



6/20/2014

Certified Mail

Elizabeth Gayne
 East Ohio Gas - Columbiana Compressor Station
 5000 Dominion Blvd
 Glen Allen, VA 23060

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
 Facility ID: 0215000182
 Permit Number: P0117102
 Permit Type: Administrative Modification
 County: Columbiana

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
East Ohio Gas - Columbiana Compressor Station**

Facility ID:	0215000182
Permit Number:	P0117102
Permit Type:	Administrative Modification
Issued:	6/20/2014
Effective:	6/20/2014
Expiration:	3/20/2024



Division of Air Pollution Control
Permit-to-Install and Operate
for
East Ohio Gas - Columbiana Compressor Station

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Authorization

Facility ID: 0215000182
Application Number(s): M0002828
Permit Number: P0117102
Permit Description: Administrative modification to change the engine model number.
Permit Type: Administrative Modification
Permit Fee: \$0.00
Issue Date: 6/20/2014
Effective Date: 6/20/2014
Expiration Date: 3/20/2024
Permit Evaluation Report (PER) Annual Date: Oct 1 - Sept 30, Due Nov 15

This document constitutes issuance to:

East Ohio Gas - Columbiana Compressor Station
27842 Hartley Road
Half a mile east of Stanley road
Knox Twp., OH 44619

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

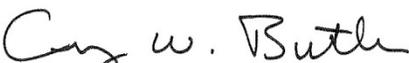
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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


Craig W. Butler
Director



Final Permit-to-Install and Operate
East Ohio Gas - Columbiana Compressor Station
Permit Number: P0117102
Facility ID: 0215000182
Effective Date: 6/20/2014

Authorization (continued)

Permit Number: P0117102
Permit Description: Administrative modification to change the engine model number.

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

Emissions Unit ID:	B004
Company Equipment ID:	Engine 3
Superseded Permit Number:	P0116488
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
East Ohio Gas - Columbiana Compressor Station
Permit Number: P0117102
Facility ID: 0215000182
Effective Date: 6/20/2014

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
East Ohio Gas - Columbiana Compressor Station
Permit Number: P0117102
Facility ID: 0215000182
Effective Date: 6/20/2014

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.
2. The Ohio EPA has determined that this facility is subject to the requirements of 40 CFR Part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines at Area Sources. Although Ohio EPA has determined that this Generally Available Control Technology NESHAP (GACT) applies, at this time Ohio EPA does not have the authority to enforce this standard. Instead, U.S. EPA has the authority to enforce this standard. Please be advised, that all requirements associated with this rule are in effect and shall be enforced by U.S. EPA. For more information on the area source rules, please refer to the following U.S. EPA website: <http://www.epa.gov/ttn/atw/area/arearules.html>.
3. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines: B004 and B005. The complete NSPS requirements may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Northeast District Office.



Final Permit-to-Install and Operate
East Ohio Gas - Columbiana Compressor Station
Permit Number: P0117102
Facility ID: 0215000182
Effective Date: 6/20/2014

C. Emissions Unit Terms and Conditions



1. B004, Engine 3

Operations, Property and/or Equipment Description:

1340 HP Caterpillar Model G3516TALE with a Miratech catalytic converter which is a Stationary spark ignition (SI), lean burn, internal combustion engine (ICE) greater than or equal to 500 HP and less than 1,350 HP, manufactured between 1/1/08 and 6/30/10, burning natural gas, and uncertified but will still meet the exhaust emission standards identified in Table 1 to Part 60, Subpart JJJJ.

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	40 CFR Part 60, Subpart JJJJ In accordance with 40 CFR 60.4230, this emissions unit is subject to the New Source Performance Standards (NSPS) for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE). 40 CFR 60.4233(e) 40 CFR 60.4231(e)-mfg. Table 1 to Part 60, Subpart JJJJ	The exhaust emissions from this engine shall not exceed: 2.0 grams of nitrogen oxides per horsepower hour (2.0 g NO _x /HP-hr) or 160 ppmvd at 15% O ₂ . 4.0 grams of carbon monoxide per horsepower hour (4.0 g CO/HP-hr) or 540 ppmvd at 15% O ₂ . 1.0 grams of volatile organic compounds per horsepower hour (1.0 g VOC/HP-hr) or 86 ppmvd at 15% O ₂ .



b.	OAC rule 3745-17-11(B)(5)	Particulate emissions (PE) shall not exceed 0.062 lb/MMBtu of actual heat input from ICE greater than 600 HP.
c.	OAC rule 3745-18-04(F)(4)	The sulfur dioxide (SO ₂) emission rate from natural gas shall be considered to be equal to 0.0 lb/MMBtu.
d.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as specified by rule.
e.	ORC 3704.03(T)	Emissions of nitrogen oxides (NO _x) shall not exceed 25.88 tons per year.
f.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	<p>Compliance with the applicable requirements of 40 CFR Part 60, Subpart JJJJ</p> <p>Particulate emissions (PE) from this emissions unit shall not exceed 0.74 pound per hour and 3.23 tons per year.</p> <p>Emissions of carbon monoxide (CO) shall not exceed 0.89 pound per hour and 3.89 tons per year.</p> <p>Emissions of volatile organic compounds (VOC) shall not exceed 0.82 pounds per hour and 3.57 tons per year.</p> <p>Sulfur dioxide (SO₂) emissions shall be estimated to be 0.03 ton per year based on the AP-42 emission factor for natural gas.</p> <p>See b)(2)a.</p>
g.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b.
h.	40 CFR 63 Subpart ZZZZ 40 CFR 63.6590(c)(1)	A new or reconstructed area source operating in compliance with Part 60 Subpart JJJJ is the demonstration of compliance for 40 CFR 63 Subpart ZZZZ.



(2) Additional Terms and Conditions

- a. 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 the 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 the 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/control measures no longer apply: b)(1)f., b)(2)a., f)(2)b.ii., f)(2)d.ii., f)(2)e.ii., f)(2)f.

- b. This paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, as part of the State Implementation Plan, (SIP).

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE), carbon monoxide (CO), and volatile organic compounds (VOC) from this emissions unit since the "controlled" potential to emit is less than ten tons per year.

- c. The stationary spark ignition (SI) internal combustion engine (ICE) is subject to and shall be operated in compliance with the requirements of 40 CFR Part 60, Subpart JJJJ, the standards of performance for stationary SI ICE.

[40 CFR 60.4230(a)]

- d. The stationary SI ICE has been or shall be purchased certified by the manufacturer to emission standards as stringent as those identified in 40 CFR 60.4233(e) and found in Table 1 of Part 60, Subpart JJJJ for lean burn, natural gas engines greater than or equal to 500 HP and less than 1,350 HP and manufactured on or after 1/1/08 and before 7/1/10.

[40 CFR 60.4233(e)] and [40 CFR 60.4231(e)]

c) Operational Restrictions

- (1) The stationary SI ICE shall be installed, operated, and maintained according to the manufacturer's specifications, written instructions, and procedures over the entire life of the engine. The permittee shall operate and maintain the stationary SI ICE to achieve the emission standards identified in 40 CFR 60.4233(e) and found in Table 1 of NSPS Subpart JJJJ over the entire life of the engine. The air-to-fuel ratio controllers shall be set by the manufacturer and/or according to the operations manual, to ensure proper operation of the engine and control device and to minimize emissions.

[40 CFR 60.4234], [40 CFR 60.4243(b)(1)], and [40 CFR 60.4243(g)]

- (2) During emergency conditions the permittee may operate this engine using propane for a maximum of 100 hours per year as an alternative fuel and if records are maintained for



such use. If the engine is not certified to burn propane the permittee shall conduct a performance test to demonstrate compliance with the emission standards in 40 CFR 60.4233.

[40 CFR 60.4243(e)]

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

- (1) The permittee shall maintain the engine and catalytic converter manufacturers' warranty and/or emissions test data on site or at a central location for all facility engines and it shall be made available for review upon request. If the manufacturer's warranty and/or emissions test data is not kept on site, the permittee shall maintain a log for the location of each engine and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the emissions test data or warranty of emissions. The manufacturer's operations manual and maintenance records shall be maintained at the same location as the engine(s); or if the engine(s) is/are leased or serviced by personnel visiting (not stationed at) the site, these records shall be maintained by the facility or staff personnel who is responsible for maintaining the engine(s) to meet the manufacturer's emission-related operating instructions and settings. This information shall be made available to the Director or his/her representative upon request.

[40 CFR 60.4243(b)(1)] with [40 CFR 60.4242(f)]

- (2) The permittee shall maintain a record of the natural gas burned in this ICE during each calendar year. The natural gas usage can be calculated at the end of each year using the best method available to estimate the annual throughput, which might include but shall not be limited to: readings from the facility's natural gas meter, the facility's natural gas bill, the recorded or estimated hours of operation along with the manufacture's documentation on the maximum natural gas fuel flow rate.
- (3) The permittee of the uncertified lean burn spark ignition internal combustion engine, manufactured after January 1, 2008 (or after 7/1/07 if greater than or equal to 1,350 HP), shall demonstrate compliance as follows:
 - a. all notifications submitted to comply with and all documentation supporting compliance with Part 60 Subpart JJJJ;
 - b. keep a maintenance plan and the records of all maintenance conducted on the engine;
 - c. maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions; and
 - d. conduct an initial performance test, as specified in 40 CFR 60.4244, within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first.



- e. the information identified in 40 CFR parts 90, 1048, 1054, and/or 1060 that is required to be provided by the manufacturer to the operator/owner, as applicable to the model year and horsepower of the engine.

[40 CFR 60.4243(b)(2)] and [40 CFR 60.4233(d), (e), or (f)]

e) Reporting Requirements.

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency 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. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.

[OAC rule 3745-15-03(B)(2)] and [OAC rule 3745-15-03(D)]

f) Testing Requirements

- (1) If the natural gas engine was purchased without an EPA certificate of conformity, the engine will need to meet the performance testing requirements of 40 CFR 60.4243(b)(2)(ii) and the permittee will be required to conduct an initial performance test and subsequent performance tests every 8,760 hours or 3 years whichever comes first, to demonstrate compliance with the emission limits from Part 60 Subpart JJJJ.

[60.4243(b)(1) and (2)]

- (2) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Opacity Limitation:

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

Applicable Compliance Method:

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

[OAC rule 3745-17-07(A)(1)]

b. Emission Limitations:

- i. 0.062lb PE/MMBtu from ICE greater than 600 HP
- ii. 3.23 tons PE/year



Applicable Compliance Method:

The particulate emission limitation is from OAC rule 3745-17-11(B)(5) for stationary internal combustion engines.

Compliance with the ton per year PE emissions limitation shall be determined by the following calculation:

$$0.062 \text{ lb PE/MMBtu} \times 11.9 \text{ MMBtu/hr} = 0.74 \text{ lb PE/hr}$$

$$0.74 \text{ lb PE/hr} \times 8760 \text{ hours/year} \times 1 \text{ ton/2000 lbs} = 3.23 \text{ tons PE/year}$$

If required, the permittee shall demonstrate compliance with the PE emission limitation through exhaust emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

[OAC rule 3745-17-11(B)(5)]

c. Emission Limitations:

2.0 grams NO_x /HP-hr or 160 ppmvd at 15% O₂

25.88 tons NO_x/year

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification to the emission standards identified in 40 CFR 60.4231(e) and by maintaining the engine according to the manufacturer's specifications. The g/HP-hr limits the emission limitation from Table 1 to Part 60 Subpart JJJJ, the exhaust emission standards for lean burn, natural gas engines greater than or equal to 500 HP and less than 1,350 HP, manufactured on/after 1/1/08 and before 7/1/10.

Compliance with the ton per year NO_x emissions limitation shall be determined by the following calculation:

$$4.41 \text{E-}03 \text{ lb NO}_x/\text{HP-hr} \times 1340 \text{ HP} = 5.91 \text{ lb NO}_x/\text{hr}$$

$$5.91 \text{ lbs NO}_x/\text{hr} \times 8760 \text{ hours/year} \times 1 \text{ ton/2000 lbs} = 25.88 \text{ tons NO}_x/\text{year}$$

Where there is no certificate of conformity, the permittee shall demonstrate compliance with the NO_x limitation according to the requirements of 40 CFR 60.4244, using the applicable test methods in Table 2 to Part 60 Subpart JJJJ.

[40 CFR 60.4233(e)], [40 CFR 60.4244], and [Table 1 to Part 60 Subpart JJJJ]



d. Emission Limitations:

- i. 4.0 grams CO/HP-hr or 540 ppmvd at 15% O₂
- ii. 3.89tonsCO/year

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification to the emission standards identified in 40 CFR 60.4231(e) and by maintaining the engine according to the manufacturer's specifications. The g/HP-hr limit is the emission limitation from Table 1 to Part 60 Subpart JJJJ, the exhaust emission standards for lean burn, natural gas engines greater than or equal to 500 HP and less than 1,350 HP, manufactured on/after 1/1/08 and before 7/1/10.

Compliance with the ton per year CO emissions limitation shall be determined by the following calculation:

$$4.0 \text{ g CO/HP-hr} \times 1340 \text{ HP/hr} = 5360 \text{ g CO/hr} \times 1.66\text{E-}03 = 8.8976 \text{ lb/hr} \times .10^* = 0.89 \text{ lbs CO/hr}$$

*Control equipment, per vendor data, is 90% efficient.

$$0.89 \text{ lbs CO/hr} \times 8760 \text{ hours/year} \times 1 \text{ ton/2000 lbs} = 3.89 \text{ tons CO/year}$$

Where there is no certificate of conformity, the permittee shall demonstrate compliance with the CO limitation according to the requirements of 40 CFR 60.4244, using the applicable test methods in Table 2 to Part 60 Subpart JJJJ.

[40 CFR 60.4233(e)], [40 CFR 60.4244], and [Table 1 to Part 60 Subpart JJJJ]

e. Emission Limitations:

- i. 1.0 grams VOC/HP-hr or 86 ppmvd at 15% O₂
- ii. 3.57tonsVOC/year

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification to the emission standards identified in 40 CFR 60.4231(e) and by maintaining the engine according to the manufacturer's specifications. The g/HP-hr limit is the emission limitation from Table 1 to Part 60 Subpart JJJJ, the exhaust emission standards for lean burn, natural gas engines greater than or equal to 500 HP and less than 1,350 HP, manufactured on/after 1/1/08 and before 7/1/10.

Compliance with the ton per year VOC emissions limitation shall be determined by the following calculation:



$$0.229\text{lb VOC/mm btu} \times 11.9 \text{ mm btu/hr} \times 0.3^* = 0.82\text{lb VOC/hr}$$

*Control equipment, per vendor data, is 70% efficient.

$$0.82\text{lb VOC/hr} \times 8760 \text{ hours/year} \times 1 \text{ ton/2000 lbs} = 3.57 \text{ tons VOC/year}$$

Where there is no certificate of conformity, the permittee shall demonstrate compliance with the VOC limitation according the requirements of 40 CFR 60.4244, using the applicable test methods in Table 2 to Part 60 Subpart JJJJ.

[40 CFR 60.4233(e)], [40 CFR 60.4244], and [Table 1 to Part 60 Subpart JJJJ]

f. Emission Limitations:

0.000588 lb SO₂/MMBtu

0.03 tons of SO₂/year

Applicable Compliance Method:

The SO₂ emissions limit is based on using the AP-42 emission factor of 0.000588 lb SO₂/MMBtu from Chapter 3.2 for Natural Gas-fired Reciprocating Engines, Table 3.2-1 through 3, "Uncontrolled Emission Factors for all natural gas Engines".

Compliance with the ton per year SO₂ emissions limitation shall be determined by the following calculation:

$$0.000588 \text{ lb SO}_2/\text{MMBtu} \times 11.9\text{MMBtu/hr} = 0.007\text{lb SO}_2/\text{hr}$$

$$0.007\text{lb SO}_2/\text{hr} \times 8760 \text{ hours/year} \times 1 \text{ ton/2000 lbs} = 0.03 \text{ tons SO}_2/\text{year}$$

* The heating value of natural gas may be adjusted to that provided by the supplier.

- (3) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. Three separate test runs for each performance test is required, as specified in 40 CFR 60.8(f) and each test run must last at least 1 hour.
 - b. Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in 40 CFR 60.8 and under the specific conditions that are specified by Table 2 to Part 60, Subpart JJJJ.
 - c. Performance tests cannot be conducted during periods of startup, shutdown, or malfunction, as specified in 40 CFR 60.8(c).
 - d. An initial performance test shall be conducted within 1 year of engine startup and subsequent performance testing shall be conducted every 8,760 hours or 3 years, whichever comes first, for engines greater than 500 horsepower.



- e. The emission testing shall be conducted to demonstrate compliance with the emission limitations for this engine identified in the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, Part 60, Subpart JJJJ.
- f. The following test method(s) shall be employed, in accordance with Table 2 of Subpart JJJJ of Part 60, to demonstrate compliance with the allowable mass emission rates:
 - i. Method 1 or 1A of 40 CFR Part 60, Appendix A or ASTM Method D6522-00 to select the sampling port location and the number of traverse points.
 - ii. Method 2 of 40 CFR Part 60, Appendix A or Method 19 of 40 CFR Part 60, Appendix A to determine the exhaust flowrate of the engine.
 - iii. Method 3, 3A, or 3B of 40 CFR Part 60, Appendix A or ASTM Method D6522-00 to measure O₂ at the exhaust stack.
 - iv. Method 4 of 40 CFR Part 60, Appendix A; or Method 320 of 40 CFR Part 63, Appendix A; or ASTM D6348-03 to measure the moisture content at the exhaust stack.
 - v. Method 10 of 40 CFR Part 60, Appendix A; or Method 320 of 40 CFR Part 63, Appendix A; or ASTM Method D6522-00; or ASTM D 6348-03 to measure CO at the exhaust stack.
 - vi. Method 25A of 40 CFR Part 60, Appendix A; or Method 18 of 40 CFR Part 60, Appendix A; or ASTM D6348.03 to measure VOC at the exhaust stack.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA (alternative methods allowed per footnote to Table 2 of subpart).

- g. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- h. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- i. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the



appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

- (4) To determine compliance with the NO_x mass per unit output emission limitation, the concentration of NO_x in the engine exhaust (in ppmv) shall be converted to grams/horsepower-hour (g/HP-hr) using the following equation:

$$ER = (C_d \times 1.912 \times 10^{-3} \times Q \times T) / \text{HP-hr}$$

Where:

ER = Emission rate of NO_x in g/HP-hr.

C_d = Measured NO_x concentration in parts per million by volume (ppmv).

1.912 × 10⁻³ = Conversion constant for ppm NO_x to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

- (5) To determine compliance with the CO mass per unit output emission limitation, the concentration of CO in the engine exhaust (in ppmv) shall be converted to g/HP-hr using the following equation:

$$ER = (C_d \times 1.164 \times 10^{-3} \times Q \times T) / \text{HP-hr}$$

Where:

ER = Emission rate of CO in g/HP-hr.

C_d = Measured CO concentration in ppmv.

1.164 × 10⁻³ = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

- (6) If using Method 25A, to determine compliance with the VOC mass per unit output emission limitation, the concentration of VOC in the engine exhaust (in ppmv) shall be converted to g/HP-hr using the following equation:



$$ER = (C_d \times 1.833 \times 10^{-3} \times Q \times T) / \text{HP-hr}$$

Where:

ER = Emission rate of VOC in g/HP-hr (emissions of formaldehyde should be excluded).

C_d = VOC concentration measured as propane in ppmv.

1.833×10^{-3} = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

- (7) If using Method 18 Of Part 60 or Method 320 of Part 63, to determine compliance with the VOC mass per unit output emission limitation, the measured VOC emissions can be corrected to account for the potential differences in measured values between these methods and Method 25A.

The results from Method 18 can be corrected for response factor differences using the following equation:

$$RF_i = C_{Mi} / C_{Ai}$$

Where:

RF_i = Response factor of compound i when measured with EPA Method 25A.

C_{Mi} = Measured concentration of compound i in ppmv as carbon.

C_{Ai} = True concentration of compound i in ppmv as carbon.

The results from Method 320 can be corrected for response factor differences using the following equation:

$$C_{i\text{corr}} = RF_i \times C_{i\text{meas}}$$

Where:

C_{i_{corr}} = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

C_{i_{meas}} = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

The corrected VOC concentration can then be placed on a propane basis using the following equation:

$$C_{P\text{eq}} = 0.6098 \times C_{i\text{corr}}$$



Where:

C_{Peq}= Concentration of compound i in mg of propane equivalent per DSCM.

[40 CFR 60.4244] and [40 CFR 60.4243(b)]

g) Miscellaneous Requirements

(1) None.