine under this part.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

- (1) The permittee shall burn only number two fuel oil in this emissions unit.  
*(Authority for term: OAC rule 3745-77-07(A)(1))*
- (2) Diesel fuel burned in this emissions unit shall not exceed the Ultra-Low Sulfur Diesel (ULSD) limit for sulfur as specified by 40 CFR 1090.305, i.e., the maximum sulfur content of diesel fuel shall not exceed 15 ppm or 0.0015% sulfur by weight.  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR, Part 60, Subpart IIII)*
- (3) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR, Part 60, Subpart IIII)*
- (4) See 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675).  
*(Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR, Part 63, Subpart ZZZZ)*

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than number two fuel oil, 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 maintain documents provided by the oil supplier for each shipment of number 2 fuel oil to demonstrate compliance with the ULSD requirement. These documents must include the receipt or bill of lading that includes confirmation that the fuel meets the number 2 diesel fuel ULSD standard.  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 60, Subpart IIII)*
- (3) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 60, Subpart IIII)*
- (4) See 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart ZZZZ)*

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than number two fuel oil 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) See 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 60, Subpart IIII)*
- (3) See 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 – 63.6675).  
*(Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart ZZZZ)*

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 Limitation:

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

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to U.S. EPA Method 9.

*(Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-07(A))*

- b. Emissions Limitation:

PE from the engine's exhaust shall not exceed 0.310 pound per million Btu of actual heat input for a stationary small internal combustion engine (less than or equal to 600 HP).

Applicable Compliance Method:

Compliance with this emissions limitation is demonstrated by the following calculation:

$(0.02 \text{ g PE/kW-hr (40 CFR 1039.101 Table 1 Tier 4 Exhaust Emissions Standards, post 2014 model)}) \times (1 \text{ kg}/1,000 \text{ g}) \times (1 \text{ lb}/0.454 \text{ kg}) \times (1 \text{ kW}/1,000 \text{ W}) \times (745.7 \text{ W}/\text{hp}) \times (1 \text{ hp-hr}/7,000 \text{ Btu}) \times (1,000,000 \text{ Btu}/\text{MMBtu}) = 0.005 \text{ lb}/\text{MMBtu}$

If required, PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources", and the procedures specified in OAC rule 3745 17 03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

*(Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(B)(5)(a))*

- c. Emissions Limitations:



In accordance with 40 CFR 60.420140(a), this engine shall be certified to the certification emission standards in 40 CFR 1039.101 Table 1, Tier 4 standards.

In accordance with 40 CFR 1039.101, Table 1:

PM emissions shall not exceed 0.02 g/kW-hr;

NOx emissions shall not exceed 0.40 g/kW-hr;

NMHC emissions shall not exceed 0.19 g/kW-hr; and

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

Applicable Compliance Method:

Compliance with these emissions limitations is demonstrated by the engine certification.

(Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR, Part 60, Subpart IIII and 40 CFR, Part 1039)

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install (PTI) prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

(Authority for term: ORC 3704.03(F)(3)(c) and F(4), OAC rule 3745-114-01 and Option A, Engineering Guide #70)



**15. P901, FGD Material Handling, Transfer and Conveying**

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

Limestone and gypsum material handling, includes unloading, conveyor transfers, ball mills and silos controlled with bin vent filters; formerly permitted under EU F005

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) b)(1)b.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745- 31-05(A)(3) do not apply to particulate emissions (PE) from this air contaminant source since the calculated annual emissions rate is less than 10 tons/year taking into account the voluntary restriction from OAC rule 3745-31-05(E).
b.	OAC rule 3745-31-05(E) (PTI P0122403 issued 11/10/2020)	The throughput of gypsum shall not exceed 1,472,500 tons per year;  The throughput of limestone shall not exceed 1,176,155 tons per year; and  PE shall not exceed 9.81 tons per year.
c.	OAC rule 3745-17-11(B)	PE from any stack shall not exceed 65.56 lbs/hr.
d.	OAC rule 3745-17-07(A)	The emissions limitation specified by this rule is less stringent than the emissions limitation established pursuant to 40 CFR Part 60, Subpart OOO.
e.	OAC rule 3745-17-07(B)(7)(b)	The emissions limitations specified by this rule are less stringent than the emissions limitation established pursuant to 40 CFR Part 60, Subpart OOO.
f.	OAC rule 3745-17-08(B)	Reasonably available control measures that are sufficient to minimize or eliminate



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		visible particulate emissions of fugitive dust.  See b)(2)a.-c. below.
g.	40 CFR Part 60, Subpart OOO (40 CFR Part 60.670-60.676)  [In accordance with 40 CFR 60.670(a)(1), this emission unit is a fixed nonmetallic mineral processing plant that commenced construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008, subject to the emissions limitations/control measures specified in this section.]	Visible emissions from any stack shall not exceed 7% opacity. [40 CFR 60.672(a) and Table 2]  Visible emissions of fugitive dust from any transfer point on belt conveyors or from any other affected facility shall not exceed 10 % opacity. [40 CFR 60.672(b) and Table 3]  Visible emissions of fugitive dust from any crusher shall not exceed 15% opacity. [40 CFR 60.672(b) and Table 3]
h.	40 CFR Part 60, Subpart A (40 CFR 60.1-60.19)	Table 1 to Subpart OOO of 40 CFR Part 60 – Exceptions to Applicability of Subpart A to Subpart OOO specifies the provisions of Subpart A of 40 CFR Part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions. [(40 CFR 60.670(f)]

(2) Additional Terms and Conditions

- a. The permittee shall employ reasonably available control measures for the material handling operations for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee’s permit application, the permittee has committed to maintain sufficient moisture content of the material, using water sprays as necessary, and use partial or full enclosures or silos equipped with bin vents 88to maintain compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(A)(1))*

- b. For each material handling operation that is not adequately enclosed, the above-identified control measures shall be implemented if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measures are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control



measures shall continue during the operation of the material handling operations until further observation confirms that use of the control measures is unnecessary.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(A)(1))*

- c. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(A)(1))*

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

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

- a. the gypsum throughput rate, in tons;
- b. the limestone throughput rate, in tons;
- c. the gypsum throughput rate, in tons per rolling, 12-month period; and
- d. the limestone throughput rate, in tons per rolling, 12-month period.

*(Authority for term: OAC rules 3745-31-05(E) and 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 stacks 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 emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The

observer may indicate that the visible emission 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 3745-31-05(E) and 3745-77-07(A)(1))*

- (3) Except as otherwise provided in this section, for material handling operations that are not adequately enclosed, the permittee shall perform inspections of such operations in accordance with the following minimum frequencies:

<u>Material handling operation(s)</u>	<u>Minimum inspection frequency</u>
All	Weekly when in operation

The above-mentioned inspections shall be performed during representative, normal operating conditions.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*

- (4) The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements. Such modified inspection frequencies would not be considered a minor or significant modification that would be subject to the Title V permit modification requirements in paragraphs (C)(1) and (C)(3) of OAC rule 3745-77-08.

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

- (5) For material handling operations, the permittee shall maintain records of the following information:
  - a. the date and reason any required inspection was not performed;
  - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. the dates the control measures were implemented; and
  - d. on a calendar quarter basis, the total number of days the control measures were implemented. The information in d)(5)d. shall be kept separately for each material handling operation, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

*(Authority for term: OAC rules 3745-17-07(B), 3745-17-08(B) and 3745-77-07(C)(1))*



e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all exceedances of the annual gypsum and limestone throughput rate restrictions;
  - b. all days during which any visible particulate emissions were observed from any stack serving this emissions unit;
  - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from any stack;
  - d. each week 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
  - e. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

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 3745-15-03(B)(1)(a), 3745-15-03(C) and 3745-77-07(A)(3)(c))*

- (2) The permittee shall comply with the applicable reporting requirements required under 40 CFR Part 60, Subpart OOO, including the following sections:

60.7(a) and 60.676(h)	Submit written notifications of the date construction commenced, the actual date of initial startup and the anticipated date for conducting opacity observations
60.8 and 60.676(f)	Submit the results of the initial performance tests

*(Authority for term: 40 CFR Part 60, Subpart OOO and OAC rule 3745-77-07(C)(1))*

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emissions Limitation:  
  
PE shall not exceed 9.81 tons per year.



Applicable Compliance Method:

Compliance with the annual emissions limitation shall be demonstrated by the recordkeeping in d)(1), the equations from AP-42 13.2.3 (11/06) and the information in the permittee's application.

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

b. Emissions Limitation:

PE from any stack shall not exceed 65.56 lbs/hr.

Applicable Compliance Method:

If required, PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources", and the procedures specified in OAC rule 3745 17 03(B)(9). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

(Authority for term: OAC rules 3745-17-11(B) and 3745-77-07(C)(1))

c. Emissions Limitation:

Visible emissions from any stack shall not exceed 7% opacity.

Applicable Compliance Method:

Compliance with this emissions limitation shall be based on the emissions testing requirements in f)(2) below.

*(Authority for term: 40 CFR Part 60, Subpart OOO and OAC rule 3745-77-07(C)(1))*

d. Emissions Limitation:

Visible particulate emissions of fugitive dust discharging from the hoppers or conveyor transfer points shall not exceed 10% opacity.

Applicable Compliance Method:

Compliance with this emissions limitation shall be based on the emissions testing requirements in f)(2) below.

*(Authority for term: 40 CFR Part 60, Subpart OOO and OAC rule 3745-77-07(C)(1))*

e. Emissions Limitation:

Visible particulate emissions of fugitive dust discharging from the crusher (ball mills) shall not exceed 15% opacity.

Applicable Compliance Method:

Compliance with this emissions limitation shall be based on the emissions testing requirements in f)(2) below.

*(Authority for term: 40 CFR Part 60, Subpart OOO and OAC rule 3745-77-07(C)(1))*

- (2) The permittee shall conduct, or have conducted, performance testing as required in 40 CFR Part 60, Subpart OOO for this emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with stack emissions limitation for the bin vents and the visible emission limitations for fugitive emissions for each material handling operation subject to 40 CFR Part 60 Subpart OOO, in accordance with the requirements of 40 CFR Part 60.675.
  - c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission rate(s):  

For visible emissions, Method 9 of 40 CFR Part 60, Appendix A.
  - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Southeast District Office.
  - e. No later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office's refusal to accept the results of the emissions test(s).
  - f. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of test(s).



**Final Title V Permit**  
Cardinal Power Plant (Cardinal Operating Company)  
**Permit Number:** P0133672  
**Facility ID:** 0641050002  
**Effective Date:** 11/09/2023

The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

*(Authority for term: 40 CFR Part 60, Subpart OOO and OAC rule 3745-77-07(C)(1))*

- g) Miscellaneous Requirements
  - (2) None.



**16. P902, Dry Fly Ash Transfer Stations**

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

Dry fly ash treatment and handling system; includes material transfers controlled with filters, mixing for moisture induction, silo storage and load-out of fly ash into trucks

- 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 P0122403 issued 11/10/2020)	<p>Particulate emissions (PE), emissions of particulate matter less than 10 microns (PM10) and emissions of particulate less than 2.5 microns (PM2.5) from any stack shall not exceed 0.005 gr/dscf.</p> <p>PE and emissions of PM10 and PM2.5 shall not exceed 5.49 tons per year.</p> <p>The requirements of this rule include compliance with OAC rules 3745-17-07(A), 3745-17-07(B) and 3745-17-08(B).</p> <p>See b)(2)a. below.</p>
b.	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20% opacity as a six-minute average, except as provided by the rule.
c.	OAC rule 3745-17-11(B)	The emissions limitation for PE required by this rule is less stringent than the emissions limitation for PE required pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-17-07(B)(1)	Visible PE shall not exceed 20% opacity as a three-minute average.
e.	OAC rule 3745-17-08(B)	Reasonably available control measures that are sufficient to minimize or eliminate visible PE of fugitive dust.
		See b)(2)b.-d. below.

(2) Additional Terms and Conditions

- a. The permittee shall install and operate bin vent and vacuum exhaust filters with a maximum outlet grain loading of 0.005 gr PE/dscf.
- b. The permittee shall employ reasonably available control measures for the loading of fly ash for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to use precautionary measures to maintain compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- c. The above-mentioned control measure(s) shall be employed for each load-out operation if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary.
- d. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall equip the bin vent and vacuum exhaust filters with dust detection monitors. The dust detection monitors shall alert personnel if there is a broken bag or other abnormal condition.

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

- (2) The permittee shall maintain records of the following information for the dust detection system:

- a. records of the dust detection system output;
- b. records of dust detection system adjustments, including the date and time of the adjustment, the dust detection system settings, and the final dust detection system settings; and
- c. the date and time of all dust detection system alarms to include:
  - i. the time it took to initiate procedures to determine the cause of the alarm;



- ii. the cause of the alarm;
- iii. an explanation of the actions taken; and
- iv. the date and time the cause of the alarm was alleviated.

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

- (3) During any day when the dust detection monitoring system is not operational, the permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible PE from any stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log.

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

- (4) Except as otherwise provided in this section, for material handling operations that are not adequately enclosed, the permittee shall perform inspections of such operations in accordance with the following minimum frequencies:

<u>Material handling operation</u>	<u>Minimum inspection frequency</u>
Loading of fly ash into trucks	Weekly when in operation

The above-mentioned inspections shall be performed during representative, normal operating conditions.

The permittee may, upon receipt of written approval from the Ohio EPA, Southeast District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

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

- (5) For material handling operations, the permittee shall maintain records of the following information:
  - a. the date and reason any required inspection was not performed;
  - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. the dates the control measures were implemented; and,
  - d. on a calendar quarter basis, the total number of days the control measures were implemented.

The information in d)(5)d. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

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



e) Reporting Requirements

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

- a. all days during which dust detection alarms were activated;
- b. any visible particulate emissions observed from any stack serving this emissions unit when the dust detection system was inoperable; and
- c. any corrective actions taken to minimize or eliminate the visible particulate emissions from any stack.

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 3745-31-05(A)(3) and 3745-77-07(C)(1)*

(2) The permittee shall submit deviation reports that identify any of the following occurrences:

- a. each week 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 General Terms and Conditions of this permit.

*(Authority for term: OAC rules 3745-31-05(A)(3) and 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 Limitation:

PE and emissions of PM10 and PM2.5 from any stack shall not exceed 0.005 gr/dscf.

Applicable Compliance Method:

If required, PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.



b. Emissions Limitation:

PE and emissions of PM10 and PM2.5 shall not exceed 5.49 tons per year.

Applicable Compliance Method:

This emissions limitation represents the potential to emit of the emissions unit based on the information in the permittee's application and the following calculations:

*Stack Emissions:*

$$\begin{aligned} \text{PE/PM10/PM2.5} &= 0.005 \text{ gr/dscf} \times 1 \text{ lb/7,000 gr} \times 28,980 \text{ acfm} \times 60 \text{ min/hr} \times \\ &8,760 \text{ hours/yr} \times 1 \text{ ton/2,000 lbs} \\ &= 5.44 \text{ tons/yr} \end{aligned}$$

Where:

0.005 gr/dscf = guaranteed emission rate; and

28,908 acfm = maximum flow rate of all nine vents combined.

*Fugitive Emissions from Truck Load-Out:*

$$\begin{aligned} \text{PE/PM10/PM2.5} &= 1.51\text{E-}04 \text{ lb/ton} \times 821,250 \text{ TPY} \times 1 \text{ ton/2,000 lbs} \times (1- \\ &0.25) \\ &= 0.05 \text{ ton/yr} \end{aligned}$$

Where:

1.51E-04 lb/ton = emission factor for PE based on Equation 1 in AP-42 13.2.4 (11/06);

821,250 tons/yr = maximum annual throughput of fly ash from all three systems; and

25% = control efficiency for use of precautionary measures to reduce fugitive dust.

Total PE/PM10/PM2.5 (tons per year)

= stack emissions + fugitive emissions from truck load-out

$$= 5.44 + 0.05$$

$$= 5.49 \text{ tons per year}$$

c. Emissions Limitation:

Visible PE from any stack shall not exceed 20% opacity as a six-minute average, except as provided by the rule.



Applicable Compliance Method:

If required, visible PE shall be determined according to U.S. EPA Method 9.

d. Emissions Limitation:

Visible PE shall not exceed 20% opacity as a three-minute average.

Applicable Compliance Method:

If required, visible PE shall be determined according to U.S. EPA Method 9, with the modifications found in OAC rule 3745-17-03(B)(3)(a) and (b).

*(Authority for terms: OAC rules 3745-31-05(A)(3) and 3745-77-07(C)(1)*

g) Miscellaneous Requirements

(1) None.