



4/21/2015

Certified Mail

Mrs. Lindsey Larson
The Babcock and Wilcox Research Center
180 S Van Buren Ave
Barberton, OH 44203

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
Yes	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: 1677020156
Permit Number: P0116357
Permit Type: Renewal
County: Summit

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 Akron Regional Air Quality Management District at (330)3752480 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Erica R. Engel-Ishida, Manager
Permit Issuance and Data Management Section, DAPC

Cc: ARAQMD



Response to Comments

Facility ID:	1677020156
Facility Name:	The Babcock and Wilcox Research Center
Facility Description:	Commercial Physical Research
Facility Address:	180 S Van Buren Ave Barberton, OH 44203 Summit County
Permit:	P0116357, Permit-To-Install and Operate - Renewal
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the Akron Beacon Journal on 03/18/2015. The comment period ended on 04/17/2015.	
Hearing date (if held)	
Hearing Public Notice Date (if different from draft public notice)	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. No Comments Received.



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
The Babcock and Wilcox Research Center**

Facility ID: 1677020156
Permit Number: P0116357
Permit Type: Renewal
Issued: 4/21/2015
Effective: 4/21/2015
Expiration: 4/21/2020



Division of Air Pollution Control
Permit-to-Install and Operate
for
The Babcock and Wilcox Research Center

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. B001, SBS II	11



Final Permit-to-Install and Operate
The Babcock and Wilcox Research Center
Permit Number: P0116357
Facility ID: 1677020156
Effective Date: 4/21/2015

Authorization

Facility ID: 1677020156
Application Number(s): A0049968
Permit Number: P0116357
Permit Description: Renewal Federally Enforceable Permit to Install and Operate for a Small Boiler Simulator (B001).
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 4/21/2015
Effective Date: 4/21/2015
Expiration Date: 4/21/2020
Permit Evaluation Report (PER) Annual Date: Oct 1 - Sept 30, Due Nov 15

This document constitutes issuance to:

The Babcock and Wilcox Research Center
180 S Van Buren Ave
Barberton, OH 44203

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

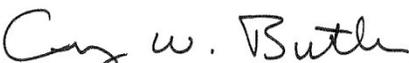
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Akron Regional Air Quality Management District
1867 West Market St.
Akron, OH 44313
(330)375-2480

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


Craig W. Butler
Director



Final Permit-to-Install and Operate
The Babcock and Wilcox Research Center
Permit Number: P0116357
Facility ID: 1677020156
Effective Date: 4/21/2015

Authorization (continued)

Permit Number: P0116357
Permit Description: Renewal Federally Enforceable Permit to Install and Operate for a Small Boiler Simulator (B001).

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

Emissions Unit ID:	B001
Company Equipment ID:	SBS II
Superseded Permit Number:	P0104451
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
The Babcock and Wilcox Research Center
Permit Number: P0116357
Facility ID: 1677020156
Effective Date: 4/21/2015

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
The Babcock and Wilcox Research Center
Permit Number: P0116357
Facility ID: 1677020156
Effective Date: 4/21/2015

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
The Babcock and Wilcox Research Center
Permit Number: P0116357
Facility ID: 1677020156
Effective Date: 4/21/2015

C. Emissions Unit Terms and Conditions



1. B001, SBS II

Operations, Property and/or Equipment Description:

Small boiler simulator

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. b)(1)f., b)(2)d., c)(1), c)(2), c)(3), d)(3), d)(4), d)(5), d)(6), d)(7), d)(9), d)(10), e)(1), f)(1)d. and f)(1)h.

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)	<p>When burning a combination of natural gas, No. 6 fuel oil and/or coal, the particulate emissions (PE) shall not exceed 0.125 pound per million Btu of actual heat input, 0.75 pound per hour and 3.29 tons per year.</p> <p>Nitrogen oxides (NO_x) emissions shall not exceed 1.5 pounds per million Btu of actual heat input, 9.0 pounds per hour and 39.5 tons per year.</p> <p>When burning No. 6 fuel oil, the sulfur dioxide (SO₂) emissions shall not exceed 3.33 pounds per million Btu of actual heat input and 20 pounds per hour.</p> <p>Carbon monoxide (CO) emissions shall</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>not exceed 0.3 pound per million Btu of actual heat input, 1.8 pounds per hour and 7.88 tons per year.</p> <p>Organic compound (OC) emissions shall not exceed 0.01 pound per million Btu of actual heat input, 0.06 pound per hour and 0.26 ton per year.</p> <p>See b)(2)a., b)(2)b. and b)(2)c. below.</p>
b.	OAC rule 3745-17-07(A)	The visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-10(B)	When burning natural gas exclusively, PE shall not exceed 0.020 pound per million Btu of actual heat input.
d.	OAC rule 3745-17-10(C)	When burning a combination of natural gas, No. 6 fuel oil and/or coal, the PE limitation specified in this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-18-06(B)	Fuel burning equipment which have rated heat input capacities equal to, or less than, ten MM Btu per hour total rated capacity are exempt from paragraphs (D), (F) and (G) of this rule and from rules 3745-18-07 to 3745-18-94 of the Administrative Code.
f.	OAC rule 3745-31-05(D)	<p>The coal sulfur content shall not exceed 4.0%, by weight</p> <p>The No. 6 fuel oil sulfur content shall not exceed 2.0%, by weight.</p> <p>The permittee shall burn no more than 750 tons of coal in this emissions unit per rolling, 12-month period.</p> <p>The permittee shall burn no more than 6,000 gallons of No. 6 fuel oil in this emissions unit per rolling, 12-month period.</p> <p>The permittee shall burn no more than 3.6×10^6 cubic feet of natural gas in this emissions unit per rolling, 12-month</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>period.</p> <p>The permittee shall inject no more than 45 tons of SO₂ in this emissions unit per rolling, 12-month period.</p> <p>The SO₂ emissions shall not exceed 15.3 tons per rolling, 12-month period.</p> <p>When burning coal or injecting SO₂, the SO₂ emissions shall not exceed 12.0 pounds per hour.</p> <p>See b)(2)d. below.</p>

(2) Additional Terms and Conditions

- a. The hourly emission limitations are based upon the emissions unit's restricted potential to emit and, therefore, no additional monitoring, record keeping, or reporting requirements are necessary to demonstrate compliance with these emission limitations.
- b. The permittee shall employ low-NO_x burners (or cyclone firing, when necessary) to control the NO_x emissions from this emissions unit.
- c. The PE from this emissions unit shall be vented to the baghouse when this emissions unit is in operation and burning coal or No. 6 fuel oil. If only natural gas is being burned, use of the baghouse is not necessary.
- d. While the emissions unit is in operation and burning coal or injecting SO₂, a scrubber (wet or dry type) shall be employed to control SO₂ emissions as necessary to ensure that the SO₂ emissions do not exceed 12.0 pounds per hour.

c) Operational Restrictions

- (1) In order to avoid the applicability of the federal Title V permitting for SO₂, the permittee shall restrict the use of the fuels burned in this emissions unit and the amount of SO₂ injected in this emissions unit, in accordance with the following formula summed over time:

(X cubic feet natural gas burned per rolling, 12-month period) x (0.6 pound of SO₂ per million cubic feet of natural gas) + (Y gallons of No. 6 fuel oil per rolling, 12-month period) x ((157*(S) pound(s) of SO₂ per 10³ gallon of fuel oil) + (number of hours of operation while burning coal per rolling, 12-month period) x (12 pounds of SO₂ per hour) + (number of hours of operation while injecting SO₂ per rolling, 12-month period) x (12 pounds of SO₂ per hour) ≤ (30,600 pounds of SO₂ per rolling, 12-month period).



Where:

S is the percent sulfur by weight, as an average value for the month

X is the cubic feet of natural gas burned per rolling, 12-month period

Y is the number of gallons of No. 6 fuel oil burned per rolling, 12-month period

The emission factors in the above equations are taken from the applicable tables in USEPA document AP-42, Chapter 1, Section 1.3 (revised 9/98) and Section 1.4 (revised 7/98).

Should more accurate SO₂ emission factors be developed through emission testing or fuel analyses, the permittee shall use them, provided the new emission factors are mutually agreeable to the Ohio EPA, Akron RAQMD and the permittee.

- (2) The permittee shall not combust any fuels in this emissions unit while SO₂ is being injected.
- (3) The permittee shall only burn natural gas, No. 6 fuel oil, coal or a combination of these fuels in this emissions unit.

[The use of other fuels will require the permittee to apply for and obtain either a temporary exemption from the director or a modification to the federally enforceable permit to install and operate (FEPTIO).]

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

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 1 to 25 inches of water while the emissions unit is in operation and burning coal or No. 6 fuel oil. This restriction does not apply during periods of startup, shutdown and bag pulsing.
- (2) The permittee shall properly install, operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manual(s), with any modifications deemed necessary by the permittee.

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

- (3) The permittee shall operate and maintain a continuous SO₂ monitoring device and recorder which measures and records the SO₂ emission rate in the exhaust gases from the wet or dry scrubber when the wet or dry scrubber and the emissions unit are in operation. The SO₂ monitoring device and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

- a. a log of the downtime for the capture (collection) system, SO₂ control device and monitoring equipment, when the associated emissions unit was in operation; and



- b. the average hourly SO₂ emission rate in the exhaust gases from the stack during each of the 8 3-hour blocks of time during the day.

Note: This is not a certified continuous emission monitoring system and the emission rates obtained from this monitoring device cannot be used to demonstrate compliance with the SO₂ emission limitation(s) or to determine SO₂ emission rates for the fee emission reports. This emission monitoring system can only be used as an indicator as to whether or not the wet or dry scrubber is operating properly or requires maintenance and/or repair activities.

- (4) The permittee shall maintain records of the oil burned in this emissions unit in accordance with either Alternative 1 or Alternative 2 described below:

- a. Alternative 1:

For each shipment of oil received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in pounds per million Btu). The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F). A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

- b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emissions unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing." The permittee shall maintain records of the total quantity of oil burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in pounds per million Btu). The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods, such as ASTM methods D240 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods as approved by the Director.



- (5) The permittee shall collect or require the coal supplier to collect a representative grab sample of each shipment of coal that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the coal sampling in accordance with ASTM method D2234, Standard Practice for Collection of a Gross Sample of Coal and analyze the coal sample for ash content (percent), sulfur content (percent) and heat content (Btu per pound of coal). The analytical methods to be used to determine the ash content, sulfur content and heat content shall be the most recent version of: ASTM method D3174, Standard Test Method for Ash in the Analysis Sample of Coal and Coke from Coal; ASTM method D3177, Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; and ASTM method D5865 Standard Test Method for Gross Calorific Value of Coal and Coke, respectively. Alternative, equivalent methods may be used upon written approval from the appropriate Ohio EPA District Office or local air agency.
- (6) For each shipment of coal received for burning in this emissions unit, the permittee shall maintain records of the total quantity of coal received and the permittee's or coal supplier's analyses for ash content, sulfur content and heat content.
- (7) The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. the quantity of coal burned, in tons;
 - b. the quantity of No. 6 fuel oil burned, in gallons;
 - c. the quantity of natural gas burned, in cubic feet;
 - d. the quantity of SO₂ injected, in tons;
 - e. the number of hours of operation while burning coal;
 - f. the number of hours of operation while injecting SO₂;
 - g. the rolling, 12-month amount of coal burned, in tons;
 - h. the rolling 12-month amount of fuel oil burned, in gallons;
 - i. the rolling 12-month amount of natural gas burned, in cubic feet;
 - j. the rolling 12-month amount of SO₂ injected, in tons; and
 - k. the rolling, 12-month SO₂ emission rate, in tons, calculated in accordance with the calculation methodology outlined in c)(1) above.
- (8) When burning coal or No. 6 fuel oil, the permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible PE from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:



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

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

- (9) For each day during which the permittee burns a fuel other than natural gas, No. 6 fuel oil or coal, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (10) The permittee shall maintain monthly records of all instances during which any fuel was combusted in this emissions unit while SO₂ was injected.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all exceedances of the 3-hour blocks of time during which the average hourly SO₂ emission rate in the exhaust gases from the dry or wet scrubber exceeded 12 pounds per hour;
 - ii. all exceedances of the rolling, 12-month coal usage restriction of 750 tons;
 - iii. all exceedances of the rolling, 12-month No. 6 fuel oil usage restriction of 6,000 gallons;
 - iv. all exceedances of the rolling, 12-month natural gas usage restriction of 3.6 x 10⁶ cubic feet;



- v. all exceedances of the rolling, 12-month SO₂ injection limitation of 45 tons;
 - vi. all exceedances of the rolling, 12-month SO₂ emission limitation of 15.3 tons;
 - vii. all instances during which any fuel was combusted in this emissions unit while SO₂ was injected;
 - viii. all exceedances of the allowable fuel oil sulfur content; and
 - ix. all exceedances of the allowable coal sulfur content.
- b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (2) 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 PER shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual PER the following information concerning the operations of the baghouse during the 12-month reporting period for this emissions unit:
 - a. 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;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and burning coal or No. 6 fuel oil and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and



- e. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit
- (3) The permittee shall identify the following information in the annual PER in accordance with the monitoring requirements for visible emissions in d)(8) above:
- a. all days during which any visible PE were observed from the stack serving this emissions unit; and
 - b. any corrective actions taken to minimize or eliminate the visible PE.
- (4) 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 District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the 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 signatory authority may be represented as provided through procedures established in Air Services.
- 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:**

When burning natural gas exclusively, the PE shall not exceed 0.020pound per million Btu of actual heat input.

Applicable Compliance Method:

Compliance with the allowable PE limitation aboveshall be demonstrated by multiplying the maximum hourly natural gas usage rate (million cubic feet per hour) by the emission factor of 1.9 pounds PE per million cubic feet of natural gas [from AP-42, Section 1.4, Table 1.4-2 (revised 7/98)],and then dividing by the maximum heat input capacity to the emissions unit (million Btu per hour).

If required, the permittee shall demonstrate compliance with the allowable PE limitation above based on the results of emission testing conducted in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.



b. Emission Limitations:

When burning a combination of natural gas, No. 6 fuel oil and/or coal, PE shall not exceed 0.125 pound per million Btu of actual heat input, 0.75 pound per hour and 3.29 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the allowable hourly and pound per million Btu PE limitations above based on the results of emission testing conducted in accordance with Methods 1 - 5 of 40 CR Part 60, Appendix A.

As long as compliance with the hourly allowable emission limitation is maintained, compliance with the annual allowable emission limitation will be demonstrated (the annual allowable emission limitation was determined by multiplying the hourly allowable emission limitation by 8760, and then dividing by 2000 pounds per ton).

c. Emission Limitations:

NO_x emissions shall not exceed 1.5 pounds per million Btu of actual heat input, 9.0 pounds per hour and 39.5 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the allowable hourly and pounds per million Btu NO_x emission limitations above based on the results of emission testing conducted in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A.

As long as compliance with the hourly allowable emission limitation is maintained, compliance with the annual allowable emission limitation will be demonstrated (the annual allowable emission limitation was determined by multiplying the hourly allowable emission limitation by 8760, and then dividing by 2000 pounds per ton).

d. Emission Limitations:

When burning No. 6 fuel oil, the SO₂ emissions shall not exceed 3.33 pounds per million Btu of actual heat input and 20 pounds per hour.

When burning coal or injecting SO₂, the SO₂ emissions shall not exceed 12.0 pounds per hour.

Applicable Compliance Method:

If required, when burning coal or injecting SO₂, the permittee shall demonstrate compliance with the hourly allowable SO₂ emission limitation of 12 pounds per hour based upon the results of emission testing conducted in accordance with Methods 1 - 4 and 6 of 40 CFR Part 60, Appendix A.



When burning No. 6 fuel oil, compliance with the pounds per million Btu allowable SO₂ emission limitation above shall be demonstrated by multiplying the maximum hourly No. 6 fuel oil usage rate (gallons per hour) by the appropriate emission factor (pound of SO₂ per 10³ gallon), from AP-42, Chapter 1, Section 1.3 (revised 9/98), and then dividing by the maximum hourly heat input capacity to the emissions unit (million Btu per hour).

When burning No. 6 fuel oil, compliance with the hourly allowable SO₂ emission limitation shall be demonstrated by multiplying the maximum hourly No. 6 fuel oil usage rate (gallons per hour) by the appropriate emission factor (pound of SO₂ per 10³ gallon), from AP-42, Chapter 1, Section 1.3 (revised 9/98).

If required, when burning No. 6 fuel oil, the permittee shall demonstrate compliance with the allowable hourly and pound per million Btu SO₂ emission limitations above based on the results of emission testing conducted in accordance with Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A.

e. Emission Limitations:

CO emissions shall not exceed 0.3 pound per million Btu of actual heat input, 1.8 pounds per hour and 7.88 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the allowable hourly and pound per million Btu CO emission limitations above based on the results of emission testing conducted in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A.

As long as compliance with the hourly allowable emission limitation is maintained, compliance with the annual allowable emission limitation will be demonstrated (the annual allowable emission limitation was determined by multiplying the hourly allowable emission limitation by 8760, and then dividing by 2000 pounds per ton).

f. Emission Limitations:

OC emissions shall not exceed 0.01 pound per million Btu of actual heat input, 0.06 pound per hour and 0.26 ton per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the allowable hourly and pound per million Btu OC emission limitations above based on the results of emission testing conducted in accordance with Methods 1 through 4 and 18, 25 or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

As long as compliance with the hourly allowable emission limitation is maintained, compliance with the annual allowable emission limitation will be demonstrated (the annual allowable emission limitation was determined by



multiplying the hourly allowable emission limitation by 8760, and then dividing by 2000 pounds per ton).

g. Emission Limitation

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

Applicable Compliance Method

Compliance with the visible PE limitation above shall be demonstrated based on visible emissions evaluations conducted in accordance with OAC rule 3745-17-03(B)(1).

[No visible emission observations are specifically required to demonstrate compliance with the visible PE limitations but, if appropriate, may be required pursuant to OAC rule 3745-15-04(A).]

h. Emission Limitation

The SO₂ emissions shall not exceed 15.3 tons per rolling, 12-month period.

Applicable Compliance Method

Compliance with the annual allowable SO₂ emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d)(7)above.

g) Miscellaneous Requirements

(1) None.