

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

1/7/2014

Certified Mail

Thomas Machamer
CEDAR LANE FARMS CORPORATION
5713 BACK ORRVILLE ROAD
WOOSTER, OH 44691

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0285030221
Permit Number: P0115954
Permit Type: Renewal
County: Wayne

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very 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**

How to appeal this permit

The issuance of this PTIO 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 Josh Mandel," 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
77 South High Street, 17th 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/clean_air

How to give us feedback on your permitting experience

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

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)425-9171 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-NEDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
CEDAR LANE FARMS CORPORATION**

Facility ID:	0285030221
Permit Number:	P0115954
Permit Type:	Renewal
Issued:	1/7/2014
Effective:	1/7/2014
Expiration:	1/7/2019



Division of Air Pollution Control
Permit-to-Install and Operate
for
CEDAR LANE FARMS CORPORATION

Table of Contents

Authorization	1
A. Standard Terms and Conditions	3
1. What does this permit-to-install and operate ("PTIO") allow me to do?.....	4
2. Who is responsible for complying with this permit?	4
3. What records must I keep under this permit?	4
4. What are my permit fees and when do I pay them?.....	4
5. When does my PTIO expire, and when do I need to submit my renewal application?	4
6. What happens to this permit if my project is delayed or I do not install or modify my source?	5
7. What reports must I submit under this permit?	5
8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?	5
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ...	5
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?	6
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?	6
12. What happens if one or more emissions units operated under this permit is/are shut down permanently?	6
13. Can I transfer this permit to a new owner or operator?.....	7
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?	7
15. What happens if a portion of this permit is determined to be invalid?	7
B. Facility-Wide Terms and Conditions.....	8
C. Emissions Unit Terms and Conditions	10
1. B009, Atm. Fluidized Bed Combustor and Boiler (8.5 mmBtu/hr)	11
2. Emissions Unit Group -Underfeed Stokers/Boilers: B002 and B005.....	24



Authorization

Facility ID: 0285030221
Application Number(s): A0017279
Permit Number: P0115954
Permit Description: Renewal FEPTIO for three (3) coal-fired greenhouse boilers (B002, B005, and B009).
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 1/7/2014
Effective Date: 1/7/2014
Expiration Date: 1/7/2019
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

CEDAR LANE FARMS CORPORATION
5713 BACK ORRVILLE ROAD
WOOSTER, OH 44691

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

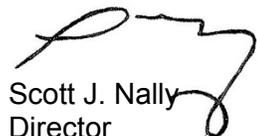
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087
(330)425-9171

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Scott J. Nally
Director



Authorization (continued)

Permit Number: P0115954

Permit Description: Renewal FEPTIO for three (3) coal-fired greenhouse boilers (B002, B005, and B009).

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

Emissions Unit ID:

Company Equipment ID:
Superseded Permit Number:
General Permit Category and Type:

B002

Erie City, Coal-Fired, Underfeed Stoker (5.56 mmBtu/hr)
02-19776
Not Applicable

Emissions Unit ID:

Company Equipment ID:
Superseded Permit Number:
General Permit Category and Type:

B005

Burnhan, Coal-Fired, Underfeed Stoker (5.6 mmBtu/Hr)
02-19776
Not Applicable

Emissions Unit ID:

Company Equipment ID:
Superseded Permit Number:
General Permit Category and Type:

B009

Atm. Fluidized Bed Combustor and Boiler (8.5 mmBtu/hr)
02-19776
Not Applicable



Final Permit-to-Install and Operate
CEDAR LANE FARMS CORPORATION
Permit Number: P0115954
Facility ID: 0285030221
Effective Date: 1/7/2014

A. Standard Terms and Conditions



1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions of this permit will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the [DO/LAA] in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.



13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



Final Permit-to-Install and Operate
CEDAR LANE FARMS CORPORATION
Permit Number: P0115954
Facility ID: 0285030221
Effective Date: 1/7/2014

B. Facility-Wide Terms and Conditions



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.



Final Permit-to-Install and Operate
CEDAR LANE FARMS CORPORATION
Permit Number: P0115954
Facility ID: 0285030221
Effective Date: 1/7/2014

C. Emissions Unit Terms and Conditions



1. B009, Atm. Fluidized Bed Combustor and Boiler (8.5 mmBtu/hr)

Operations, Property and/or Equipment Description:

8.5 mmBtu/hr atmospheric fluidized bed combustor and boiler, equipped with a fabric filter for particulate control

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

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)	Emissions limitations while burning coal in this emissions unit: Particulate emissions (PE) shall not exceed 0.50 pounds per mmBTU and 0.40 pounds per hour. Carbon Monoxide (CO) emissions shall not exceed 5.90 pounds per hour. Sulfur Dioxide (SO ₂) emissions shall not exceed 0.90 pounds per mmBTU. Nitrogen Oxides (NO _x) emissions shall not exceed 4.90 pounds per hour. Coal Quality: See b)(2)c.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Calcium to sulfur ratio: See b)(2)e. The specific requirements of this rule also include compliance with OAC rule 3745-31-05(C) and OAC rule 3745-17-07(A).
b.	OAC rule 3745-31-05(D)	Emissions limitations while burning coal in these emission units (B002, B005, and B009): Particulate emissions (PE) shall not exceed 11.90 tons per rolling 12-month period, for emission units B002, B005, and B009, combined. Carbon Monoxide (CO) emissions shall not exceed 12.60 tons per rolling 12-month period, for emission units B002, B005, and B009, combined. Sulfur Dioxide (SO ₂) emissions shall not exceed 98.30 tons per rolling 12-month period, for emission units B002, B005, and B009, combined. Nitrogen Oxides (NO _x) emissions shall not exceed 10.60 tons per rolling 12-month period, for emission units B002, B005, and B009, combined.
c.	OAC rule 3745-17-07(A)	See b)(2)a and b)(2)b.
d.	OAC rule 3745-17-10(C)(2)	The particulate emissions (PE) limitation specified by this rule is equivalent to the PE limitations established by OAC rule 3745-31-05(A)(3).
e.	40 CFR Part 63 subpart JJJJJJ	See b)(2)c.

(2) Additional Terms and Conditions

- a. This emissions unit shall comply specifically with the following visible particulate emissions limitations:
 - i. The visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed opacity of twenty (20) percent, as a six-minute average.



- ii. The visible particulate emissions from the exhaust stack serving this emissions unit may exceed twenty (20) percent, as a six-minute average for not more than six (6) consecutive minutes in any sixty-minute period, and shall not under any circumstance exceed sixty (60) percent opacity at any time.

- b. The visible particulate emissions limitations specified in OAC rule 3745-17-07(A) shall not apply to the following operations, provided the operations are properly documented daily in a boiler operations log maintained at the facility. The log shall clearly document the date and the beginning and ending times of the exempted operations listed below:
 - i. The initial start-up of the emissions source for a period of time required to achieve stable combustion conditions, but not more than three (3) hours from the moment of start-up. Start-up is defined as the commencement of firing of fuel from a cold non-fired condition.
 - ii. The shutdown of the emissions source for a period of not more than three (3) hours
 - iii. The malfunction of the emissions source or associated equipment, if the permittee of the emissions source or operator of the equipment complies with the specific requirements of OAC rule 3745-15-06.
 - iv. Intermittent soot blow down operations (cleaning of the heat transfer surfaces with pressurized air or steam).
 - v. Intermittent ash removal operations (dumping and/or pulling of ash).
 - vi. The commencement of increased coal firing from a banked condition for a period not to exceed thirty (30) minutes. Banked conditions are defined as the conditions whereby the fuel is burned on the grates at rates which are sufficient to maintain ignition conditions only.

- c. The permittee is advised that this facility may be subject to the "Generally Available Control Technology" (GACT) requirements under 40 CFR Part 63, Subpart JJJJJJ, and the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial/Commercial/Institutional Boilers. The U.S. EPA is responsible for the administration of the requirements of this rule at this time. It should be noted that the enforcement authority of the GACT requirements is not delegated to Ohio EPA at the time of this permit processing. The complete requirements of this rule (including the 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 the appropriate Ohio EPA District Office or Local Air Agency.

- d. The permittee shall assure that the coal received for use in this emissions unit will maintain an ash content of less than eight (8) percent by weight, a heat content of greater than thirteen thousand (13,000) BTU per pound, and a percent sulfur content not greater than 3.70. The ash content, heat content, and



sulfur content shall be determined on a dry basis, in accordance with the procedures specified in OAC rule 3745-17-03(B)(9).

- e. The specific coal usage restriction of 1400 tons per year based on a 12-month rolling average basis, relates specifically to the coal consumed in emission units, B002, B005, and B009, combined. The annual emissions limitations for PE, CO, SO₂ and based on a 12-month rolling average basis for emission units B002, B005, and B009, combined.
- f. This emissions unit shall maintain a minimum calcium (from injection of limestone or equivalent) to sulfur (contained in coal fuel) weight ratio within 1.08 and 1.20 in the fluid bed of the reactor at all times.
- g. The particulate emissions from this emissions unit shall be controlled by a 93% efficient fabric filter/dust collector.
- h. The restrictions regarding the use of fly ash re-injection and an over fire air system found in OAC rule 3745-17-10(C)(7)(a) are not applicable to this bubbling fluidized bed coal combustion process.

c) Operational Restrictions

- (1) The quantity of coal usage is limited to 1,400 tons per year based on a 12-month rolling average basis, for emission units, B002, B005, and B009, combined.
- (2) The fabric filter shall be operated in such a manner as to provide sufficient volumetric flow rate to eliminate visible particulate emissions at the point(s) of capture to the extent possible using all good engineering practices.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain an operation log for this emissions unit. This operations log shall contain, at minimum, the following information:
 - a. The dates and times of any start-up and shutdown of this emissions unit;
 - b. The duration (in minutes) of the exempted operations listed in Section b)(2)b);
 - c. The number of hours of normal or full firing is to be recorded for each day of operation;
 - d. The number of hours of banked condition is to be recorded for each day of operation;
 - e. The total number of hours of operation, i.e., the summation of (c) & (d);
 - f. The amount of coal (in tons) fed to and burned in this emissions unit each day;
 - g. The dates and times of any malfunction of this emissions unit and any corrective action taken.



- h. The amount of limestone or equivalent (in pounds), injected into the emissions unit each day.
- (2) For each shipment of coal to be burned in this emissions unit, the permittee shall record the following information:
- a. The name of the coal supplier;
 - b. The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The report shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);
 - c. The total quantity (in tons) of coal received;
 - d. The sulfur content (in percent) of the coal on a dry basis;
 - e. The moisture content of the coal on a dry basis;
 - f. The ash content (in percent) of the coal on a dry basis;
 - g. The heat content (BTU per pound) of the coal on a dry basis;
 - h. The methods used to determine the properties of the coal.
- (3) The permittee shall maintain the following monthly records for this emissions unit, when in operation:
- a. The average, hourly nitrogen oxides (NO_x) and carbon monoxide (CO) emissions rates by use of the following equation, when this emissions unit is in operation.
$$ER = [(EF) (Coal) / Hours]$$

where;

ER = Emissions rate in pounds per hour

EF = Emissions Factor, taken from AP-42 Tables 1.1-3 as follows:
NO_x = 15.2 lbsNO_x/ton of coal
CO = 18.0 lbs CO/ton of coal

Coal = The amount of coal (in tons) fed to the emissions unit and burned that day, as recorded in Section d(1)f.

Hours = The total number of hours of operation (total of both full firing and banked), as recorded in Section d)(1)e, for the entire month.
 - b. The average hourly particulate emissions rate, as calculated by the following equation.



$$ER = [(EF) (Coal) / Hours] [(1-CE)]$$

where;

ER = Emissions rate in pounds particulate per hour

EF = Emissions Factor, taken from AP-42 Tables 1.1-4 as follows:

PE = 17.0 lbs PE/ton of coal

Coal = The amount of coal (in tons) fed to the emissions unit and burned that day recorded in Section d)(1)f.

Hours = The total number of hours of operation (total of both full firing and banked), as recorded in Section d)(1)e, for the entire month.

- c. The calculation of the calcium to sulfur weight ratio for each day of the month when limestone (or its equivalent) and coal were fed to this emissions unit. This calculation maybe performed by multiplying the amount of limestone by the percent by weight of pure calcium carbonate, $CaCO_3$. The amount of Calcium Ca, is then determined by the ratio of $40/100 = X/$ amount of $CaCO_3$, where X = the amount of calcium. The amount of sulfur is determined by multiplying the amount of coal by the percent by weight of sulfur. The calcium to sulfur weight ratio is determined by dividing Ca by S.
- (4) The permittee shall maintain the following monthly records regarding coal usage for emissions units B002, B005 and B009:
- a. The total amount of coal, in tons, fed to and burned in emissions units B002 and B005.
 - b. The total amount of coal, in tons, fed to and burned in emissions unit B009.
 - c. The cumulative, total amount of coal, in tons, fed to and burned in emissions units B002 and B005 for the past 12-months.
 - d. The cumulative, total amount of coal, in tons, fed to and burned in emissions unit B009 for the past 12-months
- (5) The permittee shall maintain the following monthly records regarding emissions rates for emissions units B002, B005 and B009:
- a. The cumulative sulfur dioxide emissions rate, in tons per rolling 12-months, as calculated by the following equation.

$$ER = [Coal\ amt\ from\ B002\ \&\ B005\ x\ 140.4\ lbs\ SO_2/ton\ of\ coal\ x\ ton/2,000\ lbs] + [Coal\ amt\ from\ B009\ x\ 23.4\ lbs\ SO_2/ton\ x\ ton/2,000\ lbs]$$



where;

ER = Emissions rate, in tons sulfur dioxide per rolling 12-months

"Coal amt from B002 & B005" is the total amount of coal, in tons, fed to and burned in emissions units B002 and B005 over the past 12 months, as recorded in Section d)(4)c.

"140.4 lbs SO₂/ton" is the converted value in lbs/ton from 5.4 lbs SO₂/mmBtu, which is the allowable sulfur dioxide emissions rate. Per AP-42 Chapter 1.15, the conversion is performed by multiplying 5.4 lbs SO₂/mmBtu with 26.0 mmBtu/ton to produce 140.4 lbs SO₂/ton.

"Coal amt from B009" is the total amount of coal, in tons, fed to and burned in emissions unit B009 over the past 12 months, as recorded in Section d)(4)d.

"23.4 lbs SO₂/ton" is the converted value in lbs/ton from 0.9 lb SO₂/mmBtu, which is the allowable sulfur dioxide emissions rate.

- b. The cumulative NO_x emissions rate, in tons per rolling 12-months, as calculated by the following equation.

$$ER = [\text{Coal amt from B002 \& B005} \times 9.5 \text{ lbsNO}_x/\text{ton of coal} \times \text{ton}/2,000 \text{ lbs}] + [\text{Coal amt from B009} \times 15.2 \text{ lbsNO}_x/\text{ton of coal} \times \text{ton}/2,000 \text{ lbs}]$$

where;

ER = Emissions rate, in tons NO_x per rolling 12-months

"Coal amt from B002 & B005" is the total amount of coal, in tons, fed to and burned in emissions units B002 and B005 over the past 12 months, as recorded in Section d)(4)c.

"9.5 lbsNO_x/ton of coal" is an emissions factor for under feed stoker boilers, taken from AP-42, Table 1.1-3.

"Coal amt from B009" is the total amount of coal, in tons, fed to and burned in emissions unit B009 over the past 12 months, as recorded in Section d)(4)d.

"15.2 lbsNO_x/ton of coal" is an emissions factor for a FBC, bubbling bed boiler, taken from AP-42, Table 1.1-3.

- c. The cumulative CO emissions rate, in tons per rolling 12-months, as calculated by the following equation.

$$ER = [\text{Coal amt from B002 \& B005} \times 11 \text{ lbs CO}/\text{ton of coal} \times \text{ton}/2,000 \text{ lbs}] + [\text{Coal amt from B009} \times 18 \text{ lbs CO}/\text{ton of coal} \times \text{ton}/2,000 \text{ lbs}]$$



where;

ER = Emissions rate, in tons CO per rolling 12-months

"Coal amt from B002 & B005" is the total amount of coal, in tons, fed to and burned in emissions units B002 and B005 over the past 12 months, as recorded in Section d)(4)c.

"11 lbsNO_x/ton of coal" is an emissions factor for under feed stoker boilers, taken from AP-42, Table 1.1-3.

"Coal amt from B009" is the total amount of coal, in tons, fed to and burned in emissions unit B009 over the past 12 months, as recorded in Section d)(4)d.

"18 lbs CO/ton of coal" is an emissions factor for a FBC, bubbling bed boiler, taken from AP-42, Table 1.1-3.

- d. The cumulative PE emissions rate, in tons per rolling 12-months, as calculated by the following equation.

$$ER = [\text{Coal amt from B002 \& B005} \times 15 \text{ lbs PE/ton of coal} \times \text{ton}/2,000 \text{ lbs}] + [\text{Coal amt from B009} \times 17 \text{ lbs PE/ton of coal} \times \text{ton}/2,000 \text{ lbs} \times (0.07)]$$

where;

ER = Emissions rate, in tons PE per rolling 12-months

"Coal amt from B002 & B005" is the total amount of coal, in tons, fed to and burned in emissions units B002 and B005 over the past 12 months, as recorded in Section d)(4)c.

"15 lbs PE/ton of coal" is an emissions factor for under feed stoker boilers, taken from AP-42, Table 1.1-4.

"Coal amt from B009" is the total amount of coal, in tons, fed to and burned in emissions unit B009 over the past 12 months, as recorded in Section d)(4)d.

"17 lbs PE/ton of coal" is an emissions factor, taken from AP-42, Table 1.1-4.

"(0.07)" is the result of (1 minus control efficiency of baghouse, which is 93% or 0.93).

- (6) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the fabric filter is between 1.0 to 8.0 inches of water.
- (7) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the fabric filter when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the fabric filter on dailybasis. The



monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

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

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

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

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

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



- (8) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible 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.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports which include the following information:
- a. An identification of each day during which the hourly emissions limitation(s) for NO_x, CO and/or PE was/were exceeded, and the actual hourly emissions rate for the applicable pollutant(s);
 - b. An identification of each day during which the sulfur dioxide emissions limitation (in lbs SO₂/mmBtu) and/or the particulate emissions limitation (lbs PE/mmBtu) was/were exceeded, and the actual emissions rate(s) for the applicable pollutant(s);
 - c. An identification of each day during which the visible particulate emissions from the exhaust serving this emissions unit exceeded the limitations specified in OAC rules 3745-17-07(A)(1) & (A)(2).
 - d. An identification of any shipment of coal used for this emissions unit that did not meet the ash, heat, and sulfur specifications listed in Section b)(2)c.
 - e. An identification of each day during which any required monitoring and record keeping as listed in Section d) was not performed.



- f. An identification of each month within the quarter when the total amount of coal used over the past 12 months in emissions units B002, B005 and B009 exceeds 1,400 tons. The actual total amount of coal for each such month shall be reported.
- g. An identification of each month within the quarter when the calculated annual SO₂, NO_x, CO and PE emissions rates, as recorded per Section d)(5), exceeds the appropriate allowable limit. The actual, calculated annual emissions rates for these pollutants shall also be reported.
- h. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
- i. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
- j. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
- k. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
- l. each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31.

- (2) If no deviations occurred during the calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.
- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.

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:

Particulate emissions (PE) emissions shall not exceed 0560 pound per mmBTU and 0.40 pounds per hour.

Applicable Compliance Method:

Applicable Compliance Method: Compliance shall be determined by calculating the emissions using the equation in d)(3)b.

Emission Limitation:

Particulate emissions (PE) emissions shall not exceed 11.90 tons per year based on a 12-month rolling average basis for B002, B005, and B009, combined.

Applicable Compliance Method:

Compliance shall be determined by calculating the emissions using the equation in d)(2)b.

b. Emission Limitation:

Carbon Monoxide (CO) emissions shall not exceed 5.90 pounds per hour.

Applicable Compliance Method:

Applicable Compliance Method: Compliance shall be determined by calculating the emissions using the equation in d)(3)b

Emission Limitation:

Carbon Monoxide (CO) emissions shall not exceed 12.60 tons per year based on a 12-month rolling average basis for B002, B005, and B009, combined.

Applicable Compliance Method:

Compliance shall be determined by calculating the emissions using the equation in d)(5)c.

c. Emission Limitation:

Sulfur Dioxide (SO₂) emissions shall not exceed 0.90 pounds mmBtu.

Applicable Compliance Method:

Applicable Compliance Method: Compliance shall be determined by calculating the emissions using the equation in d)(3)a.



d. Emission Limitation:

Sulfur Dioxide (SO₂) emissions shall not exceed 98.30 tons per year based on a 12-month rolling average basis for B002, B005, and B009, combined.

Applicable Compliance Method:

Compliance shall be determined by calculating the emissions using the equation in d)(5)a.

e. Emission Limitation:

Nitrogen Oxide (NO_x) emissions shall not exceed 4.90 pounds per hour.

Applicable Compliance Method:

Applicable Compliance Method: Compliance shall be determined by calculating the emissions using the equation in d)(3)b.

Emission Limitation:

Nitrogen Oxide (NO_x) emissions shall not exceed 10.60 tons per year based on a 12-month rolling average basis for B002, B005, and B009, combined.

Applicable Compliance Method:

Compliance shall be determined by calculating the emissions using the equation in d)(5)b.

f. Applicable Emissions Limitation:

The visible particulate emissions from the exhaust stack serving this emissions unit may exceed twenty (20) percent, as a six-minute average for not more than six (6) consecutive minutes in any sixty-minute period, and shall not under any circumstance exceed sixty (60) percent opacity at any time. This emissions limitation applies, except as exempted by OAC rule 3745-17-07(A)(3).

g. Applicable Compliance Limitation:

Compliance with the above referenced emissions limitation shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

(1) None.



2. Emissions Unit Group -Underfeed Stokers/Boilers: B002 and B005

EU ID	Operations, Property and/or Equipment Description
B002	Erie City 5.56 mmBtu/hour coal-fired, underfeed stoker/boiler
B005	Burnhan 5.6 mmBtu/hour coal-fired underfeed stoker/boiler

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - a. None.
 - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
- 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)	Emissions limitations while burning coal in this emissions unit: Particulate emissions (PE) shall not exceed 0.60 pounds per mmBTU and 3.00 pounds per hour. Carbon Monoxide (CO) emissions shall not exceed 2.20 pounds per hour. Sulfur Dioxide (SO ₂) emissions shall not exceed 5.40 pounds per mmBtu. Nitrogen Oxides (NO _x) emissions shall not exceed 1.90 pounds per hour. Coal Quality: See b)(2)c.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The specific requirements of this rule also include compliance with OAC rule 3745-31-05(C) and OAC rule 3745-17-07(A).
b.	OAC rule 3745-31-05(D)	<p>Emissions limitations while burning coal in these emission units (B002, B005, and B009, combined):</p> <p>Particulate emissions (PE) shall not exceed 11.90 tons per rolling 12-month period, for emission units B002, B005, and B009, combined.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 12.60 tons per rolling 12-month period, for emission units B002, B005, and B009, combined.</p> <p>Sulfur Dioxide (SO₂) emissions shall not exceed 98.30 tons per rolling 12-month period, for emission units B002, B005, and B009, combined.</p> <p>Nitrogen Oxides (NO_x) emissions shall not exceed 10.60 tons per rolling 12-month period, for emission units B002, B005, and B009, combined.</p> <p>See b)(2)d.</p>
c.	OAC rule 3745-17-07(A)	See b)(2)a and b)(2)b.
d.	OAC rule 3745-17-10(C)(2)	The particulate emissions (PE) limitation specified by this rule is equivalent to the PE limitations established by OAC rule 3745-31-05(A)(3).
e.	40 CFR Part 63 subpart JJJJJ	See b)(2)e.

(2) Additional Terms and Conditions

- a. This emissions unit shall comply specifically with the following visible particulate emissions limitations:
 - i. The visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed opacity of twenty (20) percent, as a six-minute average.



- ii. The visible particulate emissions from the exhaust stack serving this emissions unit may exceed twenty (20) percent, as a six-minute average for not more than six (6) consecutive minutes in any sixty-minute period, and shall not under any circumstance exceed sixty (60) percent opacity at any time.
- b. The visible particulate emissions limitations specified in OAC rule 3745-17-07(A) shall not apply to the following operations, provided the operations are properly documented daily in a boiler operations log maintained at the facility. The log shall clearly document the date and the beginning and ending times of the exempted operations listed below:
 - i. The initial start-up of the emissions source for a period of time required to achieve stable combustion conditions, but not more than three (3) hours from the moment of start-up. Start-up is defined as the commencement of firing of fuel from a cold non-fired condition.
 - ii. The shutdown of the emissions source for a period of not more than three (3) hours
 - iii. The malfunction of the emissions source or associated equipment, if the permittee of the emissions source or operator of the equipment complies with the specific requirements of OAC rule 3745-15-06.
 - iv. Intermittent soot blow down operations (cleaning of the heat transfer surfaces with pressurized air or steam).
 - v. Intermittent ash removal operations (dumping and/or pulling of ash).
 - vi. The commencement of increased coal firing from a banked condition for a period not to exceed thirty (30) minutes. Banked conditions are defined as the conditions whereby the fuel is burned on the grates at rates which are sufficient to maintain ignition conditions only.
- c. The permittee shall assure that the coal received for use in this emissions unit will maintain an ash content of less than eight (8) percent by weight, a heat content of greater than thirteen thousand (13,000) BTU per pound, and a percent sulfur content not greater than 3.70. The ash content, heat content, and sulfur content shall be determined on a dry basis, in accordance with the procedures specified in OAC rule 3745-17-03(B)(9).
- d. The specific coal usage restriction of 1,400 tons per year based on a 12-month rolling average basis, relates specifically to the coal consumed in emission units, B002, B005, and B009, combined. The annual emissions limitations for PE, CO, SO₂ and based on a 12-month rolling average basis for emission units B002, B005, and B009, combined.
- e. The permittee is advised that this facility may be subject to the "Generally Available Control Technology" (GACT) requirements under 40 CFR Part 63, Subpart JJJJJ, and the National Emissions Standards for Hazardous Air



Pollutants (NESHAP) for Industrial/Commercial/Institutional Boilers. The U.S. EPA is responsible for the administration of the requirements of this rule at this time. It should be noted that the enforcement authority of the GACT requirements is not delegated to Ohio EPA at the time of this permit processing. The complete requirements of this rule (including the 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 the appropriate Ohio EPA District Office or Local Air Agency.

c) Operational Restrictions

- (1) The quantity of coal usage is limited to 1,400 tons per year based on a 12-month rolling average basis, for emission units, B002, B005, and B009, combined.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain a operation log for this emissions unit. This operations log shall contain, at minimum, the following information:
 - a. The dates and times of any start-up and shutdown of this emissions unit;
 - b. The duration (in minutes) of the exempted operations listed in Section b)(2)b;
 - c. The number of hours of normal or full firing is to be recorded for each day of operation;
 - d. The number of hours of banked condition is to be recorded for each day of operation;
 - e. The total number of hours of operation, i.e., the summation of (c) & (d);
 - f. The amount of coal (in tons) fed to and burned in this emissions unit each day;
 - g. The dates and times of any malfunction of this emissions unit and any corrective action taken.
- (2) For each shipment of coal to be burned in this emissions unit, the permittee shall record the following information:
 - a. The name of the coal supplier;
 - b. The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The report shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);
 - c. The total quantity (in tons) of coal received;
 - d. The sulfur content (in percent) of the coal on a dry basis;



- e. The moisture content of the coal on a dry basis;
 - f. The ash content (in percent) of the coal on a dry basis;
 - g. The heat content (BTU per pound) of the coal on a dry basis;
 - h. The methods used to determine the properties of the coal.
- (3) The permittee shall maintain the following monthly records for this emissions unit, when in operation:

- a. The sulfur dioxide emissions rate, in pounds sulfur dioxide per mmBtu, as calculated by the equation found in OAC rule 3745-18-04(F).

$$ER = [(1,000,000/H) (S) (1.9)]$$

where;

ER = Emissions rate in pounds sulfur dioxide per mmBtu (lbs/mmBtu)

H = Heating capacity of the coal, in Btu per pound (Btu/lb), on a dry basis

S = Percent sulfur content of the coal, expressed as a decimal, on a dry basis

- b. The average, hourly nitrogen oxides (NO_x), carbon monoxide (CO) and particulate (PE) emissions rates by use of the following equation, when this emissions unit is in operation.

$$ER = [(EF) (Coal) / Hours]$$

where;

ER = Emissions rate in pounds per hour

EF = Emissions Factor, taken from AP-42 Tables 1.1-3 & 4 as follows:

NO_x = 9.5 lbsNO_x/ton of coal

CO = 11.0 lbs CO/ton of coal

PE = 15.0 lbs PE/ton of coal

Coal = The amount of coal (in tons) fed to the emissions unit and burned that day, as recorded in Section d(1)f.

Hours = The total number of hours of operation (total of both full firing and banked), as recorded in Section d(1)e, for the entire month.

- c. The particulate emissions rate, in pounds per mmBtu, as calculated by the following equation.

$$ER = [PE Hr / HC]$$



where;

ER = Emissions rate in pounds particulate per mmBtu

PE Hr = Particulate hourly emissions rate (lbs PE/hr) as calculated in Section d)(3)b.

HC = Maximum heating capacity of emissions unit, in mmBtu per hour

- (4) The permittee shall maintain the following monthly records regarding coal usage for emissions units B002, B005 and B009:
- a. The total amount of coal, in tons, fed to and burned in emissions units B002 and B005.
 - b. The total amount of coal, in tons, fed to and burned in emissions unit B009.
 - c. The cumulative, total amount of coal, in tons, fed to and burned in emissions units B002 and B005 for the past 12-months.
 - d. The cumulative, total amount of coal, in tons, fed to and burned in emissions unit B009 for the past 12-months
- (5) The permittee shall maintain the following monthly records regarding emissions rates for emissions units B002, B005 and B009:
- a. The cumulative sulfur dioxide emissions rate, in tons per rolling 12-months, as calculated by the following equation.

$$ER = [\text{Coal amount from B002 \& B005} \times 140.4 \text{ lbs SO}_2/\text{ton of coal} \times \text{ton}/2,000 \text{ lbs}] + [\text{Coal amount from B009} \times 23.4 \text{ lbs SO}_2/\text{ton} \times \text{ton}/2,000 \text{ lbs}]$$

where;

ER = Emissions rate, in tons sulfur dioxide per rolling 12-months

"Coal amount from B002 & B005" is the total amount of coal, in tons, fed to and burned in emissions units B002 and B005 over the past 12 months, as recorded in Section d)(4)c.

"140.4 lbs SO₂/ton" is the converted value in lbs/ton from 5.4 lbs SO₂/mmBtu, which is the allowable sulfur dioxide emissions rate. Per AP-42 Chapter 1.15, the conversion is performed by multiplying 5.4 lbs SO₂/mmBtu with 26.0 mmBtu/ton to produce 140.4 lbs SO₂/ton.

"Coal amount from B009" is the total amount of coal, in tons, fed to and burned in emissions unit B009 over the past 12 months, as recorded in Section d)(4)d.

"23.4 lbs SO₂/ton" is the converted value in lbs/ton from 0.9 lb SO₂/mmBtu, which is the allowable sulfur dioxide emissions rate.



- b. The cumulative NO_x emissions rate, in tons per rolling 12-months, as calculated by the following equation.

$$ER = [\text{Coal amount from B002 \& B005} \times 9.5 \text{ lbsNO}_x/\text{ton of coal} \times \text{ton}/2,000 \text{ lbs}] + [\text{Coal amount from B009} \times 15.2 \text{ lbsNO}_x/\text{ton of coal} \times \text{ton}/2,000 \text{ lbs}]$$

where;

ER = Emissions rate, in tons NO_x per rolling 12-months

"Coal amount from B002 & B005" is the total amount of coal, in tons, fed to and burned in emissions units B002 and B005 over the past 12 months, as recorded in Section d)(4)c.

"9.5 lbsNO_x/ton of coal" is an emissions factor for under feed stoker boilers, taken from AP-42, Table 1.1-3.

"Coal amount from B009" is the total amount of coal, in tons, fed to and burned in emissions unit B009 over the past 12 months, as recorded in Section d)(4)d.

"15.2 lbsNO_x/ton of coal" is an emissions factor for a FBC, bubbling bed boiler, taken from AP-42, Table 1.1-3.

- c. The cumulative CO emissions rate, in tons per rolling 12-months, as calculated by the following equation.

$$ER = [\text{Coal amount from B002 \& B005} \times 11.0 \text{ lbs CO/ton of coal} \times \text{ton}/2,000 \text{ lbs}] + [\text{Coal amount from B009} \times 18.0 \text{ lbs CO/ton of coal} \times \text{ton}/2,000 \text{ lbs}]$$

where;

ER = Emissions rate, in tons CO per rolling 12-months

"Coal amount from B002 & B005" is the total amount of coal, in tons, fed to and burned in emissions units B002 and B005 over the past 12 months, as recorded in Section d)(4)c.

"11.0 lbsNO_x/ton of coal" is an emissions factor for under feed stoker boilers, taken from AP-42, Table 1.1-3.

"Coal amount from B009" is the total amount of coal, in tons, fed to and burned in emissions unit B009 over the past 12 months, as recorded in Section d)(4)d.

"18.0 lbs CO/ton of coal" is an emissions factor for a FBC, bubbling bed boiler, taken from AP-42, Table 1.1-3.

- d. The cumulative PE emissions rate, in tons per rolling 12-months, as calculated by the following equation.

$$ER = [\text{Coal amount from B002 \& B005} \times 15 \text{ lbs PE/ton of coal} \times \text{ton}/2,000 \text{ lbs}] + [\text{Coal amount from B009} \times 17 \text{ lbs PE/ton of coal} \times \text{ton}/2,000 \text{ lbs} \times (0.07)]$$



where;

ER = Emissions rate, in tons PE per rolling 12-months

"Coal amount from B002 & B005" is the total amount of coal, in tons, fed to and burned in emissions units B002 and B005 over the past 12 months, as recorded in Section d)(4)c.

"15.0 lbs PE/ton of coal" is an emissions factor for under feed stoker boilers, taken from AP-42, Table 1.1-4.

"Coal amount from B009" is the total amount of coal, in tons, fed to and burned in emissions unit B009 over the past 12 months, as recorded in Section d)(4)d.

"17.0 lbs PE/ton of coal" is an emissions factor, taken from AP-42, Table 1.1-4.

"(0.07)" is the result of (1 minus control efficiency of baghouse, which is 93% or 0.93).

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports which include the following information:
 - a. An identification of each day during which the hourly emissions limitation(s) for NO_x, CO and/or PE was/were exceeded, and the actual hourly emissions rate for the applicable pollutant(s);
 - b. An identification of each day during which the sulfur dioxide emissions limitation (in lbs SO₂/mmBtu) and/or the particulate emissions limitation (lbs PE/mmBtu) was/were exceeded, and the actual emissions rate(s) for the applicable pollutant(s);
 - c. An identification of each day during which the visible particulate emissions from the exhaust serving this emissions unit exceeded the limitations specified in OAC rules 3745-17-07(A)(1) & (A)(2).
 - d. An identification of any shipment of coal used for this emissions unit that did not meet the ash, heat, and sulfur specifications listed in Section b)(2)c.
 - e. An identification of each day during which any required monitoring and record keeping as listed in Section d) was not performed.
 - f. An identification of each month within the quarter when the total amount of coal used over the past 12 months in emissions units B002, B005 and B009 exceeds 1,400 tons. The actual total amount of coal for each such month shall be reported.



- g. An identification of each month within the quarter when the calculated annual SO₂, NO_x, CO and PE emissions rates, as recorded per Section d)(5), exceeds the appropriate allowable limit. The actual, calculated annual emissions rates for these pollutants shall also be reported.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31.

- (2) If no deviations occurred during the calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.
- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.

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:

Particulate emissions (PE) emissions shall not exceed 0.60 pound per mmBTU and 3.00 pounds per hour.

Applicable Compliance Method:

Applicable Compliance Method: Compliance shall be determined by calculating the emissions using the equation in d)(3)b and d)(3)c.

Emission Limitation:

Particulate emissions (PE) emissions shall not exceed 11.90 tons per year based on a 12-month rolling average basis for B002, B005, and B009, combined.

Applicable Compliance Method:

Compliance shall be determined by calculating the emissions using the equation in d)(2)b.



b. Emission Limitation:

Carbon Monoxide (CO) emissions shall not exceed 2.20 pounds per hour.

Applicable Compliance Method:

Applicable Compliance Method: Compliance shall be determined by calculating the emissions using the equation in d)(3)b

Emission Limitation:

Carbon Monoxide (CO) emissions shall not exceed 12.60 tons per year based on a 12-month rolling average basis for B002, B005, and B009, combined.

Applicable Compliance Method:

Compliance shall be determined by calculating the emissions using the equation in d)(5)c.

c. Emission Limitation:

Sulfur Dioxide (SO₂) emissions shall not exceed 5.40 pounds per mmBtu.

Applicable Compliance Method:

Applicable Compliance Method: Compliance shall be determined by calculating the emissions using the equation in d)(3)a.

d. Emission Limitation:

Sulfur Dioxide (SO₂) emissions shall not exceed 98.30 tons per year based on a 12-month rolling average basis for B002, B005, and B009, combined.

Applicable Compliance Method:

Compliance shall be determined by calculating the emissions using the equation in d)(5)a.

e. Emission Limitation:

Nitrogen Oxide (NO_x) emissions shall not exceed 1.90 pounds per hour.

Applicable Compliance Method:

Applicable Compliance Method: Compliance shall be determined by calculating the emissions using the equation in d)(3)b.

Emission Limitation:

Nitrogen Oxide (NO_x) emissions shall not exceed 10.60 tons per year based on a 12-month rolling average basis for B002, B005, and B009, combined.



Applicable Compliance Method:

Compliance shall be determined by calculating the emissions using the equation in d)(5)b.

f. Applicable Emissions Limitation:

The visible particulate emissions from the exhaust stack serving this emissions unit may exceed twenty (20) percent, as a six-minute average for not more than six (6) consecutive minutes in any sixty-minute period, and shall not under any circumstance exceed sixty (60) percent opacity at any time. This emissions limitation applies, except as exempted by OAC rule 3745-17-07(A)(3).

g. Applicable Compliance Limitation:

Compliance with the above referenced emissions limitation shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

- (1) None.