

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Craig W. Butler, Director

6/10/2014

Certified Mail

Facility ID: 0247100320  
Permit Number: P0114352  
County: Lorain

Steven Dupee  
Oberlin Municipal Light & Power System  
289 South Professor Street  
Oberlin, OH 44074

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

Dear Permit Holder:

Enclosed is a final Ohio Environmental Protection Agency (EPA) Air Pollution Title V permit that allows you to operate the facility in the manner indicated in the permit. Because this permit may contain several conditions and restrictions, we urge you to read it carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this Title V permit is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer 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](http://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](http://www.epa.ohio.gov/survey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://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 regarding this permit, please contact the Ohio EPA DAPC, Northeast District Office as indicated on page one of your permit.

Sincerely,



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

Cc: U.S. EPA Region 5 *Via E-Mail Notification*  
Ohio EPA DAPC, Northeast District Office



**FINAL**

**Division of Air Pollution Control  
Title V Permit  
for  
Oberlin Municipal Light & Power System**

Facility ID:	0247100320
Permit Number:	P0114352
Permit Type:	Administrative Permit Modification
Issued:	6/10/2014
Effective:	6/10/2014
Expiration:	10/19/2016





**Division of Air Pollution Control**  
**Title V Permit**  
for  
Oberlin Municipal Light & Power System

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## Authorization

Facility ID: 0247100320  
Facility Description:  
Application Number(s): A0046930, A0047635  
Permit Number: P0114352  
Permit Description: Title V Administrative Permit Amendment to emissions units B001, B004-B006, and B009-B010 to include 40 CFR Part 63, Subpart ZZZZ requirements.  
Permit Type: Administrative Permit Modification  
Issue Date: 6/10/2014  
Effective Date: 6/10/2014  
Expiration Date: 10/19/2016  
Superseded Permit Number: P0105267

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

Oberlin Municipal Light & Power System  
289 South Professor Street  
Oberlin, OH 44074

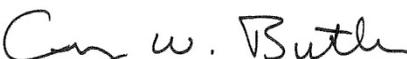
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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

The above named entity is hereby granted a Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Ohio EPA DAPC, Northeast District Office. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months and no later than 6 months prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Director



**Final Title V Permit**  
Oberlin Municipal Light & Power System  
**Permit Number:** P0114352  
**Facility ID:** 0247100320  
**Effective Date:**6/10/2014

## **A. Standard Terms and Conditions**



**1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
- (1) Standard Term and Condition A. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions
  - (2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions
  - (3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting For State-Only Requirements
  - (4) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (5) Standard Term and Condition A. 30.

*(Authority for term: ORC 3704.036(A))*

**2. Monitoring and Related Record Keeping and Reporting Requirements**

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
- (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.

*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))*

- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))*



c) The permittee shall submit required reports in the following manner:

- (1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any submitted scheduled maintenancerequests, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

- (2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the



probable cause of such deviations, and (c) any corrective actions or preventive measures taken, shall be submitted promptly to the Ohio EPA DAPC, Northeast District Office. Except as provided below, the written reports shall be submitted by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

- (3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2)c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.19, A.20, A.21, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted to the Ohio EPA DAPC, Northeast District Office by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally



enforceable requirements not specifically addressed by permit or rule for the insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))*

- (4) Each written report shall be signed by a Responsible Official certifying that, "based on information and belief formed after reasonable inquiry, the statements and information in the report (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete." Signature by the Responsible Official may be represented by entry of the personal identification number (PIN) by the Responsible Official as part of the electronic submission process or by the scanned attestation document signed by the Responsible Official that is attached to the electronically submitted written report.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))*

- (5) Consistent with A.2.c.1. above, reports of any required monitoring and/or record keeping information required to be submitted to Ohio EPA shall be submitted to Ohio EPA DAPC, Northeast District Office unless otherwise specified.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

### **3. Reporting of Any Exceedence of a Federally Enforceable Emission Limitation or Control Requirement Resulting From Scheduled Maintenance**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*



#### **4. Risk Management Plans**

If applicable, the permittee shall develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq. ("Act"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

- a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or
- b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

*(Authority for term: OAC rule 3745-77-07(A)(4))*

#### **5. Title IV Provisions**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

*(Authority for term: OAC rule 3745-77-07(A)(5))*

#### **6. Severability Clause**

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

*(Authority for term: OAC rule 3745-77-07(A)(6))*

#### **7. General Requirements**

- a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit except as provided pursuant to A.16 below.
- c) This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.11 below. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.



- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.
- f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:
- (1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or
  - (2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or
  - (3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminant sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

*(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))*

## **8. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.

*(Authority for term: OAC rule 3745-77-07(A)(8))*

## **9. Marketable Permit Programs**

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

*(Authority for term: OAC rule 3745-77-07(A)(9))*



**10. Reasonably Anticipated Operating Scenarios**

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these standard terms and conditions shall apply to all operating scenarios authorized in this permit.

*(Authority for term: OAC rule 3745-77-07(A)(10))*

**11. Reopening for Cause**

This Title V permit will be reopened prior to its expiration date under the following conditions:

- a) Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.
- b) This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.
- c) The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.
- d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

*(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))*

**12. Federal and State Enforceability**

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

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

**13. Compliance Requirements**

- a) Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a Responsible



Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
  
- c) The permittee shall submit progress reports to the Ohio EPA DAPC, Northeast District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
  
- d) Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the Ohio EPA DAPC, Northeast District Office) and the Administrator of the U.S. EPA in the following manner and with the following content:
  - (1) Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
  - (2) Compliance certifications shall include the following:
    - a. Identification of each term or condition that is the basis of the certification. The identification may include a statement by the Responsible Official that every term and condition that is federally enforceable has been reviewed, and such terms and conditions with which there has been continuous compliance throughout the year are not separately identified.
    - b. The permittee's current compliance status.



- c. Whether compliance was continuous or intermittent consistent with A.13.d.2.a above.
  - d. The method(s) used for determining the compliance status of the source currently and over the required reporting period consistent with A.13.d.2.a above.
  - e. Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
- (3) Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

*(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))*

#### **14. Permit Shield**

- a) Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.
- b) This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

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

#### **15. Operational Flexibility**

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the Ohio EPA DAPC, Northeast District Office with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the Ohio EPA DAPC, Northeast District Office as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

*(Authority for term: OAC rules 3745-77-07(H)(1) and (2))*



## **16. Emergencies**

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

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

## **17. Off-Permit Changes**

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

- a) The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.
- b) The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.
- c) The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).
- d) The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- e) The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit-to-install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

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

## **18. Compliance Method Requirements**

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Federal Register 8314, Feb. 24, 1997), in the context of any future proceeding.

*(This term is provided for informational purposes only.)*



**19. Insignificant Activities or Emissions Levels**

Each IEU that is subject to one or more applicable requirements shall comply with those applicable requirements.

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

**20. Permit to Install Requirement**

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

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

**21. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

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

**22. Permanent Shutdown of an Emissions Unit**

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the Responsible Official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the Responsible Official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

Unless otherwise exempted, no emissions unit identified in this permit that has been certified by the Responsible Official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.

*(Authority for term: OAC rule 3745-77-01)*

**23. Title VI Provisions**

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:



- a) Persons operating appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.
- b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.
- c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

*(Authority for term: OAC rule 3745-77-01(H)(11))*

**24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or record keeping information shall be submitted to the Ohio EPA DAPC, Northeast District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northeast District Office. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**25. Records Retention Requirements Under State Law Only**

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

**26. Inspections and Information Requests**

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine



whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

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

**27. Scheduled Maintenance/Malfunction Reporting For State-Only Requirements**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Northeast District Office in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

**28. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Ohio EPA DAPC, Northeast District Office must be notified in writing of any transfer of this permit.

*(Authority for term: OAC rule 3745-77-01(C))*

**29. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

- a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or
- b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potential to emit; or
- c) where the company's Responsible Official has certified that an emissions unit has been permanently shut down.



**30. Submitting Documents Required by this Permit**

All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the Ohio EPA DAPC, Northeast District Office, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the Responsible Official may be represented as provided through procedures established in Air Services.



## **B. Facility-Wide Terms and Conditions**



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) None.
2. Emissions units B001, B004, B005, B006, B008, B009 and B010 are existing stationary RICE located at an area source of HAP emissions, as defined in Section 63.6590(a)(1) of Subpart ZZZZ, 40 CFR Part 63. All of said emissions units were constructed before June 12, 2006.

Emissions units B001, B004, B005, B006, B009 and B010 are existing compression ignition (CI) stationary RICE. In accordance with Section 63.6595(a), B001, B003, B004, B005, B006, B009 and B010 must comply with the applicable emission limitations and operating limitations of Subpart ZZZZ.

Emissions unit B008 is an existing 4-stroke lean burn (4SLB), spark ignition (SI), stationary RICE. In accordance with Section 63.6595(a), B008 must comply with the applicable emission limitations and operating limitations of Subpart ZZZZ.

The complete MACT requirements including the MACT General Provisions may be access via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District office or local air agency.



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



**1. B001, Engine No. 1**

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

Fairbanks-Morse diesel engine, rated 1,600 BHP. Stationary compression ignition (CI) internal combustion engine (ICE); less than 10 liters per cylinder and greater than 600 brake horsepower (bHP) and less than or equal to 2,000 horsepower (HP); complying with 40 CFR 63, Subpart ZZZZ Table 2d #3; and installed before 6/12/06.

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 to 63.6675)  In accordance with 40 CFR 63.6585, this emissions unit is a stationary internal combustion engine (ICE) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The existing stationary compression ignition (CI) reciprocating internal combustion engine (RICE), located at an area source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ.
b.	40 CFR 63.6603(a)  Table 2d #3 to Subpart ZZZZ	Emissions of carbon monoxide (CO) shall not exceed 23 ppmvd at 15% O <sub>2</sub> or emissions of CO shall be reduced by 70% or more.
c.	OAC rule 3745-31-05(A)(3) (AP-42 emission factors)	The exhaust emissions from this engine shall not exceed:  0.09 pound of volatile organic compounds per million Btu (0.09 lb VOC/mmBtu); and



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		3.2 pounds of nitrogen oxides per million Btu (3.2 lbsNO <sub>x</sub> /mmBtu).
d.	OAC rule 3745-17-11(B)(5)(b)	Particulate emissions (PE) shall not exceed 0.062 lb/mmBtu of actual heat input from ICE greater than 600 horsepower (HP).
e.	40 CFR 63.6604 40 CFR 80.510(b)	The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.
f.	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 6-minute average, except as provided by the rule.
g.	OAC rule 3745-18-06(G)	Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.5 lb/mmBtu of actual heat input.

(2) Additional Terms and Conditions

- a. The stationary compression ignition (CI) reciprocating internal combustion engine (RICE) is subject to and shall be operated in compliance with the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines. Requirements of the NESHAP include: performance testing to demonstrate compliance with the carbon monoxide (CO) limit or the control requirement identified in #3 of Table 2d to the subpart; and demonstrating continuous compliance (through the options in Table 6) by monitoring and maintaining either a record of the concentration of CO using a CEMS in accordance with 40 CFR 63.6625(a); or monitoring and maintaining the pressure drop across the catalyst and continuously monitoring the temperature at the catalyst inlet and recording the average 4-hour rolling temperature using a continuous parameter monitoring system (CPMS) in accordance with 40 CFR 63.6625(b).

[Authority for term:40 CFR 63.6585, 40 CFR 63.6590(a)(1)(iii), 40 CFR 63.6595(a)(1), 40 CFR 63.6603(a), 40 CFR 63.6625 and 40 CFR 63.6640(a)]

- b. The permittee shall control the emissions of carbon monoxide (CO) from the stationary RICE exhaust using an oxidation catalyst control device. The permittee shall either limit the concentration of CO to 23 ppmvd or less at 15%



O<sub>2</sub> at the outlet of the control device or the average reduction of CO, calculated according to 40 CFR 63.6620(e), shall not be less than 70% of the uncontrolled CO emissions.

[Authority for term:40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 2d #3]

- c. The quality of the diesel fuel burned in this emissions unit shall meet the following specifications on an "as received" basis:
- i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0015 pound sulfur dioxide/mmBtu actual heat input; and 15 ppm sulfur or 0.0015% sulfur by weight;
  - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent; and
  - iii. a heating value greater than 135,000 Btu/gallon.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or oil supplier for each shipment of oil.

[Authority for term:40 CFR 63.6604 and 40 CFR 80.510(b)]

- d. As required by 40 CFR 63.6612 and 6615, the permittee of the existing RICE shall demonstrate compliance with the CO emission standards specified in Subpart ZZZZ through the following methods:
- i. conduct an initial performance test to demonstrate compliance with the CO emission standards according to the requirements specified in Tables 4 and 5 to the subpart within 180 days following the compliance date or by 11/3/13; or
  - ii. if a performance test is conducted in no more than 2 years before the compliance date (on/after 11/3/11), submit records of the performance test results for CO from the exhaust stack; and the stack test results and RICE must meet the following requirements to validate compliance:
    - (a) The performance test must document a concentration of no more than 23 ppmvd CO at 15% O<sub>2</sub> or demonstrate a minimum of 70% reduction of CO across the control device;
    - (b) the performance test was conducted for the RICE within the last 2 years using the same test methods as those required in 40 CFR 63.6620 and specified in Table 4 to the subpart;
    - (c) there have been no process or equipment changes made to the RICE or control device since the test was performed or it can be demonstrated that such a change would not affect the CO emissions; and



- (d) the performance test results are reviewed and approved by the appropriate District office or local air agency; and
- iii. where using CEMS to monitor and comply with the CO concentration limitation or requirement to reduce CO emissions, conduct annual relative accuracy test audits (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60 Appendix B and daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, Procedure 1; or
- iv. where using a CPMS to demonstrate compliance, conduct subsequent performance tests every 8760 hours of operation or every 3 years, whichever comes first.

[Authority for term: 40 CFR 63.6612, 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6625 (a) or (b) and Part 63, Subpart ZZZZ - Table 2d #3; Table 2b; Table 3 #4; Table 4 #1 or #3; Table 5 #1, #2, #5, or #6 and Table 6 #3 or #10]

- e. The permittee shall install either a continuous emissions monitoring system (CEMS) to directly monitor CO and O<sub>2</sub> or CO<sub>2</sub> at the inlet and outlet of the control device if demonstrating compliance with the control requirement or at the outlet of the control device if choosing to comply with the CO concentration limit; or install a continuous parameter monitoring system (CPMS) to measure and collect the inlet temperature of the catalyst to the control device. And the pressure drop across the catalyst shall be monitored and recorded monthly using either compliance method.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Tables 2b, 5, and 6]

- f. If demonstrating compliance using CPMS, a site-specific monitoring plan must be prepared for the CPMS that addresses the monitoring system design, data collection, and the quality assurance and control requirements, as identified in 40 CFR 63.6625(b); the plan shall include:
  - i. The performance criteria and design specifications for the monitoring system, including the sample interface, the detector signal analyzer, and data acquisition and calculations;
  - ii. the thermocouple location, assuring it will provide representative measurements and an accurate temperature for the inlet of the catalyst control device;
  - iii. equipment performance evaluation and/or system accuracy audits and procedures;
  - iv. ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1) and (c)(3); and
  - v. ongoing reporting and recordkeeping procedures in accordance with the provisions in 40 CFR 63.10(c), (e)(1), and (e)(2)(i).



The permittee shall conduct performance evaluations and/or system accuracy audits for the CPMS in accordance with the site-specific monitoring plan and prior to the compliance demonstration with the NESHAP. The CPMS shall be maintained in continuous operation according to 40 CFR 63.8 and the CPMS must be checked daily to assure it is accurately measuring the catalyst inlet temperature.

[Authority for term: 40 CFR 63.6625(b)]

- g. A performance evaluation of each CMS shall be conducted in accordance with the site-specific performance evaluation test plan. The site-specific CMS (CEMS or CPMS) performance evaluation test plan shall demonstrate the precision and accuracy of the equipment and completeness of the data collected. The site-specific performance evaluation test plan shall require all CMS (systems required by rule) to be maintained in continuous operation during process operations and shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external quality assurance (QA) program.
  - i. The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance.
  - ii. The external QA program shall include, at a minimum, provisions for systems audits and validation of instrument calibration, data collection, sample logging, and documentation of quality control data and field maintenance activities and must also address the following requirements:
    - (a) each CMS (parameter monitor or sampling probe) shall be installed at a location that accurately measures the exhaust emissions representative of the emissions unit (e.g., on or downstream of the last control device) and accurately measures the process and/or the control device parameters;
    - (b) performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and
    - (c) performance evaluation procedures and acceptance criteria, including calibration frequency, results, and records.

The permittee shall submit the site-specific performance evaluation test plan to the appropriate District or local office of the Ohio EPA Division of Air Pollution Control (DAPC), and a second copy of any CEMS performance evaluation test plan to the Ohio EPA DAPC Central Office, at least 60 days before the performance test or performance evaluation is scheduled to begin, or by a mutually agreed upon (by DAPC Central Office) date. The DAPC may request additional relevant information following the review of a site-specific performance evaluation test plan. All CMS shall be installed, operated, and the data verified,



as specified in the NESHAP, either prior to or in conjunction with conducting performance tests required under 40 CFR 63.7.

[Authority for term: 40 CFR 63.6625(a) and 40 CFR 63.8(e)(1), (2) and (3)]

h. In order to maintain ongoing data quality assurance for the continuous monitoring system (CMS), the permittee shall develop and implement a CMS quality control program. As part of the quality control program the permittee shall develop, and submit for approval, a site-specific performance evaluation test plan for the CMS, as required by 40 CFR 63.8(e) and this permit. The quality control program shall also include a written protocol that describes procedures for each of the following operations:

- i. initial and any subsequent calibration of the CMS;
- ii. determination and adjustment of the calibration drift of the CMS;
- iii. preventive maintenance of the CMS, including spare parts inventory;
- iv. data recording, calculations, and reporting;
- v. accuracy audit procedures, including sampling and analysis methods; and
- vi. program of corrective action for a malfunctioning CMS.

The permittee shall keep these written procedures on record for the life of the emissions unit or until it is no longer subject to the NESHAP or other requirement for maintaining the system. The CMS quality control program shall be made available for inspection by the Director or his/her representative upon request. If the performance evaluation plan is revised, it shall be retained as a facility record for a period of 5 years following its revision.

[Authority for term: 40 CFR 63.8(d)]

i. If the stationary RICE is not equipped with a closed crankcase ventilation system, the permittee shall install either a closed crankcase ventilation system or an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals. The open or closed crankcase ventilation system shall be operated and maintained according to the manufacturer's specifications, to include the frequency of crankcase filter replacement.

[Authority for term: 40 CFR 63.6625(g)]

c) **Operational Restrictions**

(1) The stationary CI ICE shall be installed, operated, and maintained according to the manufacturer's specifications, written instructions, and procedures; and/or according to a maintenance plan developed by the permittee, which shall provide for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. The permittee shall operate



and maintain the stationary CI ICE to achieve the CO emission standards from #3 in Table 2d to Part 63, Subpart ZZZZ, as required per 40 CFR 63.6603(a).

[Authority for term: 40 CFR 63.6595(a)(1), 40 CFR 63.6603(a), 40 CFR 63.6605 and Subpart ZZZZ - Table 2d #3]

- (2) The permittee shall minimize the engine's time spent at idle and shall minimize the startup time to a period needed for appropriate safe loading of the engine, not to exceed 30 minutes, after which the non-startup CO emission limitations apply.

[Authority for term: 40 CFR 63.6625(h)]

- (3) The temperature of the stationary RICE exhaust at the inlet of the oxidation catalyst shall be maintained at greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit; and the pressure drop across the catalyst shall be maintained at no more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial performance test, at 100% load. The temperature measurement device must meet the following requirements:

- a. the temperature sensor shall be located in a position that provides an accurate reading of the exhaust gas temperature at the inlet to the catalyst of the control device;
- b. the temperature sensor shall have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1% of the temperature value, whichever is larger; and
- c. an equipment performance evaluation or system accuracy audit shall be conducted for the temperature measurement device on an annual basis.

System accuracy audits could include redundant temperature sensors or a temperature gauge may be inserted in a thermal well co-located with the CPMS sensor. Records of the results of each inspection, performance evaluation, and/or accuracy audit for the CPMS shall be maintained for a period of 5 years.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a), 40 CFR 63.6625(b), 40 CFR 63.6660 and Subpart ZZZZ - Table 2b #1]

- (4) Where demonstrating continuous compliance through the use of a continuous parameter monitoring system (CPMS), the rolling 4-hour average temperature of the stationary RICE exhaust at the inlet of the oxidation catalyst shall be monitored and maintained at greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit; and the pressure drop across the catalyst shall be maintained at no more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial performance test, at 100% load and monitored and recorded monthly.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 2b #1; Table 5 #1 or #2 and Table 6 #10]

- (5) Where demonstrating continuous compliance through the use of a continuous emissions monitoring system (CEMS), the 1-hour average CO concentration shall not exceed 23



ppmvd, corrected to 15% O<sub>2</sub> or the equivalent CO<sub>2</sub> correction factor, or CO shall be reduced by 70% between the inlet and the outlet of the oxidation catalyst control device.

[Authority for term:40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 5 #5 or #6 and Table 6 #3]

- (6) All continuous monitoring systems (CMS) shall be installed, operated, and the data verified either prior to or in conjunction with conducting performance tests as required per 40 CFR 63.7, 63.8, 40 CFR 63.6625, and the site-specific monitoring plan. The permittee shall maintain and operate each CMS as specified in this permit and as follows:
- a. The permittee shall maintain and operate each CMS in a manner consistent with safety and good air pollution control practices for minimizing emissions, as specified in 40 CFR 63.6(e)(1) and as reflected in the operations and maintenance requirements of this permit.
  - b. The permittee shall keep the necessary parts for routine repairs and maintenance of the CMS equipment readily available.
  - c. The permittee shall develop a written startup, shutdown, and malfunction plan (SSMP) for each/all CMS(s) as specified in 40 CFR 63.6(e)(3), and as reflected in this permit through the requirements for the SSMP [requirement from 40 CFR 63.8(c)(1)(iii)].
  - d. All continuous emissions monitoring system (CMS) must be installed at a location that accurately measures the exhaust emissions representative of the emissions unit (e.g., downstream of the last control device) and according to the procedures documented in the applicable performance specification; and any continuous parameter monitoring system (CPMS) shall be installed to accurately measure the process and/or the control device parameters.
  - e. Verification of the operational status of each CMS shall include the completion of the manufacturer's written specifications or the recommendations for installation, operation, and calibration of the system.
  - f. The read out, (the visual display or measured record of the CMS) or other indication of operation, from any CMS required for compliance with the emission standard, shall be readily accessible and visible for monitoring and recording by the operator of the equipment.
  - g. Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS shall be maintained in continuous operation.
  - h. All CEMS used for measuring CO emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive minute of operations, with an average recorded for each 15-minute period. Data from the CEMS (excluding that collected during calibration, quality assurance, or



maintenance activities, out-of-control periods, and/or CEMS breakdown) shall be reduced to 1-hour averages, computed from the four 15-minute averages.

[Authority for term:40 CFR 63.8(c)(1),(2),(3) and (4) and 40 CFR 63.8(g)(2)]

- (7) Diesel fuel burned in the CI ICE shall not exceed the limit for sulfur as specified by 40 CFR 80.510(b), i.e., the maximum sulfur content of diesel fuel shall not exceed 15 ppm or 0.0015% sulfur by weight.

[Authority for term:40 CFR 63.6604, 40 CFR 80.501(a) and 40 CFR 80.510(b)]

d) Monitoring and/or Recordkeeping Requirements

- (1) If a CPMS is selected as the method of compliance, the permittee shall install, operate, and maintain the CPMS to measure and collect the catalyst inlet temperature according to the requirements of 40 CFR 63.8, 40 CFR 63.6625(b), and the site-specific monitoring plan. The permittee shall continuously monitor the catalyst inlet temperature at all times the unit is in operation and reduce the data to 4-hour rolling averages. The CPMS shall collect data at least every 15-minutes.

For purposes of calculating data averages, data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities shall not be used in calculating the rolling 4-hour average catalyst inlet temperature. The data collected during all other periods of operation shall be used in assessing compliance.

The engine is in compliance when the rolling 4-hour average temperature of the stationary RICE exhaust at the inlet of the catalyst is greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit. Each record must be maintained for a period of 5 years.

[Authority for term:40 CFR 63.6640(a), 40 CFR 63.6625(b)(2) through (5), 40 CFR 63.6635, 40 CFR 63.6660 and Subpart ZZZZ - Table 2b #1, Table 5 #1 or #2 and Table 6 #10]

- (2) If a CEMS is selected as the method of compliance, the permittee shall conduct an initial performance evaluation of each CEMS and an annual relative accuracy test audit (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60, Appendix B according to the requirements of 40 CFR 63.8, as well as, daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, procedure 1. Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period of operations. A valid hourly average shall consist of at least two data points, with each representing a different 15-minute average. Data from the CEMS (excluding that collected during calibration, quality assurance, or maintenance activities, out-of-control periods, and/or CEMS breakdown) shall be reduced to 1-hour averages, computed from the four 15-minute averages. The CEMS data averages shall be recorded in parts per million at 15 percent oxygen or the



equivalent CO<sub>2</sub> concentration. A demonstration that the catalyst achieves compliance with the required percent reduction of CO or CO concentration limit is determined using the 4-hour average. Each record must be maintained for a period of 5 years.

[Authority for term:40 CFR 63.6640(a), 40 CFR 63.6625(a), 40 CFR 63.6660 and Subpart ZZZZ - Table 5 #5 or #6 and Table 6 #3, 40 CFR 63.8(c)(4)(ii) and 40 CFR 63.8(g)(2)]

- (3) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of the diesel oil received and the oil supplier's (or permittee's) analyses for sulfur content, in parts per million (40 CFR 80.510) or percent by weight. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR 80.580, using the appropriate ASTM methods. These records shall be retained for a minimum of 5 years and shall be available for inspection by the Director or his/her representative.

[Authority for term:40 CFR 63.6604, 40 CFR 80.510(b), 40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

- (4) The permittee shall maintain a record of the diesel fuel burned in this RICE during each calendar year. The fuel oil 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: any flow meter installed on the engine, records of the volume of diesel fuel oil received with each delivery, the fuel oil levels recorded from the diesel storage tank, and/or the recorded or estimated hours of operation along with the manufacture's documentation of the fuel flow rate.
- (5) Except during malfunctions, repairs, and required quality assurance and/or control activities, the permittee shall continuously monitor that the stationary RICE is operating; and all valid data (not recorded during malfunctions, repairs, or required quality assurance or control activities) shall be used in calculations used to report emissions or operating levels.

[Authority for term:40 CFR 63.6635]

- (6) The permittee shall keep the following records as required by 40 CFR 63.6655:
- a. a copy of each notification and report submitted to comply with the NESHAP, Subpart ZZZZ;
  - b. records of the occurrence and duration of each malfunction of operation or the air pollution control and monitoring equipment, where applicable;
  - c. records of performance tests as required per 40 CFR 63.10(b)(2)(viii);
  - d. records of all required maintenance performed on the air pollution control and monitoring equipment, where applicable;
  - e. records of actions taken during periods of malfunction to minimize emissions in accordance with 63.6605(b), including corrective actions to restore the malfunctioning process and/or control equipment to normal operations;
  - f. records of performance tests conducted to demonstrate compliance;



- g. a record of each idle and/or startup time that exceeded 30 minutes;
- h. the records required in Table 6 to Part 60, Subpart ZZZZ; and
- i. for each CEMS or CPMS:
  - i. the records identified in 40 CFR 63.10(b)2(vi) through (xi);
  - ii. previous (superseded) versions of the performance evaluation plan, required per 40 CFR 63.8(d)(3); and
  - iii. records of the request and approval of alternatives to the relative accuracy test for CEMS or CPMS as required per 40 CFR 63.8(f)(6), if applicable.

The records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[Authority for term: 40 CFR 63.6655(a), (b) and (d), 40 CFR 63.6660, 40 CFR 63.6625(h) and 40 CFR 63.10(b)(1) and (2)]

- (7) The permittee shall maintain the following records for the continuous monitoring system (CMS) in accordance with the general requirements of 40 CFR 63.10(c):
- a. all required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);
  - b. the date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;
  - c. the date and time identifying each period during which the CMS was out of control;
  - d. the specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the NESHAP, that occurs during startups, shutdowns, and malfunctions of the emissions unit;
  - e. the specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the NESHAP, that occurs during periods other than startups, shutdowns, and malfunctions of the emissions unit;
  - f. the nature and cause of any malfunction (if known);
  - g. the corrective action taken or preventive measures adopted;
  - h. the nature of the repairs or adjustments to the CMS whenever it/they is/are inoperative or out of control;
  - i. the total process operating time during the reporting period; and



- j. all records of the procedures that are required as part of a quality control program, developed and implemented for the CMS under 40 CFR 63.8(d), as reflected in this permit.

The records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[Authority for term: 40 CFR 63.10(c)]

- (8) The permittee shall record the pressure drop across the oxidation catalyst at least once per month and the control device shall be maintained so that the pressure drop across the catalyst does not change by more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial or any subsequent performance test operating at 100% load. The requirement to monitor and maintain the pressure drop according to these requirements shall be included in the site-specific monitoring plan.

[Authority for term: 40 CFR 63.6640(a), 40 CFR 63.6625(b) and Subpart ZZZZ - Table 2b #1 and Table 6 #10]

e) Reporting Requirements

- (1) The permittee shall identify in the semiannual report any period of time (date and number of hours) that the quality of oil burned in this emissions unit did not meet the requirements established in 40 CFR 80.510(b), based upon the required fuel records; and the amount of non-compliant fuel burned on each such occasion.

[Authority for term: 40 CFR 63.6604 and 40 CFR 80.510(b)]

- (2) A comprehensive written report on the results of the performance tests, conducted to demonstrate compliance with 40 CFR 63.6603(a), 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.

[Authority for term: OAC rule 3745-15-04(A), 40 CFR 63.6645(h) and 40 CFR 63.9(h)(2)(ii)]

- (3) The permittee shall submit an initial notification to the appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency, in writing, indicating that the RICE is subject to the Subpart ZZZZ NESHAP standards in 40 CFR Part 63. The initial notification report shall be submitted no later than 120 calendar days after the effective date of the NESHAP (or 9/3/13 for existing units), which shall provide the following information:

- a. the facility name, address, facility ID number, and emission unit number(s) identified in the report;
- b. the address (i.e., physical location) of the emissions unit;



- c. an identification of the relevant standard (Part 63, Subpart ZZZZ), the applicable limitation(s) or other requirement(s) that is/are the basis of the notification, and the emission unit's compliance date;
- d. a brief description of the nature, size, design, and method of operation of the RICE, and an identification of the emission unit(s) subject to the NESHAP and types of hazardous air pollutants emitted; and
- e. a statement of whether the emissions unit is a major source or an area source.

[Authority for term: 40 CFR 63.9(b)(2) and 40 CFR 63.6645(a)(2)]

- (4) The permittee shall submit semiannual compliance reports that identify any exceedance of the emission limitation, CO reduction requirement, and/or deviation from the operating limitations on the temperature and pressure drop of the oxidation catalyst control. The semiannual compliance report shall contain the following information:
- a. the facility name, address, facility ID number, and emission unit number(s) identified in the report;
  - b. a statement by a responsible official certifying the accuracy of the content of the report;
  - c. the date of report and beginning and ending dates of the reporting period;
  - d. a brief description of the stationary RICE, at a minimum, the horsepower, year of manufacturer, and use;
  - e. each instance in which the general provisions identified in Table 8 of Part 63, Subpart ZZZZ were not met;
  - f. the number, duration, cause, and description of each exceedance, deviation, and/or malfunction which caused or may have caused an exceedance of the emission limitation or a deviation from the operating limitations for the temperature and pressure drop monitored for the control device;
  - g. the corrective actions taken during each/any deviation or exceedance to minimize emissions and to correct the malfunction;
  - h. the total operating time of the stationary RICE if an exceedance or deviation occurred during the reporting period that did not involve a continuous monitoring system (CMS);
  - i. if there is/are no exceedance(s) or deviation(s) from the emission limitations or operating limitations during the reporting period, a statement to that effect;
  - j. if there were no periods of time during which the CMS was out-of-control during the reporting period, a statement to that effect;
  - k. for each exceedance of the emission limitation or percent reduction for CO recorded by the CEMS or for each deviation from operating limitation for the



temperature at the inlet of the catalyst recorded by the CPMS, the following information:

- i. identification of the CMS, i.e., the type, model, and manufacturer, and the exact location of the probe;
- ii. the date and time that each malfunction started and stopped;
- iii. the date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks;
- iv. the date, time, and duration that each CMS was out-of-control (including the information in 40 CFR 63.8(c));
- v. the date and time each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period;
- vi. a summary of the total duration of the deviation during the reporting period, and the total duration of the deviation as a percent of the engine's total operating time during the reporting period;
- vii. a breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, and other known or unknown causes;
- viii. a summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent to the total operating time of the stationary engine during the reporting period;
- ix. the date of the latest certification or audit of the temperature CMS; and
- x. description of any changes to the engine, CMS, processes, or controls since the last reporting period.

The semiannual compliance reports shall cover the reporting periods from January 1 through June 30 and July 1 through December 31 of each year and shall be postmarked or delivered no later than July 31 or January 31 following each reporting period.

[Authority for term: 40 CFR 63.6640(b) and (e), 40 CFR 63.6650(a), (b), (c), (d) and (e) and Part 63, Subpart ZZZZ - Table 7]

- (5) The permittee shall collect and submit required CMS performance evaluation results to the Director (appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency) as follows:
  - a. A written report of the results of each CMS performance evaluation shall be submitted simultaneously with the results of the performance test within 30 days of completion of the performance evaluation and compliance demonstration. The written report shall include the raw data from the performance evaluation with the report of the results.



- b. Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any data average reported.

[Authority for term: 40 CFR 63.10(e)(1) and (2)(i) and 40 CFR 63.8(e)(5)]

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. Opacity Limitation:

Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

[Authority for term: OAC rule 3745-17-07(A)(1)]

- b. Emission Limitation:

PE from this emissions unit shall not exceed 0.062 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be based upon an emission factor of 0.062 lb/mmBtu. This emission factor is published in the US EPA reference document AP-42, Fifth Edition, 'Compilation of Emission Factors', Section 3.4, Table 3.4-2 (10/96).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and OAC rule 3745-17-03(B)(10).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(5)(b)]



c. Emission Limitations:

The exhaust emissions from this engine shall not exceed 3.2 lbsNO<sub>x</sub>/mmBtu.

Applicable Compliance Method:

The NO<sub>x</sub> emissions limit is based on using the AP-42 emission factor of 3.2 lbsNO<sub>x</sub>/mmBtu from Chapter 3.4, Table 3.4-1, "Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines".

[Authority for term: OAC rule 3745-31-05(A)(3)]

d. Emission Limitations:

Emissions of CO shall not exceed 23 ppmvd at 15% O<sub>2</sub> or emissions of CO shall be reduced by 70% or more.

Applicable Compliance Method:

Unless a performance test is submitted that meets the requirements of 40 CFR 63.6612(b), the permittee shall conduct an initial performance test within 180 days after the compliance date or no later than 11/3/13, to demonstrate compliance with the CO limitation in the NESHAP. The appropriate tests methods from Table 4 to Subpart ZZZZ shall be conducted based on the option chosen for compliance, i.e., the part per million concentration or percent reduction. The appropriate emission and/or operating limitations, required per 40 CFR 63.6630 and identified in Table 5, shall be established and compliance demonstrated during each performance test.

The temperature at the inlet to the catalyst shall be monitored during the performance test and maintained between 450 °F and 1,350 °F. The 3-hour block average temperature at the inlet to the catalyst shall be documented during performance tests and the pressure drop shall be recorded to establish the operating range for the pressure drop across the catalyst. Per 63.6640(b), if the catalyst is changed or the control device replaced, a new performance test must be conducted to demonstrate compliance with the emission limitation and to reestablish the values for or compliance with the operating parameters.

Each performance test shall consist of 3 separate test runs and each test run shall last a minimum of 1 hour and shall be conducted during normal operations. The engine percent load, during the performance test, shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load and the estimated percent load shall be included in the notification of compliance.

A compliant performance test shall demonstrate that either the CO emissions have been reduced by 70% or that the average CO concentration is less than or equal to 23 ppmvd, corrected to 15 percent O<sub>2</sub> on a dry basis, and from three 1-hour or longer performance test runs.



If demonstrating compliance with the 70% control requirement for CO, the permittee may use a portable CO and O<sub>2</sub> analyzer at the inlet and outlet of the control device and use ASTM Method D6522-00 to meet the performance testing requirement in Table 4 to Subpart ZZZZ. The CO concentrations at the inlet and outlet of the control device must be normalized to a dry basis and to 15% oxygen, or an equivalent percent CO<sub>2</sub>, as required in 40 CFR 63.6620(e).

The following test methods shall be employed to demonstrate compliance with the emission limitation for CO or may be used to demonstrate compliance with the control requirement for CO:

- i. Method 1 or 1A of 40 CFR Part 60, Appendix A to select the sampling port location and the number of traverse points
- ii. Method 3, 3A, or 3B of 40 CFR Part 60, Appendix A or ASTM Method D6522-00 to measure O<sub>2</sub> at the inlet and/or outlet of the control device to normalize the CO concentration(s).
- iii. 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 inlet and outlet of the control device if demonstrating compliance through the percent control or to measure the moisture content of the stationary RICE exhaust.
- iv. Method 10 of 40 CFR Part 60, Appendix A; or Method 320 of 40 CFR Part 63,, Appendix A; or ASTM D 6348-03 to measure CO at the inlet and outlet of the control device if demonstrating compliance through the percent control or to measure CO at the exhaust of the stationary ICE.
- v. The following equation shall be used to normalize the CO concentrations to a dry basis and to 15 percent oxygen (O<sub>2</sub>)\*\*:

$$C_{adj} = C_d (5.9 / 20.9 - \% O_2)$$

where:

C<sub>ad</sub> = calculated CO concentration adjusted to 15 percent O<sub>2</sub>;

C<sub>d</sub> = measured concentration of CO, uncorrected;

5.9 = 20.9 percent O<sub>2</sub> – 15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent; and

%O<sub>2</sub> = measured O<sub>2</sub> concentration, dry basis, percent.

\*\* Optionally, the pollutant concentrations can be corrected to 15% O<sub>2</sub> using a CO<sub>2</sub> correction factor, by calculating the fuel factor (F<sub>o</sub> value) using Method 19 results obtained during the performance test (40 CFR 63.6620(e)(2)).



- vi. If compliance is demonstrated for the control efficiency for CO, the following equation shall be used to determine the percent reduction:

$$R = (C_i - C_o) / C_i \times 100$$

where:

$C_i$  = concentration of CO at the control device inlet;

$C_o$  = concentration of CO at the control device outlet; and

R = percent reduction of CO emissions.

If using CEMS to monitor and comply with the CO concentration limitation or requirement to reduce CO emissions, the permittee shall conduct annual relative accuracy test audits (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60 Appendix B and daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, Procedure 1.

If using a CPMS to demonstrate compliance, the permittee shall conduct subsequent performance tests for CO (concentration or % reduction) every 8,760 hours of operation or every 3 years, whichever comes first.

The permittee shall notify the Director (appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency) in writing of each scheduled performance test date or RATA for the CEMS at least 60 calendar days before it is scheduled, to allow the agency time to review and approve the site-specific test plan and to arrange for an observer to be present during the compliance demonstration.

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.

[Authority for term: 40 CFR 63.7(a)(2), (b)(1) and (e)(3), 40 CFR 63.6603(a), 40 CFR 63.6612, 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6630, 40 CFR 63.6640(a) and (b), 40 CFR 63.6645(a)(2), Part 63, Subpart ZZZZ - Table 2d #3; Table 2b; Table 3 #4; Table 4 #1 or #3; Table 5 #1, #2, #5, or #6; and Table 6 #3 or #10 and OAC rule 3745-15-04(A)]

- e. Emission Limitations:

The exhaust emissions from this engine shall not exceed 0.09 lb VOC/mmBtu.



Applicable Compliance Method:

The VOC emissions limit is based on using the AP-42 emission factor of 0.09 lb VOC/mmBtu from Chapter 3.4, Table 3.4-1, "Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines".

The heating value of the diesel fuel may be adjusted to that provided by the supplier.

[Authority for term: OAC rule 3745-31-05(A)(3)]

f. Sulfur Content Limitations for Diesel Fuel:

Sulfur content 15 ppm or  $\leq 0.0015\%$  by weight sulfur

Applicable Compliance Method:

Compliance shall be demonstrated through the record keeping requirements for the sulfur content of each shipment of diesel oil received. If meeting the standards in 40 CFR 80.510(b), this calculates to approximately 0.0015 lb SO<sub>2</sub>/mmBtu.

[Authority for term: 40 CFR 63.6604 and 40 CFR 80.510(b)]

g. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 0.5 lb/mmBtu.

Applicable Compliance Method:

Continuous compliance with the allowable SO<sub>2</sub> emission limitation shall be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

SO<sub>2</sub> emissions from liquid fuel samples shall be calculated as follows:

$$ER = [(1 \times 10^6) / H] \times D \times S \times 1.974$$

where:

ER = the emission rate in pounds of sulfur dioxide per mmBtu;

H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and

S = the decimal fraction of sulfur in the liquid fuel.



If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

[Authority for term: OAC rules 3745-18-04(E) and 3745-18-04(F)(2)]

- g) Miscellaneous Requirements
  - (1) None.



**2. B004, Engine No. 6**

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

Engine No. 6 - Fairbanks-Morse dual fuel engine, rated 3,500 BHP. Stationary compression ignition (CI) internal combustion engine (ICE); less than 10 liters per cylinder and greater than 2,000 horsepower (HP); complying with 40 CFR 63, Subpart ZZZZ Table 2d #3; and installed before 6/12/06.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (2) 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 63, Subpart ZZZZ (40 CFR 63.6580 to 63.6675)  In accordance with 40 CFR 63.6585, this emissions unit is a stationary internal combustion engine (ICE) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The existing stationary compression ignition (CI) reciprocating internal combustion engine (RICE), located at an area source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ.
b.	40 CFR 63.6603(a)  Table 2d #3 to Subpart ZZZZ	Emissions of carbon monoxide (CO) shall not exceed 23 ppmvd at 15% O <sub>2</sub> or emissions of CO shall be reduced by 70% or more.
c.	OAC rule 3745-31-05(A)(3)  (AP-42 emission factors)	The exhaust emissions from this engine shall not exceed:  0.09 pound of volatile organic compounds per million Btu (0.09 lb VOC/mmBtu).



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-11(B)(5)(b)	Particulate emissions (PE) shall not exceed 0.062 lb/mmBtu of actual heat input from ICE greater than 600 horsepower (HP).
e.	OAC rule 3745-110-03(F)(3)	Emissions of nitrogen oxides (NO <sub>x</sub> ) shall not exceed 3.0 grams/HP-hr.
f.	40 CFR 63.6604 40 CFR 80.510(b)	The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.
g.	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 6-minute average, except as provided by the rule.
h.	OAC rule 3745-18-06(G)	<p>When burning distillate oil, sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 0.5 lb/mmBtu of actual heat input.</p> <p>When burning only natural gas, this emissions unit is exempt from the emission limitation specified in this rule pursuant to OAC rule 3745-18-06(A).</p>

(3) Additional Terms and Conditions

- a. The stationary compression ignition (CI) reciprocating internal combustion engine (RICE) is subject to and shall be operated in compliance with the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines. Requirements of the NESHAP include: performance testing to demonstrate compliance with the carbon monoxide (CO) limit or the control requirement identified in #3 of Table 2d to the subpart; and demonstrating continuous compliance (through the options in Table 6) by monitoring and maintaining either a record of the concentration of CO using a CEMS in accordance with 40 CFR 63.6625(a); or monitoring and maintaining the



pressure drop across the catalyst and continuously monitoring the temperature at the catalyst inlet and recording the average 4-hour rolling temperature using a continuous parameter monitoring system (CPMS) in accordance with 40 CFR 63.6625(b).

[Authority for term:40 CFR 63.6585, 40 CFR 63.6590(a)(1)(iii), 40 CFR 63.6595(a)(1), 40 CFR 63.6603(a), 40 CFR 63.6625 and 40 CFR 63.6640(a)]

- b. The permittee shall control the emissions of carbon monoxide (CO) from the stationary RICE exhaust using an oxidation catalyst control device. The permittee shall either limit the concentration of CO to 23 ppmvd or less at 15% O<sub>2</sub> at the outlet of the control device or the average reduction of CO, calculated according to 40 CFR 63.6620(e), shall not be less than 70% of the uncontrolled CO emissions.

[Authority for term:40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 2d #3]

- c. The quality of the diesel fuel burned in this emissions unit shall meet the following specifications on an "as received" basis:
  - i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0015 pound sulfur dioxide/mmBtu actual heat input; and 15 ppm sulfur or 0.0015% sulfur by weight;
  - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent; and
  - iii. a heating value greater than 135,000 Btu/gallon.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or oil supplier for each shipment of oil.

[Authority for term:40 CFR 63.6604 and 40 CFR 80.510(b)]

- d. As required by 40 CFR 63.6612 and 6615, the permittee of the existing RICE shall demonstrate compliance with the CO emission standards specified in Subpart ZZZZ through the following methods:
  - i. conduct an initial performance test to demonstrate compliance with the CO emission standards according to the requirements specified in Tables 4 and 5 to the subpart within 180 days following the compliance date or by 11/3/13; or
  - ii. if a performance test is conducted in no more than 2 years before the compliance date (on/after 11/3/11), submit records of the performance test results for CO from the exhaust stack; and the stack test results and RICE must meet the following requirements to validate compliance:



- (a) the stack test must document a concentration of no more than 23 ppmvd CO at 15% O<sub>2</sub> or must demonstrate a minimum of 70% reduction of CO across the control device;
  - (b) the performance test is conducted for the RICE using the same test methods as those required in 40 CFR 63.6620 and specified in Table 4 to the subpart;
  - (c) there have been no process or equipment changes made to the RICE or control device since the test was performed or it can be demonstrated that such a change would not affect the CO emissions; and
  - (d) the performance test results are reviewed and approved by the appropriate District office or local air agency; and
- iii. where using CEMS to monitor and comply with the CO concentration limitation or requirement to reduce CO emissions, conduct annual relative accuracy test audits (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60 Appendix B and daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, Procedure 1; or
  - iv. where using a CPMS to demonstrate compliance, conduct subsequent performance tests every 8760 hours of operation or every 3 years, whichever comes first.

[Authority for term: 40 CFR 63.6612, 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6625 (a) or (b) and Part 63, Subpart ZZZZ - Table 2d #3; Table 2b; Table 3 #4; Table 4 #1 or #3; Table 5 #1, #2, #5, or #6; and Table 6 #3 or #10]

- e. The permittee shall install either a continuous emissions monitoring system (CEMS) to directly monitor CO and O<sub>2</sub> or CO<sub>2</sub> at the inlet and outlet of the control device if demonstrating compliance with the control requirement or at the outlet of the control device if choosing to comply with the CO concentration limit; or install a continuous parameter monitoring system (CPMS) to measure and collect the inlet temperature of the catalyst to the control device. And the pressure drop across the catalyst shall be monitored and recorded monthly using either compliance method.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Tables 2b, 5, and 6]

- f. If demonstrating compliance using CPMS, a site-specific monitoring plan must be prepared for the CPMS that addresses the monitoring system design, data collection, and the quality assurance and control requirements, as identified in 40 CFR 63.6625(b); the plan shall include:
  - i. The performance criteria and design specifications for the monitoring system, including the sample interface, the detector signal analyzer, and data acquisition and calculations;



- ii. the thermocouple location, assuring it will provide representative measurements and an accurate temperature for the inlet of the catalyst control device;
- iii. equipment performance evaluation and/or system accuracy audits and procedures;
- iv. ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1) and (c)(3); and
- v. ongoing reporting and recordkeeping procedures in accordance with the provisions in 40 CFR 63.10(c), (e)(1), and (e)(2)(i).

The permittee shall conduct performance evaluations and/or system accuracy audits for the CPMS in accordance with the site-specific monitoring plan and prior to the compliance demonstration with the NESHAP. The CPMS shall be maintained in continuous operation according to 40 CFR 63.8 and the CPMS must be checked daily to assure it is accurately measuring the catalyst inlet temperature.

[Authority for term: 40 CFR 63.6625(b)]

- g. A performance evaluation of each CMS shall be conducted in accordance with the site-specific performance evaluation test plan. The site-specific CMS (CEMS or CPMS) performance evaluation test plan shall demonstrate the precision and accuracy of the equipment and completeness of the data collected. The site-specific performance evaluation test plan shall require all CMS (systems required by rule) to be maintained in continuous operation during process operations and shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external quality assurance (QA) program.
  - i. The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance.
  - ii. The external QA program shall include, at a minimum, provisions for systems audits and validation of instrument calibration, data collection, sample logging, and documentation of quality control data and field maintenance activities and must also address the following requirements:
    - (a) each CMS (parameter monitor or sampling probe) shall be installed at a location that accurately measures the exhaust emissions representative of the emissions unit (e.g., on or downstream of the last control device) and accurately measures the process and/or the control device parameters;
    - (b) performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and



- (c) performance evaluation procedures and acceptance criteria, including calibration frequency, results, and records.

The permittee shall submit the site-specific performance evaluation test plan to the appropriate District or local office of the Ohio EPA Division of Air Pollution Control (DAPC), and a second copy of any CEMS performance evaluation test plan to the Ohio EPA DAPC Central Office, at least 60 days before the performance test or performance evaluation is scheduled to begin, or by a mutually agreed upon (by DAPC Central Office) date. The DAPC may request additional relevant information following the review of a site-specific performance evaluation test plan. All CMS shall be installed, operated, and the data verified, as specified in the NESHAP, either prior to or in conjunction with conducting performance tests required under 40 CFR 63.7.

[Authority for term:40 CFR 63.6625(a) and 40 CFR 63.8(e)(1), (2) and (3)]

- h. In order to maintain ongoing data quality assurance for the continuous monitoring system (CMS), the permittee shall develop and implement a CMS quality control program. As part of the quality control program the permittee shall develop, and submit for approval, a site-specific performance evaluation test plan for the CMS, as required by 40 CFR 63.8(e) and this permit. The quality control program shall also include a written protocol that describes procedures for each of the following operations:
  - i. initial and any subsequent calibration of the CMS;
  - ii. determination and adjustment of the calibration drift of the CMS;
  - iii. preventive maintenance of the CMS, including spare parts inventory;
  - iv. data recording, calculations, and reporting;
  - v. accuracy audit procedures, including sampling and analysis methods; and
  - vi. program of corrective action for a malfunctioning CMS.

The permittee shall keep these written procedures on record for the life of the emissions unit or until it is no longer subject to the NESHAP or other requirement for maintaining the system. The CMS quality control program shall be made available for inspection by the Director or his/her representative upon request. If the performance evaluation plan is revised, it shall be retained as a facility record for a period of 5 years following its revision.

[Authority for term:40 CFR 63.8(d)]

- i. If the stationary RICE is not equipped with a closed crankcase ventilation system, the permittee shall install either a closed crankcase ventilation system or an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals. The open or closed crankcase ventilation system shall be operated and



maintained according to the manufacturer's specifications, to include the frequency of crankcase filter replacement.

[Authority for term: 40 CFR 63.6625(g)]

c) Operational Restrictions

- (1) The stationary CI ICE shall be installed, operated, and maintained according to the manufacturer's specifications, written instructions, and procedures; and/or according to a maintenance plan developed by the permittee, which shall provide for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. The permittee shall operate and maintain the stationary CI ICE to achieve the CO emission standards from #3 in Table 2d to Part 63, Subpart ZZZZ, as required per 40 CFR 63.6603(a).

[Authority for term: 40 CFR 63.6595(a)(1), 40 CFR 63.6603(a), 40 CFR 63.6605 and Subpart ZZZZ - Table 2d #3]

- (2) The permittee shall minimize the engine's time spent at idle and shall minimize the startup time to a period needed for appropriate safe loading of the engine, not to exceed 30 minutes, after which the non-startup CO emission limitations apply.

[Authority for term: 40 CFR 63.6625(h)]

- (3) The temperature of the stationary RICE exhaust at the inlet of the oxidation catalyst shall be maintained at greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit; and the pressure drop across the catalyst shall be maintained at no more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial performance test, at 100% load. The temperature measurement device must meet the following requirements:
  - a. the temperature sensor shall be located in a position that provides an accurate reading of the exhaust gas temperature at the inlet to the catalyst of the control device;
  - b. the temperature sensor shall have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1% of the temperature value, whichever is larger; and
  - c. an equipment performance evaluation or system accuracy audit shall be conducted for the temperature measurement device on an annual basis.

System accuracy audits could include redundant temperature sensors or a temperature gauge may be inserted in a thermal well co-located with the CPMS sensor. Records of the results of each inspection, performance evaluation, and/or accuracy audit for the CPMS shall be maintained for a period of 5 years.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a), 40 CFR 63.6625(b), 40 CFR 63.6660 and Subpart ZZZZ - Table 2b #1]



- (4) Where demonstrating continuous compliance through the use of a continuous parameter monitoring system (CPMS), the rolling 4-hour average temperature of the stationary RICE exhaust at the inlet of the oxidation catalyst shall be monitored and maintained at greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit; and the pressure drop across the catalyst shall be maintained at no more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial performance test, at 100% load and monitored and recorded monthly.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 2b #1; Table 5 #1 or #2 and Table 6 #10]

- (5) Where demonstrating continuous compliance through the use of a continuous emissions monitoring system (CEMS), the 1-hour average CO concentration shall not exceed 23 ppmvd, corrected to 15% O<sub>2</sub> or the equivalent CO<sub>2</sub> correction factor, or CO shall be reduced by 70% between the inlet and the outlet of the oxidation catalyst control device.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 5 #5 or #6 and Table 6 #3]

- (6) All continuous monitoring systems (CMS) shall be installed, operated, and the data verified either prior to or in conjunction with conducting performance tests as required per 40 CFR 63.7, 63.8, 40 CFR 63.6625, and the site-specific monitoring plan. The permittee shall maintain and operate each CMS as specified in this permit and as follows:

- a. The permittee shall maintain and operate each CMS in a manner consistent with safety and good air pollution control practices for minimizing emissions, as specified in 40 CFR 63.6(e)(1) and as reflected in the operations and maintenance requirements of this permit.
- b. The permittee shall keep the necessary parts for routine repairs and maintenance of the CMS equipment readily available.
- c. The permittee shall develop a written startup, shutdown, and malfunction plan (SSMP) for each/all CMS(s) as specified in 40 CFR 63.6(e)(3), and as reflected in this permit through the requirements for the SSMP [requirement from 40 CFR 63.8(c)(1)(iii)].
- d. All continuous emissions monitoring system (CMS) must be installed at a location that accurately measures the exhaust emissions representative of the emissions unit (e.g., downstream of the last control device) and according to the procedures documented in the applicable performance specification; and any continuous parameter monitoring system (CPMS) shall be installed to accurately measure the process and/or the control device parameters.
- e. Verification of the operational status of each CMS shall include the completion of the manufacturer's written specifications or the recommendations for installation, operation, and calibration of the system.



- f. The read out, (the visual display or measured record of the CMS) or other indication of operation, from any CMS required for compliance with the emission standard, shall be readily accessible and visible for monitoring and recording by the operator of the equipment.
- g. Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS shall be maintained in continuous operation.
- h. All CEMS used for measuring CO emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive minute of operations, with an average recorded for each 15-minute period. Data from the CEMS (excluding that collected during calibration, quality assurance, or maintenance activities, out-of-control periods, and/or CEMS breakdown) shall be reduced to 1-hour averages, computed from the four 15-minute averages.

[Authority for term: 40 CFR 63.8(c)(1),(2),(3) and (4) and 40 CFR 63.8(g)(2)]

- (7) Diesel fuel burned in the CI ICE shall not exceed the limit for sulfur as specified by 40 CFR 80.510(b), i.e., the maximum sulfur content of diesel fuel shall not exceed 15 ppm or 0.0015% sulfur by weight.

[Authority for term: 40 CFR 63.6604, 40 CFR 80.501(a) and 40 CFR 80.510(b)]

- (8) The permittee shall burn only natural gas and/or distillate oils in this emissions unit.

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

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

- (1) If a CPMS is selected as the method of compliance, the permittee shall install, operate, and maintain the CPMS to measure and collect the catalyst inlet temperature according to the requirements of 40 CFR 63.8, 40 CFR 63.6625(b), and the site-specific monitoring plan. The permittee shall continuously monitor the catalyst inlet temperature at all times the unit is in operation and reduce the data to 4-hour rolling averages. The CPMS shall collect data at least every 15-minutes.

For purposes of calculating data averages, data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities shall not be used in calculating the rolling 4-hour average catalyst inlet temperature. The data collected during all other periods of operation shall be used in assessing compliance.



The engine is in compliance when the rolling 4-hour average temperature of the stationary RICE exhaust at the inlet of the catalyst is greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit. Each record must be maintained for a period of 5 years.

[Authority for term: 40 CFR 63.6640(a), 40 CFR 63.6625(b)(2) through (5), 40 CFR 63.6635, 40 CFR 63.6660 and Subpart ZZZZ - Table 2b #1, Table 5 #1 or #2 and Table 6 #10]

- (2) If a CEMS is selected as the method of compliance, the permittee shall conduct an initial performance evaluation of each CEMS and an annual relative accuracy test audit (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60, Appendix B according to the requirements of 40 CFR 63.8, as well as, daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, procedure 1. Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period of operations. A valid hourly average shall consist of at least two data points, with each representing a different 15-minute average. Data from the CEMS (excluding that collected during calibration, quality assurance, or maintenance activities, out-of-control periods, and/or CEMS breakdown) shall be reduced to 1-hour averages, computed from the four 15-minute averages. The CEMS data averages shall be recorded in parts per million at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration. A demonstration that the catalyst achieves compliance with the required percent reduction of CO or CO concentration limit is determined using the 4-hour average. Each record must be maintained for a period of 5 years.

[Authority for term: 40 CFR 63.6640(a), 40 CFR 63.6625(a), 40 CFR 63.6660, Subpart ZZZZ - Table 5 #5 or #6 and Table 6 #3, 40 CFR 63.8(c)(4)(ii) and 40 CFR 63.8(g)(2)]

- (3) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of the diesel oil received and the oil supplier's (or permittee's) analyses for sulfur content, in parts per million (40 CFR 80.510) or percent by weight. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR 80.580, using the appropriate ASTM methods. These records shall be retained for a minimum of 5 years and shall be available for inspection by the Director or his/her representative.

[Authority for term: 40 CFR 63.6604, 40 CFR 80.510(b), 40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

- (4) The permittee shall maintain a record of the diesel fuel burned in this RICE during each calendar year. The fuel oil 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: any flow meter installed on the engine, records of the volume of diesel fuel oil received with each delivery, the fuel oil levels recorded from the diesel storage tank, and/or the recorded or estimated hours of operation along with the manufacturer's documentation of the fuel flow rate.



- (5) Except during malfunctions, repairs, and required quality assurance and/or control activities, the permittee shall continuously monitor that the stationary RICE is operating; and all valid data (not recorded during malfunctions, repairs, or required quality assurance or control activities) shall be used in calculations used to report emissions or operating levels.

[Authority for term:40 CFR 63.6635]

- (6) The permittee shall keep the following records as required by 40 CFR 63.6655:
- a. a copy of each notification and report submitted to comply with the NESHAP, Subpart ZZZZ;
  - b. records of the occurrence and duration of each malfunction of operation or the air pollution control and monitoring equipment, where applicable;
  - c. records of performance tests as required per 40 CFR 63.10(b)(2)(viii);
  - d. records of all required maintenance performed on the air pollution control and monitoring equipment, where applicable;
  - e. records of actions taken during periods of malfunction to minimize emissions in accordance with 63.6605(b), including corrective actions to restore the malfunctioning process and/or control equipment to normal operations;
  - f. records of performance tests conducted to demonstrate compliance;
  - g. a record of each idle and/or startup time that exceeded 30 minutes;
  - h. the records required in Table 6 to Part 60, Subpart ZZZZ; and
  - i. for each CEMS or CPMS:
    - i. the records identified in 40 CFR 63.10(b)2(vi) through (xi);
    - ii. previous (superseded) versions of the performance evaluation plan, required per 40 CFR 63.8(d)(3); and
    - iii. records of the request and approval of alternatives to the relative accuracy test for CEMS or CPMS as required per 40 CFR 63.8(f)(6), if applicable.

The records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[Authority for term:40 CFR 63.6655(a), (b) and (d), 40 CFR 63.6660, 40 CFR 63.6625(h) and 40 CFR 63.10(b)(1) and (2)]



- (7) The permittee shall maintain the following records for the continuous monitoring system (CMS) in accordance with the general requirements of 40 CFR 63.10(c):
- a. all required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);
  - b. the date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;
  - c. the date and time identifying each period during which the CMS was out of control;
  - d. the specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the NESHAP, that occurs during startups, shutdowns, and malfunctions of the emissions unit;
  - e. the specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the NESHAP, that occurs during periods other than startups, shutdowns, and malfunctions of the emissions unit;
  - f. the nature and cause of any malfunction (if known);
  - g. the corrective action taken or preventive measures adopted;
  - h. the nature of the repairs or adjustments to the CMS whenever it/they is/are inoperative or out of control;
  - i. the total process operating time during the reporting period; and
  - j. all records of the procedures that are required as part of a quality control program, developed and implemented for the CMS under 40 CFR 63.8(d), as reflected in this permit.

The records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[Authority for term:40 CFR 63.10(c)]

- (8) The permittee shall record the pressure drop across the oxidation catalyst at least once per month and the control device shall be maintained so that the pressure drop across the catalyst does not change by more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial or any subsequent performance test operating at 100% load. The requirement to monitor and maintain the pressure drop according to these requirements shall be included in the site-specific monitoring plan.

[Authority for term:40 CFR 63.6640(a), 40 CFR 63.6625(b) and Subpart ZZZZ - Table 2b #1 and Table 6 #10]



- (9) For each day during which the permittee burns a fuel other than natural gas and/or distillate oils, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.

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

e) Reporting Requirements

- (1) The permittee shall identify in the semiannual report any period of time (date and number of hours) that the quality of oil burned in this emissions unit did not meet the requirements established in 40 CFR 80.510(b), based upon the required fuel records; and the amount of non-compliant fuel burned on each such occasion.

[Authority for term:40 CFR 63.6604 and 40 CFR 80.510(b)]

- (2) A comprehensive written report on the results of the performance tests, conducted to demonstrate compliance with 40 CFR 63.6603(a) and OAC 3745-110-03(F), 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.

[Authority for term:OAC rule 3745-15-04(A), 40 CFR 63.6645(h) and 40 CFR 63.9(h)(2)(ii)]

- (3) The permittee shall submit an initial notification to the appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency, in writing, indicating that the RICE is subject to the Subpart ZZZZ NESHAP standards in 40 CFR Part 63. The initial notification report shall be submitted no later than 120 calendar days after the effective date of the NESHAP (or 9/3/13 for existing units), which shall provide the following information:

- a. the facility name, address, facility ID number, and emission unit number(s) identified in the report;
- b. the address (i.e., physical location) of the emissions unit;
- c. an identification of the relevant standard (Part 63, Subpart ZZZZ), the applicable limitation(s) or other requirement(s) that is/are the basis of the notification, and the emission unit's compliance date;
- d. a brief description of the nature, size, design, and method of operation of the RICE, and an identification of the emission unit(s) subject to the NESHAP and types of hazardous air pollutants emitted; and
- e. a statement of whether the emissions unit is a major source or an area source.

[Authority for term:40 CFR 63.9(b)(2) and 40 CFR 63.6645(a)(2)]



- (4) The permittee shall submit semiannual compliance reports that identify any exceedance of the emission limitation, CO reduction requirement, and/or deviation from the operating limitations on the temperature and pressure drop of the oxidation catalyst control. The semiannual compliance report shall contain the following information:
- a. the facility name, address, facility ID number, and emission unit number(s) identified in the report;
  - b. a statement by a responsible official certifying the accuracy of the content of the report;
  - c. the date of report and beginning and ending dates of the reporting period;
  - d. a brief description of the stationary RICE, at a minimum, the horsepower, year of manufacturer, and use;
  - e. each instance in which the general provisions identified in Table 8 of Part 63, Subpart ZZZZ were not met;
  - f. the number, duration, cause, and description of each exceedance, deviation, and/or malfunction which caused or may have caused an exceedance of the emission limitation or a deviation from the operating limitations for the temperature and pressure drop monitored for the control device;
  - g. the corrective actions taken during each/any deviation or exceedance to minimize emissions and to correct the malfunction;
  - h. the total operating time of the stationary RICE if an exceedance or deviation occurred during the reporting period that did not involve a continuous monitoring system (CMS);
  - i. if there is/are no exceedance(s) or deviation(s) from the emission limitations or operating limitations during the reporting period, a statement to that effect;
  - j. if there were no periods of time during which the CMS was out-of-control during the reporting period, a statement to that effect;
  - k. for each exceedance of the emission limitation or percent reduction for CO recorded by the CEMS or for each deviation from operating limitation for the temperature at the inlet of the catalyst recorded by the CPMS, the following information:
    - i. identification of the CMS, i.e., the type, model, and manufacturer, and the exact location of the probe;
    - ii. the date and time that each malfunction started and stopped;
    - iii. the date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks;



- iv. the date, time, and duration that each CMS was out-of-control (including the information in 40 CFR 63.8(c);
- v. the date and time each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period;
- vi. a summary of the total duration of the deviation during the reporting period, and the total duration of the deviation as a percent of the engine's total operating time during the reporting period;
- vii. a breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, and other know or unknown causes;
- viii. a summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent to the total operating time of the stationary engine during the reporting period;
- ix. the date of the latest certification or audit of the temperature CMS; and
- x. description of any changes to the engine, CMS, processes, or controls since the last reporting period.

The semiannual compliance reports shall cover the reporting periods from January 1 through June 30 and July 1 through December 31 of each year and shall be postmarked or delivered no later than July 31 or January 31 following each reporting period.

[Authority for term: 40 CFR 63.6640(b) and (e), 40 CFR 63.6650(a), (b), (c), (d) and (e) and Part 63, Subpart ZZZZ - Table 7]

- (5) The permittee shall collect and submit required CMS performance evaluation results to the Director (appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency) as follows:
- a. A written report of the results of each CMS performance evaluation shall be submitted simultaneously with the results of the performance test within 30 days of completion of the performance evaluation and compliance demonstration. The written report shall include the raw data from the performance evaluation with the report of the results.
  - b. Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any data average reported.

[Authority for term: 40 CFR 63.10(e)(1) and (2)(i) and 40 CFR 63.8(e)(5)]



- (6) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or distillate oils was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-15-03(C)]

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Opacity Limitation:

Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

[Authority for term: OAC rule 3745-17-07(A)(1)]

b. Emission Limitation:

PE shall not exceed 0.062 lb/mmBtu of actual heat input from ICE greater than 600 HP.

Applicable Compliance Methods:

When burning distillate oil, compliance may be based upon an emission factor of 0.062 lb/mmBtu. Said emission factor is published in the US EPA reference document AP-42, Fifth Ed., 'Compilation of Emission Factors', Section 3.4, Table 3.4-2 (10/96).

When burning natural gas, compliance may be based upon an emission factor of 0.0384 lb/mmBtu. Said emission factor is published in the US EPA reference document AP-42, Fifth Ed., 'Compilation of Emission Factors', Section 3.2, Table 3.2-1 (7/00).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and OAC rule 3745-17-03(B)(10).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(5)(b)]



c. Emission Limitations:

Emissions of NO<sub>x</sub> shall not exceed 3.0 grams/HP-hr.

Applicable Compliance Method:

Compliance with the emission limitation shall be based on the NO<sub>x</sub> emissions testing data, as specified below and by operating and maintaining the engine according to the manufacturer's specifications.

[Authority for term: OAC 3745-110-03(F)(3), OAC 3745-110-05(A) and (F) and OAC rule 3745-15-04(A) and (B)]

d. Emission Limitations:

Emissions of CO shall not exceed 23 ppmvd at 15% O<sub>2</sub> or emissions of CO shall be reduced by 70% or more.

Applicable Compliance Method:

Unless a performance test is submitted that meets the requirements of 40 CFR 63.6612(b), the permittee shall conduct an initial performance test within 180 days after the compliance date or no later than 11/3/13, to demonstrate compliance with the CO limitation in the NESHAP. The appropriate tests methods from Table 4 to Subpart ZZZZ shall be conducted based on the option chosen for compliance, i.e., the part per million concentration or percent reduction. The appropriate emission and/or operating limitations, required per 40 CFR 63.6630 and identified in Table 5, shall be established and compliance demonstrated during each performance test.

The temperature at the inlet to the catalyst shall be monitored during the performance test and maintained between 450 °F and 1,350 °F. The 3-hour block average temperature at the inlet to the catalyst shall be documented during performance tests and the pressure drop shall be recorded to establish the operating range for the pressure drop across the catalyst. Per 63.6640(b), if the catalyst is changed or the control device replaced, a new performance test must be conducted to demonstrate compliance with the emission limitation and to reestablish the values for or compliance with the operating parameters.

Each performance test shall consist of 3 separate test runs and each test run shall last a minimum of 1 hour and shall be conducted during normal operations. The engine percent load, during the performance test, shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load and the estimated percent load shall be included in the notification of compliance.

A compliant performance test shall demonstrate that either the CO emissions have been reduced by 70% or that the average CO concentration is less than or equal to 23 ppmvd, corrected to 15 percent O<sub>2</sub> on a dry basis, and from three 1-hour or longer performance test runs.



If demonstrating compliance with the 70% control requirement for CO, the permittee may use a portable CO and O<sub>2</sub> analyzer at the inlet and outlet of the control device and use ASTM Method D6522-00 to meet the performance testing requirement in Table 4 to Subpart ZZZZ. The CO concentrations at the inlet and outlet of the control device must be normalized to a dry basis and to 15% oxygen, or an equivalent percent CO<sub>2</sub>, as required in 40 CFR 63.6620(e).

The following test methods shall be employed to demonstrate compliance with the emission limitation for CO or may be used to demonstrate compliance with the control requirement for CO:

- i. Method 1 or 1A of 40 CFR Part 60, Appendix A to select the sampling port location and the number of traverse points
- ii. Method 3, 3A, or 3B of 40 CFR Part 60, Appendix A or ASTM Method D6522-00 to measure O<sub>2</sub> at the inlet and/or outlet of the control device to normalize the CO concentration(s).
- iii. 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 inlet and outlet of the control device if demonstrating compliance through the percent control or to measure the moisture content of the stationary RICE exhaust.
- iv. Method 10 of 40 CFR Part 60, Appendix A; or Method 320 of 40 CFR Part 63, Appendix A; or ASTM D 6348-03 to measure CO at the inlet and outlet of the control device if demonstrating compliance through the percent control or to measure CO at the exhaust of the stationary ICE.
- v. The following equation shall be used to normalize the CO concentrations to a dry basis and to 15 percent oxygen (O<sub>2</sub>)\*\*:

$$C_{adj} = C_d (5.9 / 20.9 - \% O_2)$$

where:

C<sub>adj</sub> = calculated CO concentration adjusted to 15 percent O<sub>2</sub>;

C<sub>d</sub> = measured concentration of CO, uncorrected;

5.9 = 20.9 percent O<sub>2</sub> – 15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent; and

%O<sub>2</sub> = measured O<sub>2</sub> concentration, dry basis, percent.

\*\* Optionally, the pollutant concentrations can be corrected to 15% O<sub>2</sub> using a CO<sub>2</sub> correction factor, by calculating the fuel factor (F<sub>o</sub> value) using Method 19 results obtained during the performance test (40 CFR 63.6620(e)(2)).



- vi. If compliance is demonstrated for the control efficiency for CO, the following equation shall be used to determine the percent reduction:

$$R = (C_i - C_o) / C_i \times 100$$

where:

$C_i$  = concentration of CO at the control device inlet;

$C_o$  = concentration of CO at the control device outlet; and

R = percent reduction of CO emissions.

If using CEMS to monitor and comply with the CO concentration limitation or requirement to reduce CO emissions, the permittee shall conduct annual relative accuracy test audits (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60 Appendix B and daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, Procedure 1.

If using CPMS to demonstrate compliance, the permittee shall conduct subsequent performance tests for CO (concentration or % reduction) every 8,760 hours of operation or every 3 years, whichever comes first.

The permittee shall notify the Director (appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency) in writing of each scheduled performance test date or RATA for the CEMS at least 60 calendar days before it is scheduled, to allow the agency time to review and approve the site-specific test plan and to arrange for an observer to be present during the compliance demonstration.

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.

[Authority for term: 40 CFR 63.7(a)(2), (b)(1) and (e), 40 CFR 63.6603(a), 40 CFR 63.6612, 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6630, 40 CFR 63.6640(a) and (b), 40 CFR 63.6645(a)(2), Part 63, Subpart ZZZZ - Table 2d #3; Table 2b; Table 3 #4; Table 4 #1 or #3; Table 5 #1, #2, #5 or #6; Table 6 #3 or #10 and OAC rule 3745-15-04(A)]



e. Emission Limitations:

The exhaust emissions from this engine shall not exceed 0.09 lb VOC/mmBtu.

Applicable Compliance Method:

The VOC emissions limit is based on using the AP-42 emission factor of 0.09 lb VOC/mmBtu from Chapter 3.4, Table 3.4-1, "Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines".

The heating value of the diesel fuel may be adjusted to that provided by the supplier.

[Authority for term:OAC rule 3745-31-05(A)(3)]

f. Sulfur Content Limitations for Diesel Fuel:

The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.

Applicable Compliance Method:

Compliance shall be demonstrated through the record keeping requirements for the sulfur content of each shipment of diesel oil received. If meeting the standards in 40 CFR 80.510(b), this calculates to approximately 0.0015lb SO<sub>2</sub>/mmBtu.

[Authority for term:40 CFR 63.6604 and [40 CFR 80.510(b)]

g. Emission Limitation:

When burning distillate oil, SO<sub>2</sub> emissions shall not exceed 0.5 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Continuous compliance with the allowable SO<sub>2</sub> emission limitation shall be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

SO<sub>2</sub> emissions from liquid fuel samples shall be calculated as follows:

$$ER = [(1 \times 10^6) / H] \times D \times S \times 1.974$$

where:

ER = the emission rate in pounds of sulfur dioxide per mmBtu;

H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and



S = the decimal fraction of sulfur in the liquid fuel.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

[Authority for term: OAC rules 3745-18-04(E) and 3745-18-04(F)(2)]

g) Miscellaneous Requirements

- (1) None.



**3. B008, Engine No. 4**

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

Waukesha natural gas-fired engine, rated 2,964 BHP. Stationary 4 stroke lean burn (4SLB) spark ignition (SI) internal combustion engine (ICE); burning natural gas; greater than 2,000 horsepower (HP); complying with emission limitations in 40 CFR 63, Subpart ZZZZ Table 2d #9; and installed before 6/12/06.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (2) 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 63, Subpart ZZZZ (40 CFR 63.6580 to 63.6675)  In accordance with 40 CFR 63.6585, this emissions unit is a stationary reciprocating internal combustion engine (RICE) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The existing, natural gas stationary 4SLB spark ignition (SI) RICE, located at an area source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ.
b.	40 CFR 63.6603(a) Subpart ZZZZ Table 2d #9 Table 5 #13 Table 6 #14	Emissions of carbon monoxide (CO) shall not exceed 47 ppmvd at 15% O <sub>2</sub> or emissions of carbon monoxide (CO) shall be reduced by 93% or more.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)(5)(b)	The particulate emission limitation required by this applicable rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-110-03(F)(2)	The NO <sub>x</sub> emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-18-06(G)	This emissions unit is exempt from the emission limitation specified by this rule pursuant to OAC rule 3745-18-06(A).
f.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation required by this applicable rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
g.	OAC rule 3745-31-05(A)(3) (PTI 02-9564)	<p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 1.5 gr/HP-hr and 9.8 lbs/hr.</p> <p>Particulate emissions (PE) shall not exceed 0.13 gr/HP-hr and 0.85 lb/hr.</p> <p>Carbon monoxide (CO) emissions shall not exceed 1.85 gr/HP-hr and 12.09 lbs/hr.</p> <p>Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 0.1 gr/HP-hr and 0.65 lb/hr.</p> <p>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average more than once per 60-minute period.</p> <p>Compliance with 40 CFR Part 63, Subpart ZZZZ.</p>



(3) Additional Terms and Conditions

- a. Following the compliance date of the NESHAP, the permittee shall control the emissions of CO from the stationary RICE exhaust using an oxidation catalyst control device. The permittee shall either limit the concentration of CO to 47 ppmvd or less at 15% O<sub>2</sub> at the outlet of the control device or the average reduction of CO, calculated according to 40 CFR 63.6620(e), shall not be less than 93% of the uncontrolled CO emissions.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 2d #9]

- b. The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6595(a)(1)	The compliance date for Part 63 Subpart ZZZZ for existing SI RICE is 10/19/13.
Applicable Tables from Part 63, Subpart ZZZZ	Following the compliance date, comply with: emission limit options in Table 2d #9; the performance test methods in Table 4 #1 or #3; initial compliance demonstration in Table 5 #13; continuous compliance monitoring requirements in Table 6 #14; reporting requirements/frequency in Table 7; and the general provision from Subpart A in Table 8.
40 CFR 63.6603(a)	Following the compliance date, maintain compliance with the emission limitation in Table 2d #9 (limit CO to 47 ppmvd at 15% O <sub>2</sub> or reduce CO by 93% or THC by 30%).
40 CFR 63.6603; 40 CFR 63.6612; 40 CFR 63.6620; 40 CFR 63.6630(e); and Subpart ZZZZ Tables 4 #1 or #3 and 5 #13	Conduct an initial performance test within 180 days following the compliance date, or by 4/19/14, using the appropriate test methods in Table 4 and as identified in §63.6630(e). By the compliance date, must either install CPMS to continuously monitoring the temperature at the inlet of the catalyst to the NSCR, reduce the data to 4-hour rolling averages, and maintain this temperature between 450 and 1,350 °F; or install a device that will automatically shut the engine off if the catalyst inlet temperature exceeds 1,350 °F.
40 CFR 63.63.6640(c); Subpart ZZZZ Table 4 #1 or #3 and Table 6 #14	Following the initial performance test must conduct annual compliance demonstrations in accordance §63.6640(c), using the test methods in Table 4 and Appendix A to Subpart ZZZZ; and continuously monitoring the temperature at the inlet of the catalyst to the NSCR, reduce the data to 4-hour rolling averages, and maintain this temperature between 450 and 1,350 °F; or install a device that will automatically shut the engine off if the catalyst



	inlet temperature exceeds 1,350 °F.
40 CFR 63.6625(b); and 40 CFR 63.8(c), (d), & (e)	If not installing a device that will automatically shut the engine off if the catalyst inlet temperature exceeds 1,350 °F, develop and implement a site-specific monitoring plan for the continuous monitoring system (CMS), i.e., the CPMS, to include a quality control program and performance evaluation test plan for the CMS, in accordance with §63.8.
40 CFR 63.6665	Meet all of the general provisions of Subpart A, from §63.1 through §63.15, that apply to the SI RICE, as identified in Table 8 to Subpart ZZZZ.

c) Operational Restrictions

- (1) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6625(a)	If using CEMS for compliance, CEMS must be installed, operated, and maintained in continuous operation in accordance with the performance specifications of 40 CFR 60, Appendix B and this paragraph.
40 CFR 63.6625(b)(2) Subpart ZZZZ Table 5 #13 and Table 6 #14	CPMS must be installed, operated, and maintained in continuous operation in accordance with the site-specific monitoring plan, if not installing a device that will automatically shut the engine off if the catalyst inlet temperature exceeds 1,350 °F.
40 CFR 63.6605	General duty to minimize emissions, with good air pollution control practices for minimizing emissions; and compliance required at all times.
40 CFR 63.6625(h)	Minimize idle and startup time, not to exceed 30 minutes.
40 CFR 63.6603; 40 CFR 63.6640(a); and Subpart ZZZZ Table 5 #13 and Table 6 #14	Comply with operating limitations in Table 5 and 6: The rolling 4-hour average catalyst inlet temperature shall be maintained at greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit, if not installing a device that will automatically shut the engine off if the catalyst inlet temperature exceeds 1,350 °F.
40 CFR 63.6625(b)(4) through (6)	Must conduct an annual equipment performance evaluation or system accuracy audit on the temperature measurement device. The temperature sensor must meet the minimum tolerance range and must be installed, operated, and maintained as specified in §63.6625(b) and in accordance with the site-specific monitoring plan.

- (2) The permittee shall burn only natural gas in this emissions unit.



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

- (3) The total operating hours for this emission unit shall not exceed 7,000 hours per rolling, 365-day period.

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

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6625(a) and 40 CFR 63.8	If using CEMS for compliance with the CO standard, the CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive minute of operations (Ohio policy), with an average recorded for each 15-minute period. Data from the CEMS (excluding that collected during calibration, quality assurance, or maintenance activities, out-of-control periods, and/or CEMS breakdown) shall be reduced to 1-hour averages, computed from the four 15-minute averages.
40 CFR 63.6625(b); 40 CFR 63.8; and Subpart ZZZZ Table 6 #14	Following the compliance date, if not installing a device that will automatically shut the engine off if the catalyst inlet temperature exceeds 1,350 °F, CPMS shall be installed to continuously monitor the catalyst inlet temperature to the NSCR. The CPMS must collect data at least once every 15 minutes and the catalyst inlet temperature shall be reduced to 4-hour rolling averages.
40 CFR 63.6635	Except for monitor malfunctions, associated repairs, and required quality assurance activities, must continuously monitor that the RICE is operating. Must use all valid data (not recorded during malfunctions, repairs, or required quality assurance or control activities) in calculations used to report emissions or operating levels.
40 CFR 63.6640(a)	Demonstrate continuous compliance with the emission limitation and operating limitations identified in Table 2d according to the methods specified in Table 6 #14 to Subpart ZZZZ.
40 CFR 63.6655(a) and 40 CFR 63.10	Keep records of: 1. each notification and report submitted to comply with Part 63, Subpart ZZZZ; 2. the occurrence and duration of each malfunction of the RICE and any control or monitoring equipment; 3. corrective actions taken during each period of malfunction to minimize emissions and restore normal operations; 4. records of performance tests and performance evaluations of the CPMS; 5. all required maintenance performed on air pollution control and monitoring equipment; and 6. any excess emissions or parameter monitoring exceedances, as identified by §63.10.



40 CFR 63.6655(b); 40 CFR 63.10(b); and 40 CFR 63.8(d)	Keep records for each CPMS used to demonstrate compliance, including: the performance evaluation/test plan; previous versions of the performance evaluation plan; performance tests and evaluations; results of the quality control program; CPMS calibration checks or system accuracy audits; maintenance performed on air pollution control and monitoring equipment; the occurrence, duration, and corrective actions taken during periods of malfunction; and all measurements needed to demonstrate compliance with the relevant standard.
40 CFR 63.6655(d)	Keep the records required in Table 6 to Subpart ZZZZ to demonstrate continuous compliance.
40 CFR 63.6625(h)	Maintain a record of each idle and/or startup time that exceeded 30 minutes.
40 CFR 63.6660	Records readily available and retained for at least 5 years after the date of occurrence or date of report according to §63.10(b)(1).

- (2) The permittee shall maintain daily records for this emissions unit of the following information:
- a. the date and time of each start-up and shutdown of this emissions unit;
  - b. the total hours of operation of this emissions unit; and
  - c. the rolling, 365-day summation of the total hours of operation of this emissions unit.

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

- (3) For each day during which the permittee burns a fuel other than natural gas, the permittee maintain a record of the type and quantity of the fuel burned in this emissions unit.

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

e) Reporting Requirements

- (1) A comprehensive written report on the results of the performance tests, conducted to demonstrate compliance with 40 CFR 63.6603(a), 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.

[Authority for term:OAC rule 3745-15-04(A)]



- (2) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6640(b); Subpart ZZZZ Tables 5 #13 and 6 #14	Submit a report of each instance in which the chosen emission limitation, the control device requirements, or operating limitations in Tables 2d, 5, and 6 were not met; these deviations to be reported according to the requirements of §63.6650.
40 CFR 63.6640(e)	Submit a report of each instance in which the applicable requirements in Table 8 to Subpart ZZZZ, the general provisions from Subpart A, were not met.
40 CFR 63.6645(a)(2)	Submit all notifications required per §63.7(b) and (c); §63.8(e), (f)(4), and (f)(6); and §63.9(b) through (e), (g), and (h) that apply to the SI RICE.
40 CFR 63.6625(b); 40 CFR 63.7(c); and 40 CFR 63.8(d) & (e)(3)	Upon request, submit a performance evaluation test plan for each monitoring system and/or the site-specific test plan to the office requesting it.
40 CFR 63.6645(g); 40 CFR 63.7(b); 40 CFR 63.8(e); and 40 CFR 63.9(e) & (g)	Submit a Notification of Intent to conduct a performance test for the emissions unit or a performance evaluation of the CEMS at least 60 days before the test is scheduled to begin.
40 CFR 63.6645(h); 40 CFR 63.6630(e); 40 CFR 63.6640(c); 40 CFR 63.8(e)(5); 40 CFR 63.9(h); 40 CFR 63.10(d)(2) & (e)(2); and OAC rule 3745-15- 04(A)	Submit a Notification of Compliance Status for each compliance demonstration required per Subpart ZZZZ, including the performance test and CMS performance evaluation results, before the close of business on the 60 <sup>th</sup> day following the completion of the test; or within 30 days of the initial compliance demonstration if the demonstration does not include a performance test. OAC rule 3745-15-04(A) requires performance test results to be submitted within 30 days of the test date unless additional time is requested.
40 CFR 63.6650(a)	Submit each applicable report in Table 7 of Subpart ZZZZ.
40 CFR 63.6650(b)(1) to (5) and Subpart ZZZZ Table 7 #3	Following the initial compliance date, submit Semiannual Compliance Reports to include the information identified in §63.6650(c) through (f), as applicable to the SI RICE. Following the initial compliance report, each subsequent report shall cover the reporting period from January 1 <sup>st</sup> through June 30 <sup>th</sup> and July 1 <sup>st</sup> through December 31 <sup>st</sup> . The Semiannual Compliance Reports must be postmarked or delivered no later than July 31 <sup>st</sup> and January 31 <sup>st</sup> .
40 CFR 63.6650(c)	§63.6650(c) contains the required information to be submitted in each compliance report.
40 CFR 63.6650(d) & (e)	§63.6650(d) contains the required information to be submitted for each deviation from an emission or operating limitation not monitored by a CMS and §63.6650(e) the information needed where using a CMS to comply with the emission or operating limitation.



- (3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

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

- (4) The permittee shall notify the Director (Ohio EPA, Northeast District Office) in writing of any record which shows a deviation of the operational restrictions in c)(2) and c)(3) above. The notification shall include a copy of the record and shall be submitted to the Director (Ohio EPA, Northeast District Office) within 45 days after the deviation occurs.

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

- (5) The permittee shall submit an annual report that provides a summary of the total monthly and annual hours of operation of this emissions unit. This report shall be submitted by February 15<sup>th</sup> of each year for operating data recorded during the previous calendar year.

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

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 Limitations:

Emissions of CO shall not exceed 47 ppmvd at 15% O<sub>2</sub> or emissions of CO shall be reduced by 93% or more.

Applicable Compliance Method:

Unless a performance test is submitted that meets the requirements of 40 CFR 63.6612(b), the permittee shall conduct an initial performance test within 180 days after the compliance date or no later than 04/19/14, to demonstrate compliance with the CO limitation in the NESHAP. The appropriate tests methods from Table 4 to Subpart ZZZZ shall be conducted based on the option chosen for compliance, i.e., the part per million concentrations or percent reduction. The appropriate emission and/or operating limitations, required per 40 CFR 63.6630 and identified in Table 5, shall be established and compliance demonstrated during each performance test.

If equipment has not been installed to automatically shut down the engine if the catalyst inlet temperature exceeds 1,350 °F, the temperature at the inlet to the oxidation catalyst shall be continuously monitored and the 4-hour rolling average temperature shall be maintained between 450 °F and 1,350 °F. The CPMS, installed to measure the temperature at the inlet to the oxidation catalyst, shall complete one cycle of operation for each successive 15-minute period of operations, with a minimum of 4 successive cycles or operation for each valid hour of testing, and in accordance with 40 CFR 63.6625(b). If the catalyst is



changed or the control device replaced, a new performance test must be conducted to demonstrate compliance with the emission limitation or control requirement and to reestablish the values for, or compliance with, the operating parameters.

The initial compliance demonstration shall consist of at least 3 test runs and each test run shall last a minimum of 15 minutes, except that each test conducted shall consist of at least 1 measurement cycle and include at least 2 minutes of test data phase measurement, using the method in Appendix A of Part 63 Subpart ZZZZ.

The annual compliance demonstration shall consist of at least 1 test run and the/each test run shall last a minimum of 15 minutes, except that each test conducted shall consist of at least 1 measurement cycle and include at least 2 minutes of test data phase measurement, using the method in Appendix A of Part 63 Subpart ZZZZ.

The testing shall be conducted during normal operations. The engine percent load during the performance test shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load; and the estimated percent load shall be included in the notification of compliance.

A compliant performance test shall demonstrate that either the CO emissions have been reduced by 93% or that the average CO concentration is less than or equal to 47 ppmvd, corrected to 15 percent O<sub>2</sub> on a dry basis, and from three 1-hour or longer performance test runs.

If demonstrating compliance with the 93% control requirement for CO, the permittee may use a portable CO and O<sub>2</sub> analyzer at the inlet and outlet of the control device and use ASTM Method D6522-00 to meet the performance testing requirement in Table 4 to Subpart ZZZZ. The CO concentrations at the inlet and outlet of the control device must be normalized to a dry basis and to 15% oxygen, or an equivalent percent CO<sub>2</sub>, as required in 40 CFR 63.6620(e).

The following test methods shall be employed to demonstrate compliance with the emission limitation for CO or may be used to demonstrate compliance with the control requirement for CO:

- i. Method 1 or 1A of 40 CFR Part 60, Appendix A to select the sampling port location and the number of traverse points
- ii. Method 3, 3A, or 3B of 40 CFR Part 60, Appendix A or ASTM Method D6522-00 to measure O<sub>2</sub> at the inlet and outlet of the control device to normalize the CO concentration(s).
- iii. 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 inlet and outlet of the control device if demonstrating compliance



through the percent control or to measure the moisture content of the stationary RICE exhaust.

- iv. Method 10 of 40 CFR Part 60, Appendix A; or ASTM Method D6522-00; or Method 320 of 40 CFR Part 63, Appendix A; or ASTM D 6348-03 to measure CO at the inlet and outlet of the control device if demonstrating compliance through the percent control or to measure CO at the exhaust of the stationary RICE.
- v. The following equation shall be used to normalize the CO concentrations to a dry basis and to 15 percent oxygen (O<sub>2</sub>)\*\*:

$$C_{adj} = C_d (5.9 / 20.9 - \% O_2)$$

where:

C<sub>adj</sub> = calculated CO concentration adjusted to 15 percent O<sub>2</sub>;

C<sub>d</sub> = measured concentration of CO, uncorrected;

5.9 = 20.9 percent O<sub>2</sub> – 15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent; and

%O<sub>2</sub> = measured O<sub>2</sub> concentration, dry basis, percent.

\*\* Optionally, the pollutant concentrations can be corrected to 15% O<sub>2</sub> using a CO<sub>2</sub> correction factor, by calculating the fuel factor (F<sub>o</sub> value) using Method 19 results obtained during the performance test (40 CFR 63.6620(e)(2)).

- vi. If compliance is demonstrated for the control efficiency for CO, the following equation shall be used to determine the percent reduction:

$$R = (C_i - C_o) / C_i \times 100$$

where:

C<sub>i</sub> = concentration of CO at the control device inlet;

C<sub>o</sub> = concentration of CO at the control device outlet; and

R = percent reduction of CO emissions.

If using CEMS to monitor and comply with the CO concentration limitation or requirement to reduce CO emissions, the permittee shall conduct annual relative accuracy test audits (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60 Appendix B and daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, Procedure 1.



If using a CPMS to demonstrate compliance, the permittee shall conduct subsequent performance tests for CO (concentration or % reduction) every 8,760 hours of operation or every 3 years, whichever comes first. The CPMS, installed to measure the temperature at the inlet to the NSCR catalyst, shall complete one cycle of operation for each successive 15-minute period of operations, with a minimum of 4 successive cycles or operation for each valid hour of testing, and in accordance with 40 CFR 63.6625(b).

The permittee shall notify the Director (appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency) in writing of each scheduled performance test date or RATA for the CEMS at least 60 calendar days before it is scheduled, to allow the agency time to review and approve the site-specific test plan and to arrange for an observer to be present during the compliance demonstration.

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.

[Authority for term: 40 CFR 63.7(a)(2), (b)(1) and (e)(3), 40 CFR 63.6603(a), 40 CFR 63.6612, 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6630(e), 40 CFR 63.6640(a) and (c), 40 CFR 63.6645(a)(2), Part 63, Subpart ZZZZ - Table 2d #9; Table 4 #1 or #3; Table 5 #1, #2, #5 or #6; Table 6 #3 or #10 and OAC rule 3745-15-04(A)]

b. Emission Limitations:

NO<sub>x</sub> emissions shall not exceed 1.5 gr/HP-hr and 9.8 lbs/hr.

Applicable Compliance Method:

Compliance with these emission limitations may be based upon the engine manufacturer's emission factor of 1.5 gr/HP-hr and multiplying that emission factor by the emissions unit's design brake horsepower rating of 2,964 HP and the conversion factor 1.0 lb/454 gr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

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

c. Emission Limitations:

PE shall not exceed 0.13 gr/HP-hr and 0.85 lb/hr.

Applicable Compliance Method:

Compliance with these emission limitations may be based upon the engine manufacturer's emission factor of 0.13 gr/HP-hr and multiplying that emission



factor by the emissions unit's design brake horsepower rating of 2,964 HP and the conversion factor 1.0 lb/454 gr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

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

d. Emission Limitations:

SO<sub>2</sub> emissions shall not exceed 0.1 gr/HP-hr and 0.65 lb/hr.

Applicable Compliance Method:

Compliance with these emission limitations may be based upon the engine manufacturer's emission factor of 0.1gr/HP-hr and multiplying that emission factor by the emissions unit's design brake horsepower rating of 2,964 HP and the conversion factor 1.0 lb/454 gr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

[Authority for term: OAC rules 3745-18-04(E) and 3745-31-05(A)(3)]

e. Emission Limitations:

CO emissions shall not exceed 1.85 gr/HP-hr and 12.09 lbs/hr.

Applicable Compliance Method:

Compliance with these emission limitations may be based upon the engine manufacturer's emission factor of 1.85 gr/HP-hr and multiplying that emission factor by the emissions unit's design brake horsepower rating of 2,964 HP and the conversion factor 1.0 lb/454 gr.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

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

f. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average more than once per 60-minute period.



Applicable Compliance Method:

Compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

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

- g) Miscellaneous Requirements
  - (1) None.



**4. Emissions Unit Group - Dual Fuel Engines 1: B005 and B006**

EU ID	Operations, Property and/or Equipment Description
B005	Engine No. 7 - Cooper-Bessemer dual fuel engine, rated 3,700 BHP. Stationary compression ignition (CI) internal combustion engine (ICE); less than 10 liters per cylinder and greater than 2,000 horsepower (HP); complying with 40 CFR 63, Subpart ZZZZ Table 2d #3; and installed before 6/12/06.
B006	Engine No. 8 - Fairbanks-Morse dual fuel engine, rated 4,200 BHP. Stationary compression ignition (CI) internal combustion engine (ICE); less than 10 liters per cylinder and greater than 2,000 horsepower (HP); complying with 40 CFR 63, Subpart ZZZZ Table 2d #3; and installed before 6/12/06.

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 to 63.6675)  In accordance with 40 CFR 63.6585, this emissions unit is a stationary internal combustion engine (ICE) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The existing stationary compression ignition (CI) reciprocating internal combustion engine (RICE), located at an area source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ.
b.	40 CFR 63.6603(a)  Table 2d #3 to Subpart ZZZZ	Emissions of carbon monoxide (CO) shall not exceed 23 ppmvd at 15% O <sub>2</sub> or emissions of CO shall be reduced by 70% or more.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(A)(3) (AP-42 emission factors)	The exhaust emissions from this engine shall not exceed:  0.09 pound of volatile organic compounds per million Btu (0.09 lb VOC/mmBtu).
d.	OAC rule 3745-17-11(B)(5)(b)	Particulate emissions (PE) shall not exceed 0.062 lb/mmBtu of actual heat input from ICE greater than 600 horsepower (HP).
e.	OAC rule 3745-110-03(F)(3)	The NO <sub>x</sub> RACT rule.  See b)(2)a.
f.	40 CFR 63.6604 40 CFR 80.510(b)	The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.
g.	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 6-minute average, except as provided by the rule.
h.	OAC rule 3745-18-06(G)	When burning distillate oil, sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.5 lb/mmBtu of actual heat input.  When burning only natural gas, this emissions unit is exempt from the emission limitation specified in this rule pursuant to OAC rule 3745-18-06(A).

(2) Additional Terms and Conditions

- a. This emissions unit is a stationary internal combustion engine that is an electric generating unit. It has been designated a 'peaking unit', as defined in OAC rule 3745-110-01. Peaking units are exempt from the NO<sub>x</sub> emission limitations of OAC rule 3745-110-03(F).
- b. The stationary compression ignition (CI) reciprocating internal combustion engine (RICE) is subject to and shall be operated in compliance with the applicable



requirements of 40 CFR Part 63, Subpart ZZZZ, the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines. Requirements of the NESHAP include: performance testing to demonstrate compliance with the carbon monoxide (CO) limit or the control requirement identified in #3 of Table 2d to the subpart; and demonstrating continuous compliance (through the options in Table 6) by monitoring and maintaining either a record of the concentration of CO using a CEMS in accordance with 40 CFR 63.6625(a); or monitoring and maintaining the pressure drop across the catalyst and continuously monitoring the temperature at the catalyst inlet and recording the average 4-hour rolling temperature using a continuous parameter monitoring system (CPMS) in accordance with 40 CFR 63.6625(b).

[Authority for term: 40 CFR 63.6585, 40 CFR 63.6590(a)(1)(iii), 40 CFR 63.6595(a)(1), 40 CFR 63.6603(a), 40 CFR 63.6625 and 40 CFR 63.6640(a)]

- c. The permittee shall control the emissions of carbon monoxide (CO) from the stationary RICE exhaust using an oxidation catalyst control device. The permittee shall either limit the concentration of CO to 23 ppmvd or less at 15% O<sub>2</sub> at the outlet of the control device or the average reduction of CO, calculated according to 40 CFR 63.6620(e), shall not be less than 70% of the uncontrolled CO emissions.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 2d #3]

- d. The quality of the diesel fuel burned in this emissions unit shall meet the following specifications on an "as received" basis:
  - i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0015 pound sulfur dioxide/mmBtu actual heat input; and 15 ppm sulfur or 0.0015% sulfur by weight;
  - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent; and
  - iii. a heating value greater than 135,000 Btu/gallon.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or oil supplier for each shipment of oil.

[Authority for term: 40 CFR 63.6604 and 40 CFR 80.510(b)]

- e. As required by 40 CFR 63.6612 and 6615, the permittee of the existing RICE shall demonstrate compliance with the CO emission standards specified in Subpart ZZZZ through the following methods:
  - i. conduct an initial performance test to demonstrate compliance with the CO emission standards according to the requirements specified in Tables



4 and 5 to the subpart within 180 days following the compliance date or by 11/3/13; or

- ii. if a performance test is conducted in no more than 2 years before the compliance date (on/after 11/3/11), submit records of the performance test results for CO from the exhaust stack; and the stack test results and RICE must meet the following requirements to validate compliance:
  - (a) the stack test must document a concentration of no more than 23 ppmvd CO at 15% O<sub>2</sub> or must demonstrate a minimum of 70% reduction of CO across the control device;
  - (b) the performance test is conducted for the RICE using the same test methods as those required in 40 CFR 63.6620 and specified in Table 4 to the subpart;
  - (c) there have been no process or equipment changes made to the RICE or control device since the test was performed or it can be demonstrated that such a change would not affect the CO emissions; and
  - (d) the performance test results are reviewed and approved by the appropriate District office or local air agency; and
- iii. where using CEMS to monitor and comply with the CO concentration limitation or requirement to reduce CO emissions, conduct annual relative accuracy test audits (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60 Appendix B and daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, Procedure 1; or
- iv. where using a CPMS to demonstrate compliance, conduct subsequent performance tests every 8760 hours of operation or every 3 years, whichever comes first.

[Authority for term: 40 CFR 63.6612, 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6625 (a) or (b) and Part 63, Subpart ZZZZ - Table 2d #3; Table 2b; Table 3 #4; Table 4 #1 or #3; Table 5 #1, #2, #5 or #6 and Table 6 #3 or #10]

- f. The permittee shall install either a continuous emissions monitoring system (CEMS) to directly monitor CO and O<sub>2</sub> or CO<sub>2</sub> at the inlet and outlet of the control device if demonstrating compliance with the control requirement or at the outlet of the control device if choosing to comply with the CO concentration limit; or install a continuous parameter monitoring system (CPMS) to measure and collect the inlet temperature of the catalyst to the control device. And the pressure drop across the catalyst shall be monitored and recorded monthly using either compliance method.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Tables 2b, 5 and 6]



- g. If demonstrating compliance using CPMS, a site-specific monitoring plan must be prepared for the CPMS that addresses the monitoring system design, data collection, and the quality assurance and control requirements, as identified in 40 CFR 63.6625(b); the plan shall include:
- i. The performance criteria and design specifications for the monitoring system, including the sample interface, the detector signal analyzer, and data acquisition and calculations;
  - ii. the thermocouple location, assuring it will provide representative measurements and an accurate temperature for the inlet of the catalyst control device;
  - iii. equipment performance evaluation and/or system accuracy audits and procedures;
  - iv. ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1) and (c)(3); and
  - v. ongoing reporting and recordkeeping procedures in accordance with the provisions in 40 CFR 63.10(c), (e)(1), and (e)(2)(i).

The permittee shall conduct performance evaluations and/or system accuracy audits for the CPMS in accordance with the site-specific monitoring plan and prior to the compliance demonstration with the NESHAP. The CPMS shall be maintained in continuous operation according to 40 CFR 63.8 and the CPMS must be checked daily to assure it is accurately measuring the catalyst inlet temperature.

[Authority for term: 40 CFR 63.6625(b)]

- h. A performance evaluation of each CMS shall be conducted in accordance with the site-specific performance evaluation test plan. The site-specific CMS (CEMS or CPMS) performance evaluation test plan shall demonstrate the precision and accuracy of the equipment and completeness of the data collected. The site-specific performance evaluation test plan shall require all CMS (systems required by rule) to be maintained in continuous operation during process operations and shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external quality assurance (QA) program.
- i. The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance.
  - ii. The external QA program shall include, at a minimum, provisions for systems audits and validation of instrument calibration, data collection, sample logging, and documentation of quality control data and field maintenance activities and must also address the following requirements:



- (a) each CMS (parameter monitor or sampling probe) shall be installed at a location that accurately measures the exhaust emissions representative of the emissions unit (e.g., on or downstream of the last control device) and accurately measures the process and/or the control device parameters;
- (b) performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and
- (c) performance evaluation procedures and acceptance criteria, including calibration frequency, results, and records.

The permittee shall submit the site-specific performance evaluation test plan to the appropriate District or local office of the Ohio EPA Division of Air Pollution Control (DAPC), and a second copy of any CEMS performance evaluation test plan to the Ohio EPA DAPC Central Office, at least 60 days before the performance test or performance evaluation is scheduled to begin, or by a mutually agreed upon (by DAPC Central Office) date. The DAPC may request additional relevant information following the review of a site-specific performance evaluation test plan. All CMS shall be installed, operated, and the data verified, as specified in the NESHAP, either prior to or in conjunction with conducting performance tests required under 40 CFR 63.7.

[Authority for term:40 CFR 63.6625(a) and 40 CFR 63.8(e)(1), (2) and (3)]

- i. In order to maintain ongoing data quality assurance for the continuous monitoring system (CMS), the permittee shall develop and implement a CMS quality control program. As part of the quality control program the permittee shall develop, and submit for approval, a site-specific performance evaluation test plan for the CMS, as required by 40 CFR 63.8(e) and this permit. The quality control program shall also include a written protocol that describes procedures for each of the following operations:
  - i. initial and any subsequent calibration of the CMS;
  - ii. determination and adjustment of the calibration drift of the CMS;
  - iii. preventive maintenance of the CMS, including spare parts inventory;
  - iv. data recording, calculations, and reporting;
  - v. accuracy audit procedures, including sampling and analysis methods; and
  - vi. program of corrective action for a malfunctioning CMS.

The permittee shall keep these written procedures on record for the life of the emissions unit or until it is no longer subject to the NESHAP or other requirement for maintaining the system. The CMS quality control program shall be made available for inspection by the Director or his/her representative upon request. If



the performance evaluation plan is revised, it shall be retained as a facility record for a period of 5 years following its revision.

[Authority for term:40 CFR 63.8(d)]

- j. If the stationary RICE is not equipped with a closed crankcase ventilation system, the permittee shall install either a closed crankcase ventilation system or an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals. The open or closed crankcase ventilation system shall be operated and maintained according to the manufacturer's specifications, to include the frequency of crankcase filter replacement.

[Authority for term:40 CFR 63.6625(g)]

c) Operational Restrictions

- (1) The permittee shall burn only natural gas and/or distillate oils in this emissions unit.

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

- (2) This emissions unit shall be operated at a capacity factor of less than ten per cent between April 1 and October 31 of each calendar year to maintain the 'peaking unit' exemption from the requirements of OAC rule 3745-110-03(F).

[Authority for term: OAC rules 3745-110-03(F) and 3745-77-07(A)(1)]

- (3) The stationary CI ICE shall be installed, operated, and maintained according to the manufacturer's specifications, written instructions, and procedures; and/or according to a maintenance plan developed by the permittee, which shall provide for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. The permittee shall operate and maintain the stationary CI ICE to achieve the CO emission standards from #3 in Table 2d to Part 63, Subpart ZZZZ, as required per 40 CFR 63.6603(a).

[Authority for term:40 CFR 63.6595(a)(1), 40 CFR 63.6603(a), 40 CFR 63.6605 and Subpart ZZZZ - Table 2d #3]

- (4) The permittee shall minimize the engine's time spent at idle and shall minimize the startup time to a period needed for appropriate safe loading of the engine, not to exceed 30 minutes, after which the non-startup CO emission limitations apply.

[Authority for term:40 CFR 63.6625(h)]

- (5) The temperature of the stationary RICE exhaust at the inlet of the oxidation catalyst shall be maintained at greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit; and the pressure drop across the catalyst shall be maintained at no more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial performance test, at 100% load. The temperature measurement device must meet the following requirements:



- a. the temperature sensor shall be located in a position that provides an accurate reading of the exhaust gas temperature at the inlet to the catalyst of the control device;
- b. the temperature sensor shall have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1% of the temperature value, whichever is larger; and
- c. an equipment performance evaluation or system accuracy audit shall be conducted for the temperature measurement device on an annual basis.

System accuracy audits could include redundant temperature sensors or a temperature gauge may be inserted in a thermal well co-located with the CPMS sensor. Records of the results of each inspection, performance evaluation, and/or accuracy audit for the CPMS shall be maintained for a period of 5 years.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a), 40 CFR 63.6625(b), 40 CFR 63.6660 and Subpart ZZZZ - Table 2b #1]

- (6) Where demonstrating continuous compliance through the use of a continuous parameter monitoring system (CPMS), the rolling 4-hour average temperature of the stationary RICE exhaust at the inlet of the oxidation catalyst shall be monitored and maintained at greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit; and the pressure drop across the catalyst shall be maintained at no more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial performance test, at 100% load and monitored and recorded monthly.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 2b #1; Table 5 #1 or #2 and Table 6 #10]

- (7) Where demonstrating continuous compliance through the use of a continuous emissions monitoring system (CEMS), the 1-hour average CO concentration shall not exceed 23 ppmvd, corrected to 15% O<sub>2</sub> or the equivalent CO<sub>2</sub> correction factor, or CO shall be reduced by 70% between the inlet and the outlet of the oxidation catalyst control device.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 5 #5 or #6 and Table 6 #3]

- (8) All continuous monitoring systems (CMS) shall be installed, operated, and the data verified either prior to or in conjunction with conducting performance tests as required per 40 CFR 63.7, 63.8, 40 CFR 63.6625, and the site-specific monitoring plan. The permittee shall maintain and operate each CMS as specified in this permit and as follows:

- a. The permittee shall maintain and operate each CMS in a manner consistent with safety and good air pollution control practices for minimizing emissions, as specified in 40 CFR 63.6(e)(1) and as reflected in the operations and maintenance requirements of this permit.
- b. The permittee shall keep the necessary parts for routine repairs and maintenance of the CMS equipment readily available.



- c. The permittee shall develop a written startup, shutdown, and malfunction plan (SSMP) for each/all CMS(s) as specified in 40 CFR 63.6(e)(3), and as reflected in this permit through the requirements for the SSMP [requirement from 40 CFR 63.8(c)(1)(iii)].
- d. All continuous emissions monitoring system (CMS) must be installed at a location that accurately measures the exhaust emissions representative of the emissions unit (e.g., downstream of the last control device) and according to the procedures documented in the applicable performance specification; and any continuous parameter monitoring system (CPMS) shall be installed to accurately measure the process and/or the control device parameters.
- e. Verification of the operational status of each CMS shall include the completion of the manufacturer's written specifications or the recommendations for installation, operation, and calibration of the system.
- f. The read out, (the visual display or measured record of the CMS) or other indication of operation, from any CMS required for compliance with the emission standard, shall be readily accessible and visible for monitoring and recording by the operator of the equipment.
- g. Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS shall be maintained in continuous operation.
- h. All CEMS used for measuring CO emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive minute of operations, with an average recorded for each 15-minute period. Data from the CEMS (excluding that collected during calibration, quality assurance, or maintenance activities, out-of-control periods, and/or CEMS breakdown) shall be reduced to 1-hour averages, computed from the four 15-minute averages.

[Authority for term:40 CFR 63.8(c)(1),(2),(3) and (4) and 40 CFR 63.8(g)(2)]

- (9) Diesel fuel burned in the CI ICE shall not exceed the limit for sulfur as specified by 40 CFR 80.510(b), i.e., the maximum sulfur content of diesel fuel shall not exceed 15 ppm or 0.0015% sulfur by weight.

[Authority for term:40 CFR 63.6604, 40 CFR 80.501(a) and 40 CFR 80.510(b)]

d) Monitoring and/or Recordkeeping Requirements

- (1) If a CPMS is selected as the method of compliance, the permittee shall install, operate, and maintain the CPMS to measure and collect the catalyst inlet temperature according to the requirements of 40 CFR 63.8, 40 CFR 63.6625(b), and the site-specific monitoring plan. The permittee shall continuously monitor the catalyst inlet temperature at all times the unit is in operation and reduce the data to 4-hour rolling averages. The CPMS shall collect data at least every 15-minutes.

For purposes of calculating data averages, data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or



control activities shall not be used in calculating the rolling 4-hour average catalyst inlet temperature. The data collected during all other periods of operation shall be used in assessing compliance.

The engine is in compliance when the rolling 4-hour average temperature of the stationary RICE exhaust at the inlet of the catalyst is greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit. Each record must be maintained for a period of 5 years.

[Authority for term:40 CFR 63.6640(a), 40 CFR 63.6625(b)(2) through (5), 40 CFR 63.6635, 40 CFR 63.6660 and Subpart ZZZZ - Table 2b #1, Table 5 #1 or #2 and Table 6 #10]

- (2) If a CEMS is selected as the method of compliance, the permittee shall conduct an initial performance evaluation of each CEMS and an annual relative accuracy test audit (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60, Appendix B according to the requirements of 40 CFR 63.8, as well as, daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, procedure 1. Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period of operations. A valid hourly average shall consist of at least two data points, with each representing a different 15-minute average. Data from the CEMS (excluding that collected during calibration, quality assurance, or maintenance activities, out-of-control periods, and/or CEMS breakdown) shall be reduced to 1-hour averages, computed from the four 15-minute averages. The CEMS data averages shall be recorded in parts per million at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration. A demonstration that the catalyst achieves compliance with the required percent reduction of CO or CO concentration limit is determined using the 4-hour average. Each record must be maintained for a period of 5 years.

[Authority for term:40 CFR 63.6640(a), 40 CFR 63.6625(a), 40 CFR 63.6660, Subpart ZZZZ Table 5 #5 or #6 and Table 6 #3, 40 CFR 63.8(c)(4)(ii) and 40 CFR 63.8(g)(2)]

- (3) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of the diesel oil received and the oil supplier's (or permittee's) analyses for sulfur content, in parts per million (40 CFR 80.510) or percent by weight. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR 80.580, using the appropriate ASTM methods. These records shall be retained for a minimum of 5 years and shall be available for inspection by the Director or his/her representative.

[Authority for term:40 CFR 63.6604, 40 CFR 80.510(b), 40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

- (4) The permittee shall maintain a record of the diesel fuel burned in this RICE during each calendar year. The fuel oil 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: any flow meter installed on the engine, records of the volume of diesel fuel oil received with each delivery, the fuel oil levels recorded from the diesel storage tank, and/or the recorded or estimated hours of operation along with the manufacture's documentation of the fuel flow rate.



- (5) Except during malfunctions, repairs, and required quality assurance and/or control activities, the permittee shall continuously monitor that the stationary RICE is operating; and all valid data (not recorded during malfunctions, repairs, or required quality assurance or control activities) shall be used in calculations used to report emissions or operating levels.

[Authority for term: 40 CFR 63.6635]

- (6) The permittee shall keep the following records as required by 40 CFR 63.6655:
- a. a copy of each notification and report submitted to comply with the NESHAP, Subpart ZZZZ;
  - b. records of the occurrence and duration of each malfunction of operation or the air pollution control and monitoring equipment, where applicable;
  - c. records of performance tests as required per 40 CFR 63.10(b)(2)(viii);
  - d. records of all required maintenance performed on the air pollution control and monitoring equipment, where applicable;
  - e. records of actions taken during periods of malfunction to minimize emissions in accordance with 63.6605(b), including corrective actions to restore the malfunctioning process and/or control equipment to normal operations;
  - f. records of performance tests conducted to demonstrate compliance;
  - g. a record of each idle and/or startup time that exceeded 30 minutes;
  - h. the records required in Table 6 to Part 60, Subpart ZZZZ; and
  - i. for each CEMS or CPMS:
    - i. the records identified in 40 CFR 63.10(b)(2)(vi) through (xi);
    - ii. previous (superseded) versions of the performance evaluation plan, required per 40 CFR 63.8(d)(3); and
    - iii. records of the request and approval of alternatives to the relative accuracy test for CEMS or CPMS as required per 40 CFR 63.8(f)(6), if applicable.

The records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[Authority for term: 40 CFR 63.6655(a), (b) and (d), 40 CFR 63.6660, 40 CFR 63.6625(h) and 40 CFR 63.10(b)(1) and (2)]



- (7) The permittee shall maintain the following records for the continuous monitoring system (CMS) in accordance with the general requirements of 40 CFR 63.10(c):
- a. all required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);
  - b. the date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;
  - c. the date and time identifying each period during which the CMS was out of control;
  - d. the specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the NESHAP, that occurs during startups, shutdowns, and malfunctions of the emissions unit;
  - e. the specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the NESHAP, that occurs during periods other than startups, shutdowns, and malfunctions of the emissions unit;
  - f. the nature and cause of any malfunction (if known);
  - g. the corrective action taken or preventive measures adopted;
  - h. the nature of the repairs or adjustments to the CMS whenever it/they is/are inoperative or out of control;
  - i. the total process operating time during the reporting period; and
  - j. all records of the procedures that are required as part of a quality control program, developed and implemented for the CMS under 40 CFR 63.8(d), as reflected in this permit.

The records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[Authority for term:40 CFR 63.10(c)]

- (8) The permittee shall record the pressure drop across the oxidation catalyst at least once per month and the control device shall be maintained so that the pressure drop across the catalyst does not change by more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial or any subsequent performance test operating at 100% load. The requirement to monitor and maintain the pressure drop according to these requirements shall be included in the site-specific monitoring plan.

[Authority for term:40 CFR 63.6640(a), 40 CFR 63.6625(b) and Subpart ZZZZ - Table 2b #1 and Table 6 #10]



- (9) For each day during which the permittee burns a fuel other than natural gas and/or distillate oils, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.

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

- (10) The permittee shall maintain daily records of operation for this emissions unit between April 1<sup>st</sup> and October 31<sup>st</sup> of each calendar year. The permittee shall use said records of operation for this emissions unit to calculate the capacity factor, expressed as a percentage, for the time period between April 1<sup>st</sup> and October 31<sup>st</sup> of each calendar year. The permittee shall maintain a record of said calculated capacity factor.

[Authority for term: OAC rules 3745-110-03(F) and 3745-77-07(C)(1)]

e) Reporting Requirements

- (1) The permittee shall identify in the semiannual report any period of time (date and number of hours) that the quality of oil burned in this emissions unit did not meet the requirements established in 40 CFR 80.510(b), based upon the required fuel records; and the amount of non-compliant fuel burned on each such occasion.

[Authority for term:40 CFR 63.6604 and 40 CFR 80.510(b)]

- (2) A comprehensive written report on the results of the performance tests, conducted to demonstrate compliance with 40 CFR 63.6603(a) and OAC 3745-110-03(F), 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.

[Authority for term:OAC rule 3745-15-04(A), 40 CFR 63.6645(h) and 40 CFR 63.9(h)(2)(ii)]

- (3) The permittee shall submit an initial notification to the appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency, in writing, indicating that the RICE is subject to the Subpart ZZZZ NESHAP standards in 40 CFR Part 63. The initial notification report shall be submitted no later than 120 calendar days after the effective date of the NESHAP (or 9/3/13 for existing units), which shall provide the following information:

- a. the facility name, address, facility ID number, and emission unit number(s) identified in the report;
- b. the address (i.e., physical location) of the emissions unit;
- c. an identification of the relevant standard (Part 63, Subpart ZZZZ), the applicable limitation(s) or other requirement(s) that is/are the basis of the notification, and the emission unit's compliance date;



- d. a brief description of the nature, size, design, and method of operation of the RICE, and an identification of the emission unit(s) subject to the NESHAP and types of hazardous air pollutants emitted; and
- e. a statement of whether the emissions unit is a major source or an area source.

[Authority for term:40 CFR 63.9(b)(2) and 40 CFR 63.6645(a)(2)]

- (4) The permittee shall submit semiannual compliance reports that identify any exceedance of the emission limitation, CO reduction requirement, and/or deviation from the operating limitations on the temperature and pressure drop of the oxidation catalyst control. The semiannual compliance report shall contain the following information:
  - a. the facility name, address, facility ID number, and emission unit number(s) identified in the report;
  - b. a statement by a responsible official certifying the accuracy of the content of the report;
  - c. the date of report and beginning and ending dates of the reporting period;
  - d. a brief description of the stationary RICE, at a minimum, the horsepower, year of manufacturer, and use;
  - e. each instance in which the general provisions identified in Table 8 of Part 63, Subpart ZZZZ were not met;
  - f. the number, duration, cause, and description of each exceedance, deviation, and/or malfunction which caused or may have caused an exceedance of the emission limitation or a deviation from the operating limitations for the temperature and pressure drop monitored for the control device;
  - g. the corrective actions taken during each/any deviation or exceedance to minimize emissions and to correct the malfunction;
  - h. the total operating time of the stationary RICE if an exceedance or deviation occurred during the reporting period that did not involve a continuous monitoring system (CMS);
  - i. if there is/are no exceedance(s) or deviation(s) from the emission limitations or operating limitations during the reporting period, a statement to that effect;
  - j. if there were no periods of time during which the CMS was out-of-control during the reporting period, a statement to that effect;
  - k. for each exceedance of the emission limitation or percent reduction for CO recorded by the CEMS or for each deviation from operating limitation for the temperature at the inlet of the catalyst recorded by the CPMS, the following information:



- i. identification of the CMS, i.e., the type, model, and manufacturer, and the exact location of the probe;
- ii. the date and time that each malfunction started and stopped;
- iii. the date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks;
- iv. the date, time, and duration that each CMS was out-of-control (including the information in 40 CFR 63.8(c));
- v. the date and time each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period;
- vi. a summary of the total duration of the deviation during the reporting period, and the total duration of the deviation as a percent of the engine's total operating time during the reporting period;
- vii. a breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, and other known or unknown causes;
- viii. a summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent to the total operating time of the stationary engine during the reporting period;
- ix. the date of the latest certification or audit of the temperature CMS; and
- x. description of any changes to the engine, CMS, processes, or controls since the last reporting period.

The semiannual compliance reports shall cover the reporting periods from January 1 through June 30 and July 1 through December 31 of each year and shall be postmarked or delivered no later than July 31 or January 31 following each reporting period.

[Authority for term: 40 CFR 63.6640(b) and (e), 40 CFR 63.6650(a), (b), (c), (d) and (e) and Part 63, Subpart ZZZZ - Table 7]

- (5) The permittee shall collect and submit required CMS performance evaluation results to the Director (appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency) as follows:
  - a. A written report of the results of each CMS performance evaluation shall be submitted simultaneously with the results of the performance test within 30 days of completion of the performance evaluation and compliance demonstration. The written report shall include the raw data from the performance evaluation with the report of the results.



- b. Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any data average reported.

[Authority for term: 40 CFR 63.10(e)(1) and (2)(i) and 40 CFR 63.8(e)(5)]

- (6) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or distillate oils was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-15-03(C)]

- (7) The permittee shall notify the Director (Ohio EPA, Northeast District Office) in writing of any record which shows a deviation of the allowable SO<sub>2</sub> emission limitation based upon the calculated SO<sub>2</sub> emission rates from d)(3) above. The notification shall be submitted to the Director (Ohio EPA, Northeast District Office) within 45 days after the deviation occurs.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-15-03(C)]

- (8) The permittee shall notify the Director (Ohio EPA, Northeast District Office) in writing of any record which shows a deviation of the operational restriction in c)(2) above. The notification shall include a copy of the record and shall be submitted to the Director (Ohio EPA, Northeast District Office) within 45 days after the deviation occurs.

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

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. Opacity Limitation:

Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

[Authority for term: OAC rule 3745-17-07(A)(1)]



b. Emission Limitation:

PE shall not exceed 0.062 lb/mmBtu of actual heat input from ICE greater than 600 HP.

Applicable Compliance Method:

When burning distillate oil, compliance may be based upon an emission factor of 0.062 lb/mmBtu. Said emission factor is published in the US EPA reference document AP-42, Fifth Edition, 'Compilation of Emission Factors', Section 3.4, Table 3.4-2 (10/96).

When burning natural gas, compliance may be based upon an emission factor of 0.0384 lb/mmBtu. Said emission factor is published in the US EPA reference document AP-42, Fifth Edition, 'Compilation of Emission Factors', Section 3.2, Table 3.2-1 (7/00).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and OAC rule 3745-17-03(B)(10).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(5)(b)]

c. Emission Limitations:

Emissions of CO shall not exceed 23 ppmvd at 15% O<sub>2</sub> or emissions of CO shall be reduced by 70% or more.

Applicable Compliance Method:

Unless a performance test is submitted that meets the requirements of 40 CFR 63.6612(b), the permittee shall conduct an initial performance test within 180 days after the compliance date or no later than 11/3/13, to demonstrate compliance with the CO limitation in the NESHAP. The appropriate tests methods from Table 4 to Subpart ZZZZ shall be conducted based on the option chosen for compliance, i.e., the part per million concentration or percent reduction. The appropriate emission and/or operating limitations, required per 40 CFR 63.6630 and identified in Table 5, shall be established and compliance demonstrated during each performance test.

The temperature at the inlet to the catalyst shall be monitored during the performance test and maintained between 450 °F and 1350 °F. The 3-hour block average temperature at the inlet to the catalyst shall be documented during performance tests and the pressure drop shall be recorded to establish the operating range for the pressure drop across the catalyst. Per 63.6640(b), if the catalyst is changed or the control device replaced, a new performance test must be conducted to demonstrate compliance with the emission limitation and to reestablish the values for or compliance with the operating parameters.



Each performance test shall consist of 3 separate test runs and each test run shall last a minimum of 1 hour and shall be conducted during normal operations. The engine percent load, during the performance test, shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load and the estimated percent load shall be included in the notification of compliance.

A compliant performance test shall demonstrate that either the CO emissions have been reduced by 70% or that the average CO concentration is less than or equal to 23 ppmvd, corrected to 15 percent O<sub>2</sub> on a dry basis, and from three 1-hour or longer performance test runs.

If demonstrating compliance with the 70% control requirement for CO, the permittee may use a portable CO and O<sub>2</sub> analyzer at the inlet and outlet of the control device and use ASTM Method D6522-00 to meet the performance testing requirement in Table 4 to Subpart ZZZZ. The CO concentrations at the inlet and outlet of the control device must be normalized to a dry basis and to 15% oxygen, or an equivalent percent CO<sub>2</sub>, as required in 40 CFR 63.6620(e).

The following test methods shall be employed to demonstrate compliance with the emission limitation for CO or may be used to demonstrate compliance with the control requirement for CO:

- i. Method 1 or 1A of 40 CFR Part 60, Appendix A to select the sampling port location and the number of traverse points
- ii. Method 3, 3A, or 3B of 40 CFR Part 60, Appendix A or ASTM Method D6522-00 to measure O<sub>2</sub> at the inlet and outlet of the control device to normalize the CO concentration(s).
- iii. 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 inlet and outlet of the control device if demonstrating compliance through the percent control or to measure the moisture content of the stationary RICE exhaust.
- iv. Method 10 of 40 CFR Part 60, Appendix A; or Method 320 of 40 CFR Part 63, Appendix A; or ASTM D 6348-03 to measure CO at the inlet and outlet of the control device if demonstrating compliance through the percent control or to measure CO at the exhaust of the stationary ICE.
- v. The following equation shall be used to normalize the CO concentrations to a dry basis and to 15 percent oxygen (O<sub>2</sub>)\*\*:

$$C_{adj} = C_d (5.9 / 20.9 - \% O_2)$$

where:

C<sub>adj</sub> = calculated CO concentration adjusted to 15 percent O<sub>2</sub>;

C<sub>d</sub> = measured concentration of CO, uncorrected;



5.9 = 20.9 percent O<sub>2</sub> – 15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent; and

%O<sub>2</sub> = measured O<sub>2</sub> concentration, dry basis, percent.

\*\* Optionally, the pollutant concentrations can be corrected to 15% O<sub>2</sub> using a CO<sub>2</sub> correction factor, by calculating the fuel factor (F<sub>o</sub> value) using Method 19 results obtained during the performance test (40 CFR 63.6620(e)(2)).

If compliance is demonstrated for the control efficiency for CO, the following equation shall be used to determine the percent reduction:

$$R = (C_i - C_o) / C_i \times 100$$

where:

C<sub>i</sub> = concentration of CO at the control device inlet;

C<sub>o</sub> = concentration of CO at the control device outlet; and

R = percent reduction of CO emissions.

If using CEMS to monitor and comply with the CO concentration limitation or requirement to reduce CO emissions, the permittee shall conduct annual relative accuracy test audits (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60 Appendix B and daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, Procedure 1.

If using CPMS to demonstrate compliance, the permittee shall conduct subsequent performance tests for CO (concentration or % reduction) every 8,760 hours of operation or every 3 years, whichever comes first.

The permittee shall notify the Director (appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency) in writing of each scheduled performance test date or RATA for the CEMS at least 60 calendar days before it is scheduled, to allow the agency time to review and approve the site-specific test plan and to arrange for an observer to be present during the compliance demonstration.

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.

[Authority for term: 40 CFR 63.7(a)(2), (b)(1) and (e), 40 CFR 63.6603(a), 40 CFR 63.6612, 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6630, 40 CFR 63.6640(a) and (b), 40 CFR 63.6645(a)(2), Part 63, Subpart ZZZZ - Table 2d #3; Table 2b; Table 3 #4; Table 4 #1 or #3; Table 5 #1, #2, #5 or #6 and Table 6 #3 or #10, OAC 3745-110-03(F)(3), OAC 3745-110-05(A) and (F) and OAC rule 3745-15-04(A)]



d. Emission Limitations:

The exhaust emissions from this engine shall not exceed 0.09 lb VOC/mmBtu.

Applicable Compliance Method:

The VOC emissions limit is based on using the AP-42 emission factor of 0.09 lb VOC/mmBtu from Chapter 3.4, Table 3.4-1, "Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines".

[Authority for term: OAC rule 3745-31-05(A)(3)]

e. Sulfur Content Limitations for Diesel Fuel:

The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.

Applicable Compliance Method:

Compliance shall be demonstrated through the record keeping requirements for the sulfur content of each shipment of diesel oil received. If meeting the standards in 40 CFR 80.510(b), this calculates to approximately 0.0015 lb SO<sub>2</sub>/mmBtu.

[Authority for term: 40 CFR 63.6604 and 40 CFR 80.510(b)]

f. Emission Limitation:

When burning distillate oil, SO<sub>2</sub> emissions shall not exceed 0.5 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Continuous compliance with the allowable SO<sub>2</sub> emission limitation shall be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

SO<sub>2</sub> emissions from liquid fuel samples shall be calculated as follows:

$$ER = [(1 \times 10^6) / H] \times D \times S \times 1.974$$

where:

ER = the emission rate in pounds of sulfur dioxide per mmBtu;

H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and

S = the decimal fraction of sulfur in the liquid fuel.



If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

[Authority for term: OAC rules 3745-18-04(E) and 3745-18-04(F)(2)]

- g) Miscellaneous Requirements
  - (1) None.



**5. Emissions Unit Group - Dual Fuel Engines 2: B009 and B010**

EU ID	Operations, Property and/or Equipment Description
B009	Fairbanks-Morse 4,410 BHP (28.67 mmBtu input; 3,165 kWe output) dual fuel electric generating unit (Oberlin engine #2). Stationary compression ignition (CI) internal combustion engine (ICE); less than 10 liters per cylinder and greater than 2,000 horsepower (HP); complying with 40 CFR 63, Subpart ZZZZ Table 2d #3; and installed before 6/12/06.
B010	Fairbanks-Morse 4,410 BHP (28.67 mmBtu input; 3,165 kWe output) dual fuel electric generating unit (Oberlin engine #3). Stationary compression ignition (CI) internal combustion engine (ICE); less than 10 liters per cylinder and greater than 2,000 horsepower (HP); complying with 40 CFR 63, Subpart ZZZZ Table 2d #3; and installed before 6/12/06.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
- (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
- (2) 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 63, Subpart ZZZZ (40 CFR 63.6580 to 63.6675)  In accordance with 40 CFR 63.6585, this emissions unit is a stationary internal combustion engine (ICE) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The existing stationary compression ignition (CI) reciprocating internal combustion engine (RICE), located at an area source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ.
b.	40 CFR 63.6603(a) Table 2d #3 to Subpart ZZZZ	Emissions of carbon monoxide (CO) shall not exceed 23 ppmvd at 15% O <sub>2</sub> or emissions of CO shall be reduced by 70% or more.
c.	OAC rule 3745-31-05(A)(3)	Visible particulate emissions from the stack serving this emissions unit shall



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	(AP-42 emission factors)	<p>not exceed 10% opacity as a 6-minute average more than once per 60-minute period.</p> <p>Sulfur dioxide (SO<sub>2</sub>) emissions from this emissions unit shall not exceed 1.56 lbs/hr.</p> <p>SO<sub>2</sub> emissions from emissions units B009 and B010, combined, shall not exceed 3.4 tons/yr.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions from this emissions unit shall not exceed 58.33 lbs/hr.</p> <p>Carbon monoxide (CO) emissions from this emissions unit shall not exceed 33.06 lbs/hr.</p> <p>Volatile organic compound (VOC) emissions from this emissions unit shall not exceed 7.78 lbs/hr and 0.09 lb VOC/mmBtu).</p> <p>Particulate emissions (PE) from emissions units B009 and B010, combined, shall not exceed 3.9 tons/yr.</p> <p>Compliance with this rule also includes compliance with OAC rules 3745-17-11(B)(5)(b) and 3745-31-05(D).</p>
d.	OAC rule 3745-17-11(B)(5)(b)	PE shall not exceed 0.062 lb/mmBtu of actual heat input from ICE greater than 600 horsepower (HP).
e.	OAC rule 3745-110-03(F)(3)	NO <sub>x</sub> emissions shall not exceed 3.0 grams/HP-hr.
f.	40 CFR 63.6604 40 CFR 80.510(b)	The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
g.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation required by this applicable rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
h.	OAC rule 3745-18-06(G)	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
i.	OAC rule 3745-31-05(D)	See b)(2)a.

(3) Additional Terms and Conditions

- a. The annual NO<sub>x</sub>, CO and VOC emissions from emissions units B009 and B010, combined, shall not exceed the following emission limitations:
  - NO<sub>x</sub> - 31.7 tons per rolling, 12-month period;
  - CO - 71.9 tons per rolling, 12-month period; and
  - VOC - 17.0 tons per rolling, 12-month period.
- b. Dual fuel is defined as co-firing 95% natural gas and 5% No. 2 fuel oil.
- c. The stationary compression ignition (CI) reciprocating internal combustion engine (RICE) is subject to and shall be operated in compliance with the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines. Requirements of the NESHAP include: performance testing to demonstrate compliance with the carbon monoxide (CO) limit or the control requirement identified in #3 of Table 2d to the subpart; and demonstrating continuous compliance (through the options in Table 6) by monitoring and maintaining either a record of the concentration of CO using a CEMS in accordance with 40 CFR 63.6625(a); or monitoring and maintaining the pressure drop across the catalyst and continuously monitoring the temperature at the catalyst inlet and recording the average 4-hour rolling temperature using a continuous parameter monitoring system (CPMS) in accordance with 40 CFR 63.6625(b).

[Authority for term: 40 CFR 63.6585, 40 CFR 63.6590(a)(1)(iii), 40 CFR 63.6595(a)(1), 40 CFR 63.6603(a), 40 CFR 63.6625 and 40 CFR 63.6640(a)]



- d. The permittee shall control the emissions of carbon monoxide (CO) from the stationary RICE exhaust using an oxidation catalyst control device. The permittee shall either limit the concentration of CO to 23 ppmvd or less at 15% O<sub>2</sub> at the outlet of the control device or the average reduction of CO, calculated according to 40 CFR 63.6620(e), shall not be less than 70% of the uncontrolled CO emissions.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 2d #3]

- e. The quality of the diesel fuel burned in this emissions unit shall meet the following specifications on an "as received" basis:
- i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0015 pound sulfur dioxide/mmBtu actual heat input; and 15 ppm sulfur or 0.0015% sulfur by weight;
  - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent; and
  - iii. a heating value greater than 135,000 Btu/gallon.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or oil supplier for each shipment of oil.

[Authority for term: 40 CFR 63.6604 and 40 CFR 80.510(b)]

- f. As required by 40 CFR 63.6612 and 6615, the permittee of the existing RICE shall demonstrate compliance with the CO emission standards specified in Subpart ZZZZ through the following methods:
- i. conduct an initial performance test to demonstrate compliance with the CO emission standards according to the requirements specified in Tables 4 and 5 to the subpart within 180 days following the compliance date or by 11/3/13; or
  - ii. if a performance test is conducted in no more than 2 years before the compliance date (on/after 11/3/11), submit records of the performance test results for CO from the exhaust stack; and the stack test results and RICE must meet the following requirements to validate compliance:
    - (a) the stack test must document a concentration of no more than 23 ppmvd CO at 15% O<sub>2</sub> or must demonstrate a minimum of 70% reduction of CO across the control device;
    - (b) the performance test is conducted for the RICE using the same test methods as those required in 40 CFR 63.6620 and specified in Table 4 to the subpart;



- (c) there have been no process or equipment changes made to the RICE or control device since the test was performed or it can be demonstrated that such a change would not affect the CO emissions; and
- (d) the performance test results are reviewed and approved by the appropriate District office or local air agency; and
- iii. where using CEMS to monitor and comply with the CO concentration limitation or requirement to reduce CO emissions, conduct annual relative accuracy test audits (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60 Appendix B and daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, Procedure 1; or
- iv. where using a CPMS to demonstrate compliance, conduct subsequent performance tests every 8760 hours of operation or every 3 years, whichever comes first.

[Authority for term: 40 CFR 63.6612, 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6625 (a) or (b) and Part 63, Subpart ZZZZ - Table 2d #3; Table 2b; Table 3 #4; Table 4 #1 or #3; Table 5 #1, #2, #5 or #6 and Table 6 #3 or #10]

- g. The permittee shall install either a continuous emissions monitoring system (CEMS) to directly monitor CO and O<sub>2</sub> or CO<sub>2</sub> at the inlet and outlet of the control device if demonstrating compliance with the control requirement or at the outlet of the control device if choosing to comply with the CO concentration limit; or install a continuous parameter monitoring system (CPMS) to measure and collect the inlet temperature of the catalyst to the control device. And the pressure drop across the catalyst shall be monitored and recorded monthly using either compliance method.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Tables 2b, 5 and 6]

- h. If demonstrating compliance using CPMS, a site-specific monitoring plan must be prepared for the CPMS that addresses the monitoring system design, data collection, and the quality assurance and control requirements, as identified in 40 CFR 63.6625(b); the plan shall include:
  - i. The performance criteria and design specifications for the monitoring system, including the sample interface, the detector signal analyzer, and data acquisition and calculations;
  - ii. the thermocouple location, assuring it will provide representative measurements and an accurate temperature for the inlet of the catalyst control device;
  - iii. equipment performance evaluation and/or system accuracy audits and procedures;



- iv. ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1) and (c)(3); and
- v. ongoing reporting and recordkeeping procedures in accordance with the provisions in 40 CFR 63.10(c), (e)(1), and (e)(2)(i).

The permittee shall conduct performance evaluations and/or system accuracy audits for the CPMS in accordance with the site-specific monitoring plan and prior to the compliance demonstration with the NESHAP. The CPMS shall be maintained in continuous operation according to 40 CFR 63.8 and the CPMS must be checked daily to assure it is accurately measuring the catalyst inlet temperature.

[Authority for term: 40 CFR 63.6625(b)]

- i. A performance evaluation of each CMS shall be conducted in accordance with the site-specific performance evaluation test plan. The site-specific CMS (CEMS or CPMS) performance evaluation test plan shall demonstrate the precision and accuracy of the equipment and completeness of the data collected. The site-specific performance evaluation test plan shall require all CMS (systems required by rule) to be maintained in continuous operation during process operations and shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external quality assurance (QA) program.
  - i. The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance.
  - ii. The external QA program shall include, at a minimum, provisions for systems audits and validation of instrument calibration, data collection, sample logging, and documentation of quality control data and field maintenance activities and must also address the following requirements:
    - (a) each CMS (parameter monitor or sampling probe) shall be installed at a location that accurately measures the exhaust emissions representative of the emissions unit (e.g., on or downstream of the last control device) and accurately measures the process and/or the control device parameters;
    - (b) performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and
    - (c) performance evaluation procedures and acceptance criteria, including calibration frequency, results, and records.

The permittee shall submit the site-specific performance evaluation test plan to the appropriate District or local office of the Ohio EPA Division of Air Pollution Control (DAPC), and a second copy of any CEMS performance evaluation test



plan to the Ohio EPA DAPC Central Office, at least 60 days before the performance test or performance evaluation is scheduled to begin, or by a mutually agreed upon (by DAPC Central Office) date. The DAPC may request additional relevant information following the review of a site-specific performance evaluation test plan. All CMS shall be installed, operated, and the data verified, as specified in the NESHAP, either prior to or in conjunction with conducting performance tests required under 40 CFR 63.7.

[Authority for term: 40 CFR 63.6625(a) and 40 CFR 63.8(e)(1), (2) and (3)]

j. In order to maintain ongoing data quality assurance for the continuous monitoring system (CMS), the permittee shall develop and implement a CMS quality control program. As part of the quality control program the permittee shall develop, and submit for approval, a site-specific performance evaluation test plan for the CMS, as required by 40 CFR 63.8(e) and this permit. The quality control program shall also include a written protocol that describes procedures for each of the following operations:

- i. initial and any subsequent calibration of the CMS;
- ii. determination and adjustment of the calibration drift of the CMS;
- iii. preventive maintenance of the CMS, including spare parts inventory;
- iv. data recording, calculations, and reporting;
- v. accuracy audit procedures, including sampling and analysis methods; and
- vi. program of corrective action for a malfunctioning CMS.

The permittee shall keep these written procedures on record for the life of the emissions unit or until it is no longer subject to the NESHAP or other requirement for maintaining the system. The CMS quality control program shall be made available for inspection by the Director or his/her representative upon request. If the performance evaluation plan is revised, it shall be retained as a facility record for a period of 5 years following its revision.

[Authority for term: 40 CFR 63.8(d)]

k. If the stationary RICE is not equipped with a closed crankcase ventilation system, the permittee shall install either a closed crankcase ventilation system or an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals. The open or closed crankcase ventilation system shall be operated and maintained according to the manufacturer's specifications, to include the frequency of crankcase filter replacement.

[Authority for term: 40 CFR 63.6625(g)]



c) Operational Restrictions

- (1) The stationary CI ICE shall be installed, operated, and maintained according to the manufacturer's specifications, written instructions, and procedures; and/or according to a maintenance plan developed by the permittee, which shall provide for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. The permittee shall operate and maintain the stationary CI ICE to achieve the CO emission standards from #3 in Table 2d to Part 63, Subpart ZZZZ, as required per 40 CFR 63.6603(a).

[Authority for term: 40 CFR 63.6595(a)(1), 40 CFR 63.6603(a), 40 CFR 63.6605 and Subpart ZZZZ - Table 2d #3]

- (2) The permittee shall minimize the engine's time spent at idle and shall minimize the startup time to a period needed for appropriate safe loading of the engine, not to exceed 30 minutes, after which the non-startup CO emission limitations apply.

[Authority for term: 40 CFR 63.6625(h)]

- (3) The temperature of the stationary RICE exhaust at the inlet of the oxidation catalyst shall be maintained at greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit; and the pressure drop across the catalyst shall be maintained at no more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial performance test, at 100% load. The temperature measurement device must meet the following requirements:

- a. the temperature sensor shall be located in a position that provides an accurate reading of the exhaust gas temperature at the inlet to the catalyst of the control device;
- b. the temperature sensor shall have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1% of the temperature value, whichever is larger; and
- c. an equipment performance evaluation or system accuracy audit shall be conducted for the temperature measurement device on an annual basis.

System accuracy audits could include redundant temperature sensors or a temperature gauge may be inserted in a thermal well co-located with the CPMS sensor. Records of the results of each inspection, performance evaluation, and/or accuracy audit for the CPMS shall be maintained for a period of 5 years.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a), 40 CFR 63.6625(b), 40 CFR 63.6660 and Subpart ZZZZ - Table 2b #1]

- (4) Where demonstrating continuous compliance through the use of a continuous parameter monitoring system (CPMS), the rolling 4-hour average temperature of the stationary RICE exhaust at the inlet of the oxidation catalyst shall be monitored and maintained at greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees



Fahrenheit; and the pressure drop across the catalyst shall be maintained at no more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial performance test, at 100% load and monitored and recorded monthly.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 2b #1; Table 5 #1 or #2 and Table 6 #10]

- (5) Where demonstrating continuous compliance through the use of a continuous emissions monitoring system (CEMS), the 1-hour average CO concentration shall not exceed 23 ppmvd, corrected to 15% O<sub>2</sub> or the equivalent CO<sub>2</sub> correction factor, or CO shall be reduced by 70% between the inlet and the outlet of the oxidation catalyst control device.

[Authority for term: 40 CFR 63.6603, 40 CFR 63.6640(a) and Subpart ZZZZ - Table 5 #5 or #6 and Table 6 #3]

- (6) All continuous monitoring systems (CMS) shall be installed, operated, and the data verified either prior to or in conjunction with conducting performance tests as required per 40 CFR 63.7, 63.8, 40 CFR 63.6625, and the site-specific monitoring plan. The permittee shall maintain and operate each CMS as specified in this permit and as follows:

- a. The permittee shall maintain and operate each CMS in a manner consistent with safety and good air pollution control practices for minimizing emissions, as specified in 40 CFR 63.6(e)(1) and as reflected in the operations and maintenance requirements of this permit.
- b. The permittee shall keep the necessary parts for routine repairs and maintenance of the CMS equipment readily available.
- c. The permittee shall develop a written startup, shutdown, and malfunction plan (SSMP) for each/all CMS(s) as specified in 40 CFR 63.6(e)(3), and as reflected in this permit through the requirements for the SSMP [requirement from 40 CFR 63.8(c)(1)(iii)].
- d. All continuous emissions monitoring system (CMS) must be installed at a location that accurately measures the exhaust emissions representative of the emissions unit (e.g., downstream of the last control device) and according to the procedures documented in the applicable performance specification; and any continuous parameter monitoring system (CPMS) shall be installed to accurately measure the process and/or the control device parameters.
- e. Verification of the operational status of each CMS shall include the completion of the manufacturer's written specifications or the recommendations for installation, operation, and calibration of the system.
- f. The read out, (the visual display or measured record of the CMS) or other indication of operation, from any CMS required for compliance with the emission standard, shall be readily accessible and visible for monitoring and recording by the operator of the equipment.



- g. Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS shall be maintained in continuous operation.
- h. All CEMS used for measuring CO emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive minute of operations, with an average recorded for each 15-minute period. Data from the CEMS (excluding that collected during calibration, quality assurance, or maintenance activities, out-of-control periods, and/or CEMS breakdown) shall be reduced to 1-hour averages, computed from the four 15-minute averages.

[Authority for term: 40 CFR 63.8(c)(1),(2),(3) and (4) and 40 CFR 63.8(g)(2)]

- (7) Diesel fuel burned in the CI ICE shall not exceed the limit for sulfur as specified by 40 CFR 80.510(b), i.e., the maximum sulfur content of diesel fuel shall not exceed 15 ppm or 0.0015% sulfur by weight.

[Authority for term: 40 CFR 63.6604, 40 CFR 80.501(a) and 40 CFR 80.510(b)]

- (8) The permittee shall burn only natural gas and/or No. 2 fuel oil in this emissions unit.

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

- (9) When dual fuel firing, the total annual operating hours for emissions units B009 and B010, combined, shall not exceed 4,348 hours per rolling, 12-month period.

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

- (10) When firing only No.2 fuel oil, the total annual operating hours for emissions units B009 and B010, combined, shall not exceed 1,086 hours per rolling, 12-month period.

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

- (11) The quality of the No. 2 fuel oil fired in this emissions unit shall meet, on an "as received" basis, a sulfur content which is sufficient to comply with the allowable SO<sub>2</sub> emission limitation of 1.56 lbs/hr.

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

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

- (1) If a CPMS is selected as the method of compliance, the permittee shall install, operate, and maintain the CPMS to measure and collect the catalyst inlet temperature according to the requirements of 40 CFR 63.8, 40 CFR 63.6625(b), and the site-specific monitoring plan. The permittee shall continuously monitor the catalyst inlet temperature at all times the unit is in operation and reduce the data to 4-hour rolling averages. The CPMS shall collect data at least every 15-minutes.

For purposes of calculating data averages, data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities shall not be used in calculating the rolling 4-hour average catalyst inlet



temperature. The data collected during all other periods of operation shall be used in assessing compliance.

The engine is in compliance when the rolling 4-hour average temperature of the stationary RICE exhaust at the inlet of the catalyst is greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit. Each record must be maintained for a period of 5 years.

[Authority for term: 40 CFR 63.6640(a), 40 CFR 63.6625(b)(2) through (5), 40 CFR 63.6635, 40 CFR 63.6660 and Subpart ZZZZ - Table 2b #1, Table 5 #1 or #2 and Table 6 #10]

- (2) If a CEMS is selected as the method of compliance, the permittee shall conduct an initial performance evaluation of each CEMS and an annual relative accuracy test audit (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60, Appendix B according to the requirements of 40 CFR 63.8, as well as, daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, procedure 1. Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period of operations. A valid hourly average shall consist of at least two data points, with each representing a different 15-minute average. Data from the CEMS (excluding that collected during calibration, quality assurance, or maintenance activities, out-of-control periods, and/or CEMS breakdown) shall be reduced to 1-hour averages, computed from the four 15-minute averages. The CEMS data averages shall be recorded in parts per million at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration. A demonstration that the catalyst achieves compliance with the required percent reduction of CO or CO concentration limit is determined using the 4-hour average. Each record must be maintained for a period of 5 years.

[Authority for term: 40 CFR 63.6640(a), 40 CFR 63.6625(a), 40 CFR 63.6660, Subpart ZZZZ - Table 5 #5 or #6 and Table 6 #3, 40 CFR 63.8(c)(4)(ii) and 40 CFR 63.8(g)(2)]

- (3) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of the diesel oil received and the oil supplier's (or permittee's) analyses for sulfur content, in parts per million (40 CFR 80.510) or percent by weight. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR 80.580, using the appropriate ASTM methods. These records shall be retained for a minimum of 5 years and shall be available for inspection by the Director or his/her representative.

[Authority for term: 40 CFR 63.6604, 40 CFR 80.510(b), 40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

- (4) The permittee shall maintain a record of the diesel fuel burned in this RICE during each calendar year. The fuel oil 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: any flow meter installed on the engine, records of the volume of diesel fuel oil received with each delivery, the fuel oil levels recorded from the diesel storage tank, and/or the recorded or estimated hours of operation along with the manufacture's documentation of the fuel flow rate.



- (5) Except during malfunctions, repairs, and required quality assurance and/or control activities, the permittee shall continuously monitor that the stationary RICE is operating; and all valid data (not recorded during malfunctions, repairs, or required quality assurance or control activities) shall be used in calculations used to report emissions or operating levels.

[Authority for term: 40 CFR 63.6635]

- (6) The permittee shall keep the following records as required by 40 CFR 63.6655:
- a. a copy of each notification and report submitted to comply with the NESHAP, Subpart ZZZZ;
  - b. records of the occurrence and duration of each malfunction of operation or the air pollution control and monitoring equipment, where applicable;
  - c. records of performance tests as required per 40 CFR 63.10(b)(2)(viii);
  - d. records of all required maintenance performed on the air pollution control and monitoring equipment, where applicable;
  - e. records of actions taken during periods of malfunction to minimize emissions in accordance with 63.6605(b), including corrective actions to restore the malfunctioning process and/or control equipment to normal operations;
  - f. records of performance tests conducted to demonstrate compliance;
  - g. a record of each idle and/or startup time that exceeded 30 minutes;
  - h. the records required in Table 6 to Part 60, Subpart ZZZZ; and
  - i. for each CEMS or CPMS:
    - i. the records identified in 40 CFR 63.10(b)(2)(vi) through (xi);
    - ii. previous (superseded) versions of the performance evaluation plan, required per 40 CFR 63.8(d)(3); and
    - iii. records of the request and approval of alternatives to the relative accuracy test for CEMS or CPMS as required per 40 CFR 63.8(f)(6), if applicable.

The records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[Authority for term: 40 CFR 63.6655(a), (b) and (d), 40 CFR 63.6660, 40 CFR 63.6625(h) and 40 CFR 63.10(b)(1) and (2)]



- (7) The permittee shall maintain the following records for the continuous monitoring system (CMS) in accordance with the general requirements of 40 CFR 63.10(c):
- a. all required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);
  - b. the date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;
  - c. the date and time identifying each period during which the CMS was out of control;
  - d. the specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the NESHAP, that occurs during startups, shutdowns, and malfunctions of the emissions unit;
  - e. the specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the NESHAP, that occurs during periods other than startups, shutdowns, and malfunctions of the emissions unit;
  - f. the nature and cause of any malfunction (if known);
  - g. the corrective action taken or preventive measures adopted;
  - h. the nature of the repairs or adjustments to the CMS whenever it/they is/are inoperative or out of control;
  - i. the total process operating time during the reporting period; and
  - j. all records of the procedures that are required as part of a quality control program, developed and implemented for the CMS under 40 CFR 63.8(d), as reflected in this permit.

The records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[Authority for term: 40 CFR 63.10(c)]

- (8) The permittee shall record the pressure drop across the oxidation catalyst at least once per month and the control device shall be maintained so that the pressure drop across the catalyst does not change by more than 2 inches of water, plus or minus 10% of the pressure drop measured during the initial or any subsequent performance test operating at 100% load. The requirement to monitor and maintain the pressure drop according to these requirements shall be included in the site-specific monitoring plan.

[Authority for term: 40 CFR 63.6640(a), 40 CFR 63.6625(b) and Subpart ZZZZ - Table 2b #1 and Table 6 #10]



- (9) For each day during which the permittee burns a fuel other than natural gas and/or No. 2 fuel oil, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.

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

- (10) The permittee shall maintain monthly records of the following information:
- a. the total operating hours for emissions units B009 and B010, combined, when dual fuel firing;
  - b. the total operating hours for emissions units B009 and B010, combined, when firing No. 2 fuel oil;
  - c. the total operating hours for emissions units B009 and B010, combined (i.e., the summation of the values of d)(10)a and d)(10)b, above;
  - d. the rolling, 12-month summation of the total operating hours for emissions units B009 and B010, combined, when dual fuel firing;
  - e. the rolling, 12-month summation of the total operating hours for emissions units B009 and B010, combined, when firing No. 2 fuel oil;
  - f. the NO<sub>x</sub> emissions from emissions units B009 and B010, combined, when dual fuel firing, in tons (i.e., the value from d)(10)a, above, multiplied by the manufacturer-supplied worst case dual fuel NO<sub>x</sub> emission rate (14.58 lbs/hr) by 1.0 ton/2,000 lbs);
  - g. the NO<sub>x</sub> emissions from emissions units B009 and B010, combined, when No. 2 fuel oil firing, in tons (i.e., the value from d)(10)b, above, multiplied by the average NO<sub>x</sub> emission rate from the most recent compliance demonstration (31.5 lbs/hr) by 1.0 ton/2,000 lbs);
  - h. the total NO<sub>x</sub> emissions from emissions units B009 and B010, combined, in pounds or tons (i.e., the summation of the values from d)(10)f and d)(10)g above);
  - i. the rolling, 12-month summation of the NO<sub>x</sub> emissions from emissions units B009 and B010, combined, in tons (i.e., the summation of the value from d)(10)h above plus the NO<sub>x</sub> emissions from emissions units B009 and B010 for the previous 11 months);
  - j. the total CO emissions from emissions units B009 and B010, combined, in tons (i.e., the value from d)(10)c, above, multiplied by the manufacturer-supplied worst case CO emission rate (33.06 lbs/hr) by 1.0 ton/2,000 lbs);
  - k. the rolling, 12-month summation of the CO emissions from emissions units B009 and B010, combined, in tons (i.e., the summation of the value from d)(10)j above plus the CO emissions from emissions units B009 and B010 for the previous 11 months);



- l. the total VOC emissions from emissions units B009 and B010, combined, in tons (i.e., the value from d)(10)c, above, multiplied by the manufacturer-supplied worst case VOC emission rate (7.78 lbs/hr) by 1.0 ton/2,000 lbs);
- m. the rolling, 12-month summation of the VOC emissions from emissions units B009 and B010, combined, in tons (i.e., the summation of the value from d)(10)l above plus the VOC emissions from emissions units B009 and B010 for the previous 11 months);
- n. the total SO<sub>2</sub> emissions from emissions units B009 and B010, combined, in tons (i.e., the value from d)(10)c, above, multiplied by the manufacturer-supplied worst case CO emission rate (1.56 lbs/hr) by 1.0 ton/2,000 lbs); and
- o. the total PE from emissions units B009 and B010, combined, in tons (i.e., the value from d)(10)c, above, multiplied by the AP-42 emission factor (0.062 lb/mmBtu) by the emissions unit's maximum rated heat capacity (28.67 mmBtu/hr) by 1.0 ton/2,000 lbs).

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

e) Reporting Requirements

- (1) A comprehensive written report on the results of the performance tests, conducted to demonstrate compliance with 40 CFR 63.6603(a) and OAC 3745-110-03(F), 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.

[Authority for term: OAC rule 3745-15-04(A), 40 CFR 63.6645(h) and 40 CFR 63.9(h)(2)(ii)]

- (2) The permittee shall identify in the semiannual report any period of time (date and number of hours) that the quality of oil burned in this emissions unit did not meet the requirements established in 40 CFR 80.510(b), based upon the required fuel records; and the amount of non-compliant fuel burned on each such occasion.

[Authority for term: 40 CFR 63.6604 and 40 CFR 80.510(b)]

- (3) The permittee shall identify in the quarterly deviation report any exceedance of the diesel fuel oil usage restriction, to include the amount of diesel fuel usage recorded for each such rolling 12-month period.

[Authority for term: OAC rule 3745-15-03(B)(1) and (C) and OAC rule 3745-31-05(D)]

- (4) The permittee shall submit an initial notification to the appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency, in writing, indicating that the RICE is subject to the Subpart ZZZZ NESHAP standards in 40 CFR Part 63. The initial notification report shall be submitted no later than 120 calendar days after the effective date of the NESHAP (or 9/3/13 for existing units), which shall provide the following information:



- a. the facility name, address, facility ID number, and emission unit number(s) identified in the report;
- b. the address (i.e., physical location) of the emissions unit;
- c. an identification of the relevant standard (Part 63, Subpart ZZZZ), the applicable limitation(s) or other requirement(s) that is/are the basis of the notification, and the emission unit's compliance date;
- d. a brief description of the nature, size, design, and method of operation of the RICE, and an identification of the emission unit(s) subject to the NESHAP and types of hazardous air pollutants emitted; and
- e. a statement of whether the emissions unit is a major source or an area source.

[Authority for term: 40 CFR 63.9(b)(2) and 40 CFR 63.6645(a)(2)]

- (5) The permittee shall submit semiannual compliance reports that identify any exceedance of the emission limitation, CO reduction requirement, and/or deviation from the operating limitations on the temperature and pressure drop of the oxidation catalyst control. The semiannual compliance report shall contain the following information:
  - a. the facility name, address, facility ID number, and emission unit number(s) identified in the report;
  - b. a statement by a responsible official certifying the accuracy of the content of the report;
  - c. the date of report and beginning and ending dates of the reporting period;
  - d. a brief description of the stationary RICE, at a minimum, the horsepower, year of manufacturer, and use;
  - e. each instance in which the general provisions identified in Table 8 of Part 63, Subpart ZZZZ were not met;
  - f. the number, duration, cause, and description of each exceedance, deviation, and/or malfunction which caused or may have caused an exceedance of the emission limitation or a deviation from the operating limitations for the temperature and pressure drop monitored for the control device;
  - g. the corrective actions taken during each/any deviation or exceedance to minimize emissions and to correct the malfunction;
  - h. the total operating time of the stationary RICE if an exceedance or deviation occurred during the reporting period that did not involve a continuous monitoring system (CMS);
  - i. if there is/are no exceedance(s) or deviation(s) from the emission limitations or operating limitations during the reporting period, a statement to that effect;



- j. if there were no periods of time during which the CMS was out-of-control during the reporting period, a statement to that effect;
- k. for each exceedance of the emission limitation or percent reduction for CO recorded by the CEMS or for each deviation from operating limitation for the temperature at the inlet of the catalyst recorded by the CPMS, the following information:
  - i. identification of the CMS, i.e., the type, model, and manufacturer, and the exact location of the probe;
  - ii. the date and time that each malfunction started and stopped;
  - iii. the date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks;
  - iv. the date, time, and duration that each CMS was out-of-control (including the information in 40 CFR 63.8(c));
  - v. the date and time each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period;
  - vi. a summary of the total duration of the deviation during the reporting period, and the total duration of the deviation as a percent of the engine's total operating time during the reporting period;
  - vii. a breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, and other known or unknown causes;
  - viii. a summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent to the total operating time of the stationary engine during the reporting period;
  - ix. the date of the latest certification or audit of the temperature CMS; and
  - x. description of any changes to the engine, CMS, processes, or controls since the last reporting period.

The semiannual compliance reports shall cover the reporting periods from January 1 through June 30 and July 1 through December 31 of each year and shall be postmarked or delivered no later than July 31 or January 31 following each reporting period.

[Authority for term: 40 CFR 63.6640(b) and (e), 40 CFR 63.6650(a), (b), (c), (d) and (e) and Part 63, Subpart ZZZZ - Table 7]

- (6) The permittee shall collect and submit required CMS performance evaluation results to the Director (appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency) as follows:



- a. A written report of the results of each CMS performance evaluation shall be submitted simultaneously with the results of the performance test within 30 days of completion of the performance evaluation and compliance demonstration. The written report shall include the raw data from the performance evaluation with the report of the results.
- b. Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any data average reported.

[Authority for term: 40 CFR 63.10(e)(1) and (2)(i) and 40 CFR 63.8(e)(5)]

- (7) The permittee shall submit deviation (excursion) reports that identify the following:
  - a. any exceedance of the rolling, 12-month operating hour limitations specified in c) above;
  - b. any exceedance of the rolling, 12-month emission limitation for NO<sub>x</sub>, CO and/or VOC;
  - c. any exceedance of the hourly SO<sub>2</sub> emission limitation based upon the calculated emission rates from d) above; and
  - d. each day during which the permittee burns a fuel other than natural gas and/or No. 2 fuel oil in this emissions unit.

Each report shall be submitted to the Ohio EPA, Northeast District Office within 45 days after the deviation occurs.

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

- (8) The permittee shall also submit annual reports that specify the total SO<sub>2</sub> and PE from emissions units B009 and B010, combined, for the previous calendar year. The reports shall be submitted to the Ohio EPA, Northeast District Office by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for emission units in the annual Fee Emission Report.

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

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitations:  
SO<sub>2</sub> emissions from this emissions unit shall not exceed 1.56 lbs/hr.



SO<sub>2</sub> emissions from emissions units B009 and B010, combined, shall not exceed 3.4 tons/yr.

Applicable Compliance Methods:

Compliance with the hourly emission limitation may be based upon the manufacturer-supplied worst case emission rate of 1.56 lbs/hr.

If required, the permittee shall demonstrate compliance with the hourly emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6 or 6C.

The tpy emission limitation was developed by multiplying the short-term allowable SO<sub>2</sub> limitation (1.56 lbs/hr) by the maximum restricted hours of operation for emissions units B009 and B010, combined (4,348 hrs/yr) and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

Compliance with the annual emission limitation may also be demonstrated based upon the record keeping requirements specified in d) above.

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

b. Emission Limitation:

CO emissions from this emissions unit shall not exceed 33.06 lbs/hr.

Applicable Compliance Methods:

Compliance with the hourly emission limitation may be based upon the manufacturer-supplied worst case emission rate of 33.06 lbs/hr.

If required, the permittee shall demonstrate compliance with the hourly emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10 or 10A.

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

c. Emission Limitation:

NO<sub>x</sub> emissions from this emissions unit shall not exceed 58.33 lbs/hr.

Applicable Compliance Methods:

Compliance with the hourly emission limitation may be based upon the manufacturer supplied worst case emission rate of 58.33 lbs/hr or the average results from the most recent emission tests that demonstrated that emissions units B009 and B010 were in compliance (31.5 lbs/hr when firing No. 2 fuel oil).



If required, the permittee shall demonstrate compliance with the hourly emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7 or 7E.

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

d. Emission Limitation:

VOC emissions from this emissions unit shall not exceed 7.78 lbs/hr.

Applicable Compliance Methods:

Compliance with the hourly emission limitation may be based upon the manufacturer-supplied worst case emission rate of 7.78 lbs/hr.

If required, the permittee shall demonstrate compliance with the hourly emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25 or 25A, as appropriate.

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

e. Emission Limitation:

PE shall not exceed 0.062 lb/mmBtu of actual heat input from ICE greater than 600 HP.

Applicable Compliance Methods:

Compliance with the lb/mmBtu emission limitation may be based upon the applicable emission factor specified in AP-42, 5<sup>th</sup> Edition, Section 3.2, Table 3.4-2 (0.062 lb/mmBtu of actual heat input).

If required, the permittee shall demonstrate compliance with the hourly emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

[Authority for term: OAC rules 3745-17-03(B)(10) and 3745-77-07(C)(1)]

f. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average more than once per 60-minute period.

Applicable Compliance Method:

If required, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

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



g. Emission Limitation:

PE from emissions units B009 and B010, combined, shall not exceed 3.9 tons/year.

Applicable Compliance Methods:

The annual emission limitation was established by multiplying the allowable particulate emission limitation (0.062 lb/mmBtu) by the maximum heat input capacity of each emissions unit (28.67 mmBtu/hr) and by the maximum restricted hours of operation for emissions units B009 and B010, combined, (4,348 hrs/yr) and then dividing by 2,000 lbs. Therefore, provided compliance is demonstrated with the hourly emission limitation and the operating hour limitation, compliance is demonstrated with the annual emission limitation.

Compliance with the annual emission limitation may also be demonstrated based upon the record keeping requirements specified in d) above.

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

h. Emission Limitations:

The annual NO<sub>x</sub>, CO and VOC emissions from emissions units B009 and B010, combined, shall not exceed the following emission limitations:

NO<sub>x</sub> - 31.7 tons per rolling, 12-month period;

CO - 71.9 tons per rolling, 12-month period; and

VOC - 17.0 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the rolling, 12-month emission limitations shall be demonstrated based upon the record keeping requirements pursuant to d) above.

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

i. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 3.0 grams/HP-hr.

Applicable Compliance Method:

Compliance shall be demonstrated through the use of emission factors derived from a performance test of this emissions unit conducted on October 24, 2001, which demonstrated a NO<sub>x</sub> emission rate of 2.66 grams per HP-hr while dual fuel firing.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with the methods and



procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7, 7A, 7C, 7D or 7E and any additional approved USEPA methods as applicable.

If required, compliance demonstrations shall be performed while the affected internal combustion engine is operating at or as close as possible to one hundred percent load and one hundred percent speed.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-110-03(F) and 3745-110-05(A) and (F)]

j. Emission Limitations:

Emissions of CO shall not exceed 23 ppmvd at 15% O<sub>2</sub> or emissions of CO shall be reduced by 70% or more.

Applicable Compliance Method:

Unless a performance test is submitted that meets the requirements of 40 CFR 63.6612(b), the permittee shall conduct an initial performance test within 180 days after the compliance date or no later than 11/3/13, to demonstrate compliance with the CO limitation in the NESHAP. The appropriate tests methods from Table 4 to Subpart ZZZZ shall be conducted based on the option chosen for compliance, i.e., the part per million concentrations or percent reduction. The appropriate emission and/or operating limitations, required per 40 CFR 63.6630 and identified in Table 5, shall be established and compliance demonstrated during each performance test.

The temperature at the inlet to the catalyst shall be monitored during the performance test and maintained between 450 °F and 1350 °F. The 3-hour block average temperature at the inlet to the catalyst shall be documented during performance tests and the pressure drop shall be recorded to establish the operating range for the pressure drop across the catalyst. Per 63.6640(b), if the catalyst is changed or the control device replaced, a new performance test must be conducted to demonstrate compliance with the emission limitation and to reestablish the values for or compliance with the operating parameters.

Each performance test shall consist of 3 separate test runs and each test run shall last a minimum of 1 hour and shall be conducted during normal operations. The engine percent load, during the performance test, shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load and the estimated percent load shall be included in the notification of compliance.

A compliant performance test shall demonstrate that either the CO emissions have been reduced by 70% or that the average CO concentration is less than or equal to 23 ppmvd, corrected to 15 percent O<sub>2</sub> on a dry basis, and from three 1-hour or longer performance test runs.

If demonstrating compliance with the 70% control requirement for CO, the permittee may use a portable CO and O<sub>2</sub> analyzer at the inlet and outlet of the



control device and use ASTM Method D6522-00 to meet the performance testing requirement in Table 4 to Subpart ZZZZ. The CO concentrations at the inlet and outlet of the control device must be normalized to a dry basis and to 15% oxygen, or an equivalent percent CO<sub>2</sub>, as required in 40 CFR 63.6620(e).

The following test methods shall be employed to demonstrate compliance with the emission limitation for CO or may be used to demonstrate compliance with the control requirement for CO:

- i. Method 1 or 1A of 40 CFR Part 60, Appendix A to select the sampling port location and the number of traverse points
- ii. Method 3, 3A, or 3B of 40 CFR Part 60, Appendix A or ASTM Method D6522-00 to measure O<sub>2</sub> at the inlet and outlet of the control device to normalize the CO concentration(s).
- iii. 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 inlet and outlet of the control device if demonstrating compliance through the percent control or to measure the moisture content of the stationary RICE exhaust.
- iv. Method 10 of 40 CFR Part 60, Appendix A; or Method 320 of 40 CFR Part 63, Appendix A; or ASTM D 6348-03 to measure CO at the inlet and outlet of the control device if demonstrating compliance through the percent control or to measure CO at the exhaust of the stationary ICE.
- v. The following equation shall be used to normalize the CO concentrations to a dry basis and to 15 percent oxygen (O<sub>2</sub>)\*\*:

$$C_{adj} = C_d (5.9 / 20.9 - \% O_2)$$

where:

C<sub>adj</sub> = calculated CO concentration adjusted to 15 percent O<sub>2</sub>;

C<sub>d</sub> = measured concentration of CO, uncorrected;

5.9 = 20.9 percent O<sub>2</sub> – 15 percent O<sub>2</sub>, the defined O<sub>2</sub> correction value, percent; and

%O<sub>2</sub> = measured O<sub>2</sub> concentration, dry basis, percent.

\*\* Optionally, the pollutant concentrations can be corrected to 15% O<sub>2</sub> using a CO<sub>2</sub> correction factor, by calculating the fuel factor (F<sub>o</sub> value) using Method 19 results obtained during the performance test (40 CFR 63.6620(e)(2)).

- vi. If compliance is demonstrated for the control efficiency for CO, the following equation shall be used to determine the percent reduction:



$$R = (C_i - C_o) / C_i \times 100$$

where:

$C_i$  = concentration of CO at the control device inlet;

$C_o$  = concentration of CO at the control device outlet; and

R = percent reduction of CO emissions.

If using CEMS to monitor and comply with the CO concentration limitation or requirement to reduce CO emissions, the permittee shall conduct annual relative accuracy test audits (RATA) using Performance Specifications 3 and 4A of 40 CFR Part 60 Appendix B and daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, Procedure 1.

If using CPMS to demonstrate compliance, the permittee shall conduct subsequent performance tests for CO (concentration or % reduction) every 8,760 hours of operation or every 3 years, whichever comes first.

The permittee shall notify the Director (appropriate Ohio EPA Division of Air Pollution Control District Office or local air agency) in writing of each scheduled performance test date or RATA for the CEMS at least 60 calendar days before it is scheduled, to allow the agency time to review and approve the site-specific test plan and to arrange for an observer to be present during the compliance demonstration.

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.

[Authority for term: 40 CFR 63.7(a)(2), (b)(1) and (e), 40 CFR 63.6603(a), 40 CFR 63.6612, 40 CFR 63.6615, 40 CFR 63.6620, 40 CFR 63.6630, 40 CFR 63.6640(a) and (b), 40 CFR 63.6645(a)(2), Part 63, Subpart ZZZZ - Table 2d #3; Table 2b; Table 3 #4; Table 4 #1 or #3; Table 5 #1, #2, #5 or #6 and Table 6 #3 or #10, OAC 3745-110-03(F)(3), OAC 3745-110-05(A) and (F) and OAC rule 3745-15-04(A)]

k. Emission Limitations:

VOC emissions from this emissions unit shall not exceed 0.09 lb/mmBtu.

Applicable Compliance Method:

The VOC emissions limit is based on using the AP-42 emission factor of 0.09 lb VOC/mmBtu from Chapter 3.4, Table 3.4-1, "Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines".

[Authority for term: OAC rule 3745-31-05(A)(3)]



I. Sulfur Content Limitations for Diesel Fuel:

The sulfur content of the diesel fuel burned in this emissions unit shall not exceed 15 ppm or 0.0015% sulfur by weight.

Applicable Compliance Method:

Compliance shall be demonstrated through the record keeping requirements for the sulfur content of each shipment of diesel oil received. If meeting the standards in 40 CFR 80.510(b), this calculates to approximately 0.0015lb SO<sub>2</sub>/mmBtu.

[Authority for term:40 CFR 63.6604 and 40 CFR 80.510(b)]

g) Miscellaneous Requirements

(1) None.