



Environmental Protection Agency

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

8/1/2012

Kieran Drain  
Rambus, Inc.  
6400 West Snowville Road  
Brecksville, OH 44141

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 1318088707  
Permit Number: P0110214  
Permit Type: Initial Installation  
County: Cuyahoga

Certified Mail

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

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPCWeb page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

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

Cc: CDAQ





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
Rambus, Inc.**

Facility ID:	1318088707
Permit Number:	P0110214
Permit Type:	Initial Installation
Issued:	8/1/2012
Effective:	8/1/2012
Expiration:	8/1/2022





Division of Air Pollution Control
Permit-to-Install and Operate
for
Rambus, Inc.

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## Authorization

Facility ID: 1318088707  
Application Number(s): A0044559  
Permit Number: P0110214  
Permit Description: Initial PTIO for natural gas-fired generator (B001).  
Permit Type: Initial Installation  
Permit Fee: \$200.00  
Issue Date: 8/1/2012  
Effective Date: 8/1/2012  
Expiration Date: 8/1/2022  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Rambus, Inc.  
6400 West Snowville Road  
Brecksville, OH 44141

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

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

Cleveland Division of Air Quality  
2nd Floor  
75 Erievue Plaza  
Cleveland, OH 44114  
(216)664-2297

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0110214

Permit Description: Initial PTIO for natural gas-fired generator (B001).

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

**Emissions Unit ID:**

Company Equipment ID:

Superseded Permit Number:

General Permit Category and Type:

**B001**

Generac Model SG300 generator

Not Applicable

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

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

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

**2. Who is responsible for complying with this permit?**

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

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

**3. What records must I keep under this permit?**

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

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

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

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

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

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

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

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

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

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

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

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

**7. What reports must I submit under this permit?**

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

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

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

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

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

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

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

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

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

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

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

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

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

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

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

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

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

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

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

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

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

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

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.
2. The Ohio EPA has determined that this facility is subject to the requirements of 40 CFR Part 63 Subpart WWWW, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Plating and Polishing Operations Area Sources. Although Ohio EPA has determined that this Generally Available Control Technology NESHAP (GACT) applies, at this time Ohio EPA does not have the authority to enforce this standard. Instead, U.S. EPA has the authority to enforce this standard. Please be advised, that all requirements associated with this rule are in effect and shall be enforced by U.S. EPA. For more information on the area source rules, please refer to the following U.S. EPA website: <http://www.epa.gov/ttn/atw/area/arearules.html>.

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



1. B001, Generac Model SG300 generator

Operations, Property and/or Equipment Description:

Emergency lean burn stationary spark ignition (SI) internal combustion engine (ICE) greater than or equal to 130 HP, manufactured after 1/1/09, burning natural gas and certified to the exhaust emission standards as stringent as those identified in Table 1 to Part 60, Subpart JJJJ for emergency engines.

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC paragraph 3745-31-05(A)(3), as effective 11/30/01	<p>Particulate emissions (PE) shall not exceed 5.48 tons per year.</p> <p>Nitrogen oxide (NOx) emissions shall not exceed 8.67 tons per year.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 4.35 tons per year.</p> <p>The PE emission limitation specified by this rule is equivalent to the emission limitation established pursuant to OAC rule 3745-17-11(B)(5).</p> <p>The NOx and VOC emission limitations specified by this rule are equivalent to the</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		emission limitations established pursuant to 40 CFR Part 60 Subpart JJJJ.  See b)(2)a. below.
b.	OAC paragraph 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. and b)(2)c. below.
c.	40 CFR Part 60, Subpart JJJJ  In accordance with 40 CFR 60.4230, this emissions unit is subject to the New Source Performance Standards (NSPS) for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE).  40 CFR 60.4233(d)  Table 1 to Part 60, Subpart JJJJ	The exhaust emissions from this engine shall not exceed:  2.0 grams of nitrogen oxides per horsepower hour (2.0 g NOx/HP-hr).  1.0 grams of volatile organic compounds per horsepower hour (1.0 g VOC/HP-hr).  4.0 grams of carbon monoxide per horsepower hour (4.0 g CO/HP-hr).
d.	OAC rule 3745-17-11(B)(5)	Particulate emissions (PE) shall not exceed 0.310 lb/MMBtu of actual heat input from ICE less than or equal to 600 horsepower (HP).
e.	OAC rule 3745-18-04(F)(4)	The sulfur dioxide (SO <sub>2</sub> ) emission rate from natural gas shall be considered to be equal to 0.0 lb/MMBtu.
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 six-minute average, except as specified by rule.
g.	ORC 3704.03(T)	Carbon monoxide (CO) emissions shall not exceed 17.39 tons per year.  The CO emission limitation specified by this rule is equivalent to the emission limitation established pursuant to 40 CFR Part 60 Subpart JJJJ.



h.	40 CFR 63 Subpart ZZZZ 40 CFR 63.6590(c)(1)	A new or reconstructed area source operating in compliance with Part 60 Subpart JJJJ is the demonstration of compliance for 40 CFR 63 Subpart ZZZZ.
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(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.  
  
The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and SO<sub>2</sub> from this air contaminant source since the uncontrolled potential to emit for PE and SO<sub>2</sub> is less than 10 tons/yr.
- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.  
  
The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC and NO<sub>x</sub> from this air contaminant source since the calculated annual emission rate for VOC and NO<sub>x</sub> is less than 10 tons/yr taking into account the federally enforceable rule limits of 40 CFR Part 60 Subpart JJJJ.
- d. The stationary spark ignition (SI) internal combustion engine (ICE) is subject to and shall be operated in compliance with the requirements of 40 CFR Part 60, Subpart JJJJ, the standards of performance for stationary SI ICE.
- e. The stationary SI ICE has been or shall be purchased certified by the manufacturer to emission standards as stringent as those identified in 40 CFR 60.4233(d) and found in Table 1 of Part 60, Subpart JJJJ for emergency engines greater than or equal to 130 HP and manufactured on/after 1/1/09.

**c) Operational Restrictions**

- (1) The stationary SI ICE shall be installed, operated, and maintained according to the manufacturer's specifications, written instructions, and procedures over the entire life of the engine. The permittee shall operate and maintain the stationary SI ICE to achieve the emission standards identified in 40 CFR 60.4233(e) and found in Table 1 of NSPS Subpart JJJJ over the entire life of the engine. The air-to-fuel ratio controllers shall be set by the manufacturer and/or according to the operations manual, to ensure proper operation of the engine and control device and to minimize emissions.
- (2) The permittee shall install a non-resettable hour meter in order to record the hours of operation during emergency and non-emergency conditions.
- (3) There is no time limit on the use of the emergency stationary RICE during emergency situations; however, the emergency engine shall not be used in any operations other than an emergency with the following exceptions:
  - a. The emergency stationary RICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the facility's insurance company. Maintenance checks and readiness testing is limited to 100 hours per year, unless additional time is approved by the Ohio EPA or additional hours are required by Federal, State, or local standards.
  - b. The emergency stationary RICE may be operated up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot include peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. Operating the stationary RICE for any period of time other than during emergency operations, maintenance and testing, and the 50 hours per year in non-emergency situations is prohibited.
- (4) During emergency conditions the permittee may operate this engine using propane for a maximum of 100 hours per year as an alternative fuel and if records are maintained for such use. If the engine is not certified to burn propane the permittee shall conduct a performance test to demonstrate compliance with the emission standards in 40 CFR 60.4233.

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

- (1) The permittee shall maintain the manufacturer's certification on site or at a central location for all facility ICE and it shall be made available for review upon request. If the manufacturer's certification is not kept on site, the permittee shall maintain a log for the location of each ICE and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the identification number of the certificate. The manufacturer's operations manual shall be maintained at the same location as the ICE.

- (2) The permittee shall maintain records or a log for the operation of the engine in emergency and non-emergency service, as recorded through the non-resettable hour meter. The records shall include the number or hours spent in emergency operation, including what classified the operation as an emergency; the number or hours spent in maintenance checks and readiness testing; and the number or hours spent in non-emergency operations.
- (3) The permittee shall maintain the following records and make them available upon request:
- a. all notifications submitted to comply with and all documentation supporting compliance with Part 60 Subpart JJJJ;
  - b. records of all maintenance conducted on the engine;
  - c. the certification from the manufacturer, documenting that the engine is certified to meet the emission standards identified in 40 CFR 60.4231(e); and
  - d. the information identified in 40 CFR parts 90, 1048, 1054, and/or 1060 that is required to be provided by the manufacturer to the operator/owner, as applicable to the model year and horsepower of the engine.
- e) Reporting Requirements
- The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland Division of Air Quality by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- (1) The permittee shall include in the Annual Permit Evaluation Report (PER) the number of hours of operation in emergency and non-emergency service, including the time of operations for maintenance checks and readiness testing, as recorded by the non-resettable hour meter.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
- a. Emission Limitations:  
0.310 lb PE/MMBtu from ICE less than or equal to 600 HP  
5.48 tons PE/year
- Applicable Compliance Method:  
The particulate emission limitation is from OAC rule 3745-17-11(B)(5)(a) for stationary internal combustion engines.

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

$$0.310 \text{ lb PE/MMBtu} \times 4.02 \text{ MMBtu/hr} = 1.25 \text{ lb PE/hr}$$

$$1.25 \text{ lb PE/hr} \times 8760 \text{ hours/year} \times 1 \text{ ton}/2000 \text{ lbs} = 5.48 \text{ tons PE/year}$$

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

- b. Emission Limitations:  
2.0 grams NO<sub>x</sub> /HP-hr  
8.67 tons NO<sub>x</sub>/year

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification to the emission standards identified in 40 CFR 60.4231(e) and by maintaining the engine according to the manufacturer's specifications. The g/HP-hr limit is the emission limitation from Table 1 to Part 60 Subpart JJJJ, the exhaust emission standards for natural gas lean burn emergency engines greater than or equal to 130 HP and manufactured on/after 1/1/09.

Compliance with the ton per year NO<sub>x</sub> emissions limitation shall be determined by the following calculation:

$$2.0 \text{ g NO}_x/\text{HP-hr} \times 1 \text{ lb}/453.6 \text{ g} \times 450 \text{ HP} = 1.98 \text{ lb NO}_x/\text{hr}$$

$$1.98 \text{ lbs NO}_x/\text{hr} \times 8760 \text{ hours/year} \times 1 \text{ ton}/2000 \text{ lbs} = 8.67 \text{ tons NO}_x/\text{year}$$

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

- c. Emission Limitations:  
1.0 grams VOC/HP-hr  
4.35 tons VOC/year

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification to the emission standards identified in 40 CFR 60.4231(e) and by maintaining the engine according to the manufacturer's specifications. The g/HP-hr limit is the emission limitation from Table 1 to Part 60 Subpart JJJJ, the exhaust emission standards for natural gas lean burn emergency engines greater than or equal to 130 HP and manufactured on/after 1/1/09.

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

$$1.0 \text{ g VOC/HP-hr} \times 1 \text{ lb}/453.6 \text{ g} \times 450 \text{ HP} = 0.99 \text{ lb VOC/hr}$$

$$0.99 \text{ lb VOC/hr} \times 8760 \text{ hours/year} \times 1 \text{ ton/2000 lbs} = 4.35 \text{ tons VOC/year}$$

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

Compliance with the ton per year SO<sub>2</sub> emissions limitation shall be determined by the following calculation:

$$0.000588 \text{ lb SO}_2/\text{MMBtu} \times 4.2\text{MMBtu/hr} = 0.0024\text{lb SO}_2/\text{hr}$$

$$0.0024 \text{ lb SO}_2/\text{hr} \times 8760 \text{ hours/year} \times 1 \text{ ton/2000 lbs} = 0.01 \text{ ton SO}_2/\text{year}$$

- d. Emission Limitations:  
4.0 grams CO/HP-hr  
17.39 tons CO/year

Applicable Compliance Method:

Compliance with the emission limitations shall be based on the manufacturer's certification to the emission standards identified in 40 CFR 60.4231(e) and by maintaining the engine according to the manufacturer's specifications. The g/HP-hr limit is the emission limitation from Table 1 to Part 60 Subpart JJJJ, the exhaust emission standards for natural gas lean burn emergency engines greater than or equal to 130 HP and manufactured on/after 1/1/09.

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

$$4.0 \text{ g CO/HP-hr} \times 1 \text{ lb/453.6 g} \times 450 \text{ HP} = 3.97 \text{ lbs CO/hr}$$

$$3.97 \text{ lbs CO/hr} \times 8760 \text{ hours/year} \times 1 \text{ ton/2000 lbs} = 17.39 \text{ tons CO/year}$$

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

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

Applicable Compliance Method:

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

- (2) If the natural gas engine was purchased without an EPA certificate of conformity, the engines will need to meet the performance testing requirements of 40 CFR 60.4243(b)(2) and the permittee will be required to conduct an initial performance test,



and if over 500 HP, subsequent performance tests every 8,760 hours of operation or 3 years whichever comes first, to demonstrate compliance with the emission limits from Part 60 Subpart JJJJ.

g) Miscellaneous Requirements

- (1) None.