



Environmental  
Protection Agency

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

2/7/2012

Mr. William Shew  
Greif Packaging, LLC  
PO Box 675  
787 Warmington Rd. SW  
Massillon, OH 44648-0675

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 1576000431  
Permit Number: P0109349  
Permit Type: Initial Installation  
County: Stark

Dear Permit Holder:

Enclosed please find a final 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. Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI 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  
309 South Fourth Street, Room 222  
Columbus, OH 43215

If you have any questions, please contact Canton City Health Department at (330)489-3385 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPCWeb page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: Canton

Certified Mail

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





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
Greif Packaging, LLC**

Facility ID:	1576000431
Permit Number:	P0109349
Permit Type:	Initial Installation
Issued:	2/7/2012
Effective:	2/7/2012
Expiration:	2/18/2014





Division of Air Pollution Control
Permit-to-Install and Operate
for
Greif Packaging, LLC

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## Authorization

Facility ID: 1576000431  
Application Number(s): A0043450, A0043532  
Permit Number: P0109349  
Permit Description: Installation of a natural gas-fired boiler to generate steam for the paper plant, equipped with low NOx burners and flue gas recirculation.  
Permit Type: Initial Installation  
Permit Fee: \$1,000.00  
Issue Date: 2/7/2012  
Effective Date: 2/7/2012  
Expiration Date: 2/18/2014  
Permit Evaluation Report (PER) Annual Date: Oct 1 - Sept 30, Due Nov 15

This document constitutes issuance to:

Greif Packaging, LLC  
9420 WARMINGTON RD, S.W.  
Massillon, OH 44646

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

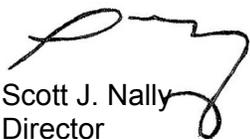
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Canton City Health Department  
420 Market Avenue  
Canton, OH 44702-1544  
(330)489-3385

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: P0109349

Permit Description: Installation of a natural gas-fired boiler to generate steam for the paper plant, equipped with low NOx burners and flue gas recirculation.

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

<b>Emissions Unit ID:</b>	<b>B009</b>
Company Equipment ID:	B009
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

## **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. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. 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 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 Canton City Health Department 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<sup>1</sup> 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 emissions 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.

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<sup>1</sup>Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

**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.

## **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.

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



1. B009, 115K Boiler

Operations, Property and/or Equipment Description:

137 MMBtu/hrIndeck natural gas-fired boiler equipped with low NOx burners and flue gas recirculation.

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.

Table with 2 columns: Applicable Rules/Requirements and Applicable Emissions Limitations/Control Measures. Row a: ORC 3704.03(T) [BAT for pollutants greater than 10 tpy] with emissions limits for NOx, CO, and VOC. Row b: OAC rule 3745-31-05(A)(3) [BAT for pollutants less than 10 tpy] with emissions limits for particulate matter, VOC, and SO2.

c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06 [Less than 10 tpy BAT exemption]	See b)(2)e.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from the stack shall not exceed 20% opacity as a six-minute average, except as provided by rule.
e.	OAC rule 3745-17-10(B)(1)	0.020 lb of particulate emissions (PE) per MMBtu of actual heat input. See b)(2)f.
f.	OAC rule 3745-18-06 OAC rule 3745-18-82(F)	Exempt. See b)(2)g.
g.	OAC rule 3745-110-03 [NO <sub>x</sub> RACT]	See b)(2)h.
h.	40 CFR, Part 60, Subpart Db	No owner or operator shall cause to be discharged into the atmosphere any gases that contain NO <sub>x</sub> in excess of 0.20 lb/MMBtu.  See b)(2)h.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under ORC 3704.03(T) have been determined to be use of low NO<sub>x</sub> burners, use only natural gas as fuel, and flue gas recirculation and emission limitations of b)(1)a. above and compliance with the terms and conditions of this permit.
- b. The mass emission rate limitations in b)(1)a. and b)(1)b. above represent the potentials to emit (PTE) (defined as the maximum capacity to emit an air pollutant under the physical and operational design). Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure compliance with these emission limitations. See terms f)(2)a. through f)(2)e. below for details regarding the PTE.
- c. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) have been determined to be use of low NO<sub>x</sub> burners, use only natural gas as fuel, and flue gas recirculation and compliance with the terms and conditions of this permit.
- d. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B 265 changes), such that BAT is no longer required by state regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the

revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/controls measures no longer apply.

- e. OAC rule 3745-31-05(A)(3)(a)(ii) applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the emissions of SO<sub>2</sub>, VOC, and PM<sub>10</sub> from this air contaminant source since the uncontrolled potential to emit for SO<sub>2</sub>, VOC, and PM<sub>10</sub> are each less than 10 tons per year.

- f. This emission limitation established by this rule is less stringent than the PM<sub>10</sub> limitation established pursuant to OAC rule 3745-31-05(A)(3), as effective 11/30/01. All emissions of particulate matter from this emissions unit are PM<sub>10</sub>.
- g. This emission unit is exempt from the requirements of OAC rule 3745-18-06 and OAC rule 3745-18-82 in accordance with OAC rule 3745-18-06(A) since only natural gas is used.
- h. The requirements of this rule are less stringent than those required under ORC 3704.03(T).

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emission unit.
- (2) The control equipment, including the pilot scanner assembly that provides low NO<sub>x</sub> capability for the burner, shall be operated at all times that the emission unit is operated.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.
- (2) Pursuant to the NSPS (40 CFR, Part 60, Subpart Db), the permittee is required to report the following information at the appropriate times (if the information has not already been reported):
  - a. Construction date (no later than 30 days after such date);
  - b. Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
  - c. Actual start-up date (within 15 days after such date); and,
  - d. Date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to the appropriate local air agency or District Office and to:

Ohio Environmental Protection Agency  
DAPC - Permit Management Unit  
P.O. Box 163669  
Columbus, Ohio 43216-3669

- (3) Fuel Consumption Monitoring:
    - a. This facility shall record and maintain records of the amount of fuel consumed in this emissions unit each day.
    - b. This facility shall properly install, maintain, and operate a separate natural gas flow rate meter for this emissions unit.
  - (4) This facility shall operate the portable gas monitor required in term d)(5) according to its operations manual. Records of any quality assurance or quality control work performed on the portable gas monitor and any maintenance work performed on the portable gas monitor shall be maintained.
  - (5) This facility shall monitor the B009 exhaust gases with a portable gas monitor or other approved analyzer for the concentrations of NO<sub>x</sub> and CO. This emission unit shall be in operation during this monitoring. This facility shall also monitor the temperature and velocity of these exhaust gases using a thermocouple and pitot tube, and the amount of fuel consumed during the monitoring period. All of these monitoring requirements shall be performed at least one time per calendar month. The mass emission rate in the exhaust gases from B009 in pounds per MMBtu of NO<sub>x</sub> and CO shall be calculated from the measured concentrations, temperature, pitot pressure drop, and amount of fuel consumed during the test.
  - (6) All records required shall be maintained and retained on file for a period of not less than five years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the Director, or any authorized representative of the Director, for review at the facility during normal business hours.
- e) Reporting Requirements
- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director 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.
  - (2) As part of the annual Performance Evaluation Report (PER), the permittee shall submit the following information for the reporting period:
    - a. the calculated mass emission rates in pounds per MMBtu of NO<sub>x</sub> and CO in the exhaust gases from the emission unit determined from all of the portable gas analyzer measurements required in term d)(5) and a table of all the values used

in these calculations. Also, a sample calculation of these mass emission rates, including the general equations used, shall be included in this information.

- (3) The permittee shall submit written report to Canton City Health Department, Air Pollution Control Division, whenever a calculated mass emission rate in pounds per MMBtu of NO<sub>x</sub> or CO required to be recorded in term d)(5) (from the portable monitor measurements) exceeds the emission limitations in b)(1)a.. These reports shall be submitted within fourteen days of the day when the measurements were made with the portable analyzer.
- (4) The permittee shall submit written deviation reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted to the Canton City Health Department, Air Pollution Control Division, within 30 days after the deviation occurs.
- 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(s):
- Nitrogen oxides (NO<sub>x</sub>) shall not exceed 0.036 lb/MMBtu
- Applicable Compliance Method(s):
- The lb/MMBtu emission limitation was established by using the manufacturer design specification of 30 ppmvNO<sub>x</sub> maximum in the exhaust gases, which converts to 0.036 lbNO<sub>x</sub>/MMBtu as provided by the manufacturer. This value represents the potential to emit of the unit. Compliance with this emission limitation shall be based on the recordkeeping required in terms d)(3)-(5) above.
- Reporting of actual emissions for the purposes of fee emissions report may be based upon the actual lb/MMBtu emission rate as determined by the monthly stack gas testing per term d)(5) above and the fuel consumption data recorded per term d)(3) above, as shown below.
- $$(\text{lbNO}_x/\text{MMBtu from test each month}) \times (\text{MMBtu/month}) \div (2000 \text{ lb/ton}) = \text{actual tons NO}_x/\text{month}$$
- Sum of all 12 actual tons NO<sub>x</sub>/month values = actual tons NO<sub>x</sub>/yr
- To calculate the annual potential to emit of the unit, multiply the lb/MMBtu emission limitation by the maximum heat input rating per hour and the maximum operating schedule of 8760 hours per year, as shown below.
- $$(0.036 \text{ lb/MMBtu}) \times (137 \text{ MMBtu/hr}) \times (8760 \text{ hr/yr}) \div (2000 \text{ lb/ton}) = 22.0 \text{ ton/yr}$$

If required, the permittee shall demonstrate compliance with the lb/MMBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, or 7E.

b. Emission Limitation(s):

Carbon monoxide (CO) shall not exceed 0.055 lb/MMBtu

Applicable Compliance Method(s):

The lb/MMBtu emission limitation was established by using the manufacturer design specification of 200 ppmv CO maximum in the exhaust gases, which converts to 0.055 lb CO/MMBtu as provided by the manufacturer. This value represents the potential to emit of the unit. Compliance with this emission limitation shall be based on the recordkeeping required in terms d)(3)-(5) above.

Reporting of actual emissions for the purposes of fee emissions report may be based upon the actual lb/MMBtu emission rate as determined by the monthly stack gas testing per term d)(5) above and the fuel consumption data recorded per term d)(3) above, as shown below.

$(\text{lb CO/MMBtu from test each month}) \times (\text{MMBtu/month}) \div (2000 \text{ lb/ton}) = \text{actual tons CO/month}$

Sum of all 12 actual tons CO/month values = actual tons CO/yr

To calculate the annual potential to emit of the unit, multiply the lb/MMBtu emission limitation by the maximum heat input rating per hour and the maximum operating schedule of 8760 hours per year, as shown below.

$(0.055 \text{ lb/MMBtu}) \times (137 \text{ MMBtu/hr}) \times (8760 \text{ hr/yr}) \div (2000 \text{ lb/ton}) = 33.0 \text{ ton/yr}$

If required, the permittee shall demonstrate compliance with the lb/MMBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 10 or 10B.

c. Emission Limitation(s):

Particulate matter less than 10 microns in diameter (PM<sub>10</sub>) shall not exceed 0.00745 lb/MMBtu and 4.5 tons/yr.

Applicable Compliance Method(s):

Compliance shall be determined by calculation. AP-42, Table 1.4-2 dated 7/98 lists the total PM emission factor for natural gas combustion sources as 7.6 lbs/MM scf fuel input. Multiplying this emission factor by 1 scf per 1,020 BTU for natural gas gives an emission factor of 0.00745 lb/MMBtu. This value represents the potential to emit of the unit, which is also established as the emission limitation. All PM emissions are considered PM<sub>10</sub> since they are generated from fuel combustion only, so PM<sub>10</sub> is set equal to PM.

$$(7.6 \text{ lbs PM/MM scf}) \Rightarrow (7.6 \text{ lbs PM}_{10}/\text{MM scf})$$

$$(7.6 \text{ lbs PM}_{10}/\text{MM scf}) \times (1 \text{ scf}/1020 \text{ Btu}) = 0.00745 \text{ lb PM}_{10}/\text{MMBtu}$$

Compliance with the annual limitation shall be determined by calculation. Multiply the lb/MMBtu emission limitation by the annual MMBtus of natural gas used (recorded per term d)(3) above), then divide by 2000 lbs/ton to yield the tons of PM<sub>10</sub> per year value.

$$(0.00745 \text{ lb PM}_{10}/\text{MMBtu}) \times (\text{MMBtu}/\text{yr}) \div (2000 \text{ lb}/\text{ton}) = \text{actual tons PM}_{10}/\text{yr}$$

Therefore, provided compliance is shown with the lb/MMBtu limitation, compliance shall also be shown with the annual limitation. The annual emission limitation was established by using the same methodology, but used the maximum heat input rating per hour and the maximum operating schedule of 8760 hours per year.

$$(0.00745 \text{ lb}/\text{MMBtu}) \times (137 \text{ MMBtu}/\text{hr}) \times (8760 \text{ hr}/\text{yr}) \div (2000 \text{ lb}/\text{ton}) = 4.5 \text{ ton}/\text{yr}$$

If required, the permittee shall demonstrate compliance with the lb/MMBtu emission limitation through emission tests performed in accordance with 40 CFR Part 51, Appendix M, Method 201 or 201A.

d. Emission Limitation:

Volatile organic compounds (VOC) shall not exceed 0.0054 lb/MMBtu and 3.24 tons/yr.

Applicable Compliance Method:

Compliance shall be determined by calculation. AP-42, Table 1.4-2 dated 7/98 lists the VOC emission factor for natural gas combustion sources as 5.5 lbs/MM scf fuel input. Multiplying this emission factor by 1 scf per 1,020 BTU for natural gas gives an emission factor of 0.0054 lb/MMBtu. This value represents the potential to emit of the unit, which is also established as the emission limitation.

$$(5.5 \text{ lbs VOC/MM scf}) \times (1 \text{ scf}/1020 \text{ Btu}) = 0.0054 \text{ lb VOC}/\text{MMBtu}$$

Compliance with the annual limitation shall be determined by calculation. Multiply the lb/MMBtu emission limitation by the annual MMBtus of natural gas used (recorded per term d)(3) above), then divide by 2000 lbs/ton to yield the tons of VOC per year value.

$$(0.0054 \text{ lb VOC}/\text{MMBtu}) \times (\text{MMBtu}/\text{yr}) \div (2000 \text{ lb}/\text{ton}) = \text{actual tons VOC}/\text{yr}$$

Therefore, provided compliance is shown with the lb/MMBtu limitation, compliance shall also be shown with the annual limitation. The annual emission limitation was established by using the same methodology, but used the maximum heat input rating per hour and the maximum operating schedule of 8760 hours per year.

$$(0.0054 \text{ lb/MMBtu}) \times (137 \text{ MMBtu/hr}) \times (8760 \text{ hr/yr}) \div (2000 \text{ lb/ton}) = 3.24 \text{ ton/yr}$$

If required, the permittee shall demonstrate compliance with the lb/MMBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 18, 25, or 25A.

e. Emission Limitation:

Sulfur dioxide (SO<sub>2</sub>) shall not exceed 0.0006 lb/MMBtu and 0.35 tons/yr.

Applicable Compliance Method:

Compliance shall be determined by calculation. AP-42, Table 1.4-2 dated 7/98 lists the SO<sub>2</sub> emission factor for natural gas combustion sources as 0.6 lbs/MM scf fuel input. Multiplying this emission factor by 1 scf per 1,020 BTU for natural gas gives an emission factor of 0.0006 lb/MMBtu. This value represents the potential to emit of the unit, which is also established as the emission limitation.

$$(0.6 \text{ lbs SO}_2/\text{MM scf}) \times (1 \text{ scf}/1020 \text{ Btu}) = 0.0006 \text{ lb SO}_2/\text{MMBtu}$$

Compliance with the annual limitation shall be determined by calculation. Multiply the lb/MMBtu emission limitation by the annual MMBtus of natural gas used (recorded per term d)(3) above), then divide by 2000 lbs/ton to yield the tons of SO<sub>2</sub> per year value.

$$(0.0006 \text{ lb SO}_2/\text{MMBtu}) \times (\text{MMBtu/yr}) \div (2000 \text{ lb/ton}) = \text{actual tons SO}_2/\text{yr}$$

Therefore, provided compliance is shown with the lb/MMBtu limitation, compliance shall also be shown with the annual limitation. The annual emission limitation was established by using the same methodology, but used the maximum heat input rating per hour and the maximum operating schedule of 8760 hours per year.

$$(0.0006 \text{ lb/MMBtu}) \times (137 \text{ MMBtu/hr}) \times (8760 \text{ hr/yr}) \div (2000 \text{ lb/ton}) = 0.35 \text{ ton/yr}$$

If required, the permittee shall demonstrate compliance with the lb/MMBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 6.

f. Emission Limitation(s):

Visible particulate emissions (PE) from the stack shall not exceed 20% opacity as a six-minute average except as provided by rule.

Applicable Compliance Method(s):

If required, compliance with the visible emission limitation above shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

g. Emission Limitation:

0.020 lb particulate emissions (PE) per MMBtu actual heat input

Applicable Compliance Method:

AP-42, Table 1.4-2 dated 7/98 lists the PM emission factor for natural gas combustion sources as 7.6 lbs/MM scf fuel input. Multiplying this emission factor by 1 scf per 1,020 BTU for natural gas gives an emission factor of 0.00745 lb/MMBtu. Because 0.00745 lb PM per MMBtu actual heat input is less than 0.020 lb PM per MMBtu actual heat input, compliance with this limit is shown.

## g) Miscellaneous Requirements

## (1) NSPS Requirements

- a. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.
- b. This emissions unit is subject to the applicable provisions of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60 and including 40 CFR Part 60 Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.