GENERAL PERMIT 9.12 TEMPLATE
PRE-2007 MODEL YEAR AND
COMMENCED CONSTRUCTION BEFORE 6/12/06

PORTABLE DIESEL ENGINE (COMPRESSION IGNITION INTERNAL COMBUSTION ENGINE)
LESS THAN 10 LITERS PER CYLINDER AND > 600 HP AND ≤ 1,100 HP
STANDARDS: 40 CFR 63, SUBPART ZZZZ SECTION 63.6603, TABLE 2d

C. Emissions Unit Terms and Conditions

Note: The following are the terms and conditions for a General PTIO to be issued to a **non-Title V** facility

1. [Emissions Unit ID], [Company Equipment ID]

Operations, Property and/or Equipment Description:

Pre-2007 model year, stationary compression ignition (CI) internal combustion engine (ICE); less than 10 liters per cylinder and greater than 600 HP and less than or equal to 1,100 HP; complying with 40 CFR 63, Subpart ZZZZ Table 2d, #3; and installed before 6/12/06.

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

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

a. None.

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

a. b)(1)g., c)(1), d)(3), and e)(2)

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 reciprocating internal combustion engine (RICE) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The existing stationary compression ignition (CI) RICE, located at an area source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ no later than May 3, 2013. See b)(1)b. below.
b.	40 CFR 63.6603(a) Table 2d #3 to Subpart ZZZZ	Following the compliance date of 5/3/13, emissions of carbon monoxide (CO) shall not exceed 23 ppmvd at 15% O_2 or emissions of CO shall be reduced by 70% or more, using

		an oxidation catalyst.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01 (AP-42 emission factors)	The exhaust emissions from this engine shall not exceed: 0.85 pound of carbon monoxide per million British thermal unit (0.85 lb CO/MMBtu) until 5/3/13; 0.09 pound of volatile organic compounds per million Btu (0.09 lb VOC/MMBtu); and 3.2 pounds of nitrogen oxides per million Btu (3.2 lbs NOx/MMBtu). See term b)(2)a.
d.	OAC rule 3745-17-11(B)(5)(b)	Particulate emissions (PE) shall not exceed 0.062 lb/MMBtu of actual heat input from RICE greater than 600 horsepower (HP)
e.	40 CFR 63.6604 40 CFR 80.510(b) OAC rule 3745-31-05(A)(3), as effective 11/30/01	The sulfur content of the diesel fuel burned in this engine shall not exceed 15 ppm or 0.0015% sulfur by weight. See terms b)(2)a, b)(2)d, d)(1), and NESHAP tables.
f.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the exhaust stack serving this engine shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
g.	OAC rule 3745-31-05(D) OAC rule 3745-31-05(A)(3), as effective 11/30/01	Particulate emissions (PE) shall not exceed 1.92 tons per rolling 12-month period from all diesel-fired engines combined located at this facility. Nitrogen oxide (NOx) emissions shall not exceed 99.0 tons per rolling 12-month period from all diesel-fired engines combined located at this facility. Carbon monoxide (CO) emissions shall not exceed 26.30 tons per rolling 12-month period from all diesel-fired engines combined located at this facility. Volatile organic compound (VOC) emissions shall not exceed 2.78 tons per rolling 12-month period from all diesel-fired engines combined located at this facility. Sulfur dioxide (SO_2) emissions shall not exceed 0.052 tons per rolling 12-month

		period from all diesel-fired engines combined located at this facility. See term f)(1)h. For the pollutants under 10 tons per rolling 12-month period, PE, VOC, and SO_2, see term b)(2)a.
h.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	For pollutants above having a potential-to-emit less than 10 tons per rolling 12-month period, BAT does not apply where the source is installed after 8/3/06. See term b)(2)b.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to 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 these emission limitations/control measures no longer apply.

[OAC rule 3745-31-05(A)(3), as effective 11/30/01]

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.

[OAC rule 3745-31-05(A)(3), as effective 12/01/06]

c. Following the compliance date of the NESHAP, 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_2 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.

[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 engine 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 of oil.

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.

[40 CFR 63.6604] and [40 CFR 80.510(b)]

e. 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 CI RICE is 5/3/13.
Applicable Tables from Part 63, Subpart ZZZZ	Following the compliance date, comply with: emission limit options in Table 2d #3; operating limitations in Table 2b #1; performance test frequency in Table 3 #4; performance test methods in Table 4 #1 or #3; initial compliance demonstration in Table 5 #1, #2, #5, or #6; continuous compliance in Table 6 #3 or #10; reporting requirements/frequency in Table 7; 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 #3 (limit CO to 23 ppmvd at 15% O2 or reduce CO by 70%) and operating limitations identified in Table 2b to Part 63 Subpart ZZZZ.
40 CFR 63.6603; 40 CFR 63.6612; 40 CFR 63.6620; and Subpart ZZZZ Tables 4 & 5	Conduct an initial performance test within 180 days following the compliance date, or by 11/3/13, using the appropriate test methods in Table 4; while continuously monitoring either CO and O_2 (or CO_2), using continuous emissions monitoring systems (CEMS), **or** the temperature at the inlet of the catalyst to the control device using a continuous parameter monitoring system (CPMS), as required in Table 5; **and** establish the operating parameter for the pressure drop across the catalyst.
40 CFR 63.6615; Subpart ZZZZ Table 3 #4; and Table 6 #3 or #10	By the compliance date, either install CEMS to continuously monitor CO at the inlet and outlet of the control devise if demonstrating compliance with the control requirement or at the outlet if choosing to comply with the CO concentration limit and conduct annual relative accuracy test audits (RATA) and daily data quality checks according to Table 6 #3 and measure the pressure drop across the catalyst monthly; **or** As required in Table 6 #10, install CPMS at the inlet of the catalyst and conduct subsequent performance tests every 8760 hours of operation or every 3 years, whichever comes first, to demonstrate compliance with the chosen CO emission standard, using the test methods in Table 4; and measure the pressure drop across the catalyst monthly.

40 CFR 63.6625(a); or 40 CFR 63.6625(b); and 40 CFR 63.8(c),(d), & (e)	Develop and implement a site-specific monitoring plan for the continuous monitoring system (CMS), to include a quality control program and performance evaluation test plan for the CMS, in accordance with 40 CFR 63.8.
40 CFR 63.6625(g)	Install crankcase ventilation system by 5/3/13 if not already equipped.
40 CFR 63.6665	Meet all of the general provisions of Subpart A, from Sections 63.1 through 63.15, that apply to the CI RICE, as identified in Table 8 to Subpart ZZZZ.

c) Operational Restrictions

(1) The maximum annual diesel fuel oil usage rate from all diesel engines located at this facility shall not exceed 451,642 gallons per rolling 12-month period; or where monthly calculations demonstrate that the facility's total rolling, 12-month NOx emissions are less than 99 tons, based on the fuel usage in each engine and the certified or worst-case exhaust standards to which they are permitted, the maximum annual diesel fuel oil usage rate from all diesel engines used at this facility shall not exceed 500,000 gallons per rolling 12-month period.

[OAC rule 3745-31-05(D)]

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

Applicable Rule	Requirement
40 CFR 63.6604	Compliance with 80.510(b) for the quality of diesel fuel burned in non-emergency CI RICE with a displacement of less than 30 liters/cylinder and a site rating of more than 300 brake horsepower. Standard for diesel fuel oil.
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 2b #1	Comply with operating limitations in Table 2b: 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.
40 CFR 63.6625(b)	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 40 CFR 63.6625(b) and in accordance with a site-specific monitoring plan.

d) Monitoring and/or Recordkeeping Requirements

(1) For each shipment of oil received for burning in this engine, 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.

For [40 CFR 63.6604] and [40 CFR 80.510(b)]; [40 CFR 63.6660] and [40 CFR 63.10(b)(1)]

(2) The permitee shall maintain a record of the diesel fuel burned in diesel-fired engines at the facility each month and for each engine type. Two engines are considered separate types if any of the gram/kW-hr emission limits described in section 1.b)(1)a. of their air permits are different. Records of NOx emission calculations shall be maintained for each diesel engine at the facility and they shall document the NOx emissions to be less than 99 tons each rolling 12-month period at this throughput; or the same demonstration can be made using a worst-case NOx emission factor.

[OAC rule 3745-31-05(A)(3)- to calculate emissions]

(3) The permittee shall maintain a record of the diesel fuel burned in all diesel fired engines at this facility on a rolling 12-month basis, i.e., at the end of each month, the sum of the gallons of diesel fuel burned in all diesel-fired engines during the month plus the number of gallons burned during the preceding 11 months of operations. During the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, where 11 months of fuel usage records are not available, the permittee shall record the cumulative diesel fuel usage for the facility as specified in the following table:

Month(s)	1. Maximum Allowable Cumulative Diesel Usage (gallons)	2. Maximum Allowable Cumulative Diesel Usage (gallons)
1	80,000	80,000
1-2	160,000	160,000
1-3	240,000	240,000
1-4	320,000	320,000
1-5	400,000	400,000
1-6	451,642	480,000
1-7	451,642	500,000
1-8	451,642	500,000
1-9	451,642	500,000
1-10	451,642	500,000
1-11	451,642	500,000
1-12	451,642	500,000

1. Where any engine is put into operation that is not certified and permitted to emission standards that meet those found in 40 CFR 89.112 (Tier 1 through Tier 3) or 40 CFR 1039.102 (Interim Tier 4)

2. Where monthly calculations demonstrate that the facility's total rolling, 12-month NOx emissions are less than 99 tons, based on the fuel usage in each engine and the exhaust standards to which they are permitted.

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the facility's annual diesel fuel usage limitation shall be based upon a rolling, 12-month summation of the fuel usage records for each engine.

[OAC rule 3745-31-05(D)]

(4) 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); 40 CFR 63.8; and Subpart ZZZZ Table 6 #3	Following the compliance date, if installing CEMS to demonstrate continuous compliance must conduct: 1. daily and periodic data quality checks in accordance with 40 CFR Part 60, Appendix F, procedure 1. 2. an initial performance evaluation of the CEMS (initially in conjunction with the appropriate test methods in Table 4) using Performance Specifications 3 and 4A (PS 3 and 4A) of 40 CFR Part 60, Appendix B; and 3. annual relative accuracy test audits (RATA) for each CEMS according to the requirements in 40 CFR 63.8 and using PS 3 and 4A of 40 CFR Part 60, Appendix B. Data from the CEMS shall be reduced to 1-hour and 4-hour averages according to Table 6 #3.
40 CFR 63.6625(b); 40 CFR 63.8; and Subpart ZZZZ Table 6 #10	Following the compliance date, if installing CPMS to demonstrate continuous compliance, the CPMS must collect data at least once every 15 minutes and the catalyst inlet temperature shall be reduced to 4-hour rolling averages. The pressure drop across the catalyst must be monitored and recorded monthly. Develop site-specific monitoring plan for the CPMS.
40 CFR 63.6603 and Subpart ZZZZ Table 2	If not using CPMS to demonstrate compliance, maintain a daily log to record the catalyst inlet temperature. Maintain a monthly record of the pressure drop across the catalyst.
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 Tables 2d and 2b according to the methods specified in Table 6 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 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; 5. all required maintenance performed on air pollution control and monitoring equipment; and 6. any excess emissions or parameter monitoring exceedances, as identified by 40 CFR 63.10(b) and (c).
40 CFR 63.6655(b);	Keep records for each CEMS or CPMS used to demonstrate

40 CFR 63.10(b); and 40 CFR 63.8(d)	compliance, including: the performance evaluation test plan; previous versions of the performance test plan; performance tests and evaluations; results of the quality control program; CMS calibration checks; 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 63.6604; and 40 CFR 80.510(b)	Maintain records for the quality of diesel fuel burned in the CI RICE, i.e., for the standards identified in 40 CFR 80.510(b).
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).

e) Reporting Requirements

(1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.

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

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

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

(3) 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.

[OAC rule 3745-15-04(A)]; [40 CFR 63.6645(h)]; and [40 CFR 63.9(h)(2)(ii)]

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

Applicable Rule	Requirement
40 CFR 63.6604 and OAC rule 3745-15-03(B)(2) and (D)	Identify in the PER and semiannual compliance reports any period of time (date and number of hours), during the reporting period, that the quality of oil burned in this engine did not meet the requirements established in 40 CFR 80.510(b).

40 CFR 63.6640(b)	Submit a report of each instance in which the emission limitation or operating limitation in Tables 2d and 2b 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 CI RICE.
40 CFR 6625(a) and (b); 40 CFR 63.7(c); and 40 CFR 63.8(d) and (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) and (g)	Submit a Notification of Intent to conduct a performance test for the engine or a performance evaluation of the CMS at least 60 days before the test is scheduled to begin.
40 CFR 63.6645(h); 40 CFR 63.6630(c); 40 CFR 63.8(e)(5); 40 CFR 63.9(h); 40 CFR 63.10(d)(2) and (e)(2); and OAC rule 3745-15-04(A)	Submit a Notification of Compliance Status for each compliance demonstration required in Tables 3 and 5 to Subpart ZZZZ, including the performance test and CMS performance evaluation results, before the close of business on the 60th 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 Part 63 Subpart ZZZZ Table 7 #1	Following the initial compliance date, submit Semiannual Compliance Reports to include the information identified in 63.6650(c) through (f), as applicable to the CI RICE. Following the initial compliance report, each subsequent report shall cover the reporting period from January 1st through June 30th and July 1st through December 31st. The Semiannual Compliance Reports must be postmarked or delivered no later than July 31st and January 31st.
40 CFR 63.6650(c)	63.6650(c) contains the required information to be submitted in each compliance report.
40 CFR 63.6650(d) and (e)	63.6650(d) contains the required information to be submitted for each deviation from an emission or operating limitation not monitored by a continuous monitoring system (CMS) and 63.6650(e) the information needed where using a CMS to comply with the emission or operating limitation.

f) Testing Requirements

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

a. <u>Opacity Limitation</u>:

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

Applicable Compliance Method:

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

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

b. Emission Limitations:

0.062 lb PE/MMBtu

1.92 tons PE/rolling 12-months for the facility

Applicable Compliance Method:

The particulate emission limitation is from OAC rule 3745-17-11(B)(5) for stationary internal combustion engines. Compliance with the ton per rolling 12-month PE emissions limitation shall be determined by the following calculation:

Where:

Gi = Gallons of diesel fuel used per rolling 12-month period for engine type i.

EFi = the particulate emission limitation from OAC rule 3745-17-11(B)(5)(b) for stationary large internal combustion engines greater than 600 horsepower, 0.062 lb PE/MMBtu

E = Total tons of PE/rolling 12-month period emitted.

$$E = \sum_{i=1}^{n} Gi \frac{Gallons}{Rolling\ 12-months} \quad \frac{137{,}000\ Btu *}{Gallon} \quad EFi \frac{lb}{MMBtu} \quad \frac{Ton}{2000\ lb}$$

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.

[OAC rule 3745-31-05(D)] and [OAC rule 3745-17-11(B)(5)(b)]

c. Emission Limitations:

3.2 lb NOx/MMBtu

99.0 tons NOx/rolling 12-months for the facility

Applicable Compliance Method:

The NOx emissions limit is based on using the AP-42 emission factor of 3.2 lbs NOx/MMBtu from Chapter 3.4, Table 3.4-1, “Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines”.

Compliance with the ton per rolling 12-month VOC emissions limitation shall be determined by the following calculation:

Where:

Gi = Gallons of diesel fuel used per rolling 12-month period for engine type i.

EFi = AP-42 emission factor from Chapter 3.4, Table 3.4-1, 3.2 lbs NOx/MMBtu.

E = Total tons of VOC/rolling 12-month period emitted.

$$E = \sum_{i=1}^{n} Gi \frac{Gallons}{Rolling\ 12-months} \quad \frac{137{,}000\ Btu *}{Gallon} \quad EFi \frac{lb}{MMBtu} \quad \frac{Ton}{2000\ lb}$$

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 4 and 7, as appropriate.

[OAC rule 3745-31-05(D)]

d. <u>Emission Limitations</u>:

0.85 lb CO/MMBtu

26.30 tons CO/rolling 12-months for the facility

<u>Applicable Compliance Method</u>:

The carbon monoxide emissions limit is based on using the AP-42 emission factor of 0.85 lb CO/MMBtu from Chapter 3.4, Table 3.4-1, “Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines”. This limit will be replaced by the CO exhaust concentration limit or CO control requirement from 40 CFR Part 63, Subpart ZZZZ, Table 2d effective May 3, 2013.

Compliance with the ton per rolling 12-month CO emissions limitation shall be determined by the following calculation:

Where:

Gi = Gallons of diesel fuel used per rolling 12-month period for engine type i.

EFi = AP-42 emission factor from Chapter 3.4, Table 3.4-1, 0.85 lb CO/MMBtu.

E = Total tons of CO/rolling 12-month period emitted.

$$E = \sum_{i=1}^{n} Gi \frac{Gallons}{Rolling\ 12-months} \quad \frac{137{,}000\ Btu *}{Gallon} \quad \frac{lb}{MMBtu} \quad \frac{Ton}{2000\ lb}$$

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 4 and 10.

[OAC rule 3745-31-05(D)]

e. <u>Emission Limitations</u>:

23 ppmvd CO at 15% O_2 or

reduce CO by 70%

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_2 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_2 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_2, 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_2 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 RICE.

v. The following equation shall be used to normalize the CO concentrations to a dry basis and to 15 percent oxygen (O_2)**:

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

Where:

C_{adj}= calculated CO concentration adjusted to 15 percent O_2.

C_d= measured concentration of CO, uncorrected.

5.9 = 20.9 percent O_2 − 15 percent O_2, the defined O_2 correction value, percent.

$\%O_2$ = measured O_2 concentration, dry basis, percent.

** Optionally, the pollutant concentrations can be corrected to 15% O_2 using a CO_2 correction factor, by calculating the fuel factor (F_o 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 engine and the testing procedures provide a valid characterization of the emissions from the engine and/or the performance of the control equipment.

[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)]

f. Emission Limitations:

0.09 lb VOC/MMBtu

2.78 tons VOC/rolling 12-months for the facility

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”.

Compliance with the ton per rolling 12-month VOC emissions limitation shall be determined by the following calculation:

Where:

Gi = Gallons of diesel fuel used per rolling 12-month period for engine type i.

EFi = AP-42 emission factor from Chapter 3.4, Table 3.4-1, 0.09 lb VOC/MMBtu.

E = Total tons of VOC/rolling 12-month period emitted.

$$E = \sum_{i=1}^{n} Gi \frac{Gallons}{Rolling\ 12-months} \quad \frac{137{,}000\ Btu *}{Gallon} \quad EFi \frac{lb}{MMBtu} \quad \frac{Ton}{2000\ lb}$$

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 4 and 25, as appropriate.

[OAC rule 3745-31-05(D)]

g. Sulfur Content Limitations for Diesel Fuel:

Sulfur content 15 ppm or ≤ 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_2/MMBtu.

[40 CFR 63.6604] and [40 CFR 80.510(b)]

h. Emission Limitations:

0.047 tons of SO_2/rolling 12-month period for the facility where limited to 451,642 gallons

0.052 tons of SO_2/rolling 12-month period for the facility where limited to 500,000 gallons

Applicable Compliance Method:

Compliance with the ton per rolling 12-month SO_2 emissions limitation shall be determined by the following calculation from AP-42 Table 3.4-1:

Where:

G = Gallons of diesel fuel burned in the engine during each rolling 12-month period.

S = Sulfur content of the fuel used. Since the sulfur content limit for the fuel is 0.0015%, use the value 0.0015 in the formula.

E = Total tons of SO_2/rolling 12-month period emitted.

$$E = G \frac{Gallons}{Rolling\ 12-months} \frac{137{,}000\ Btu *}{Gallon} \quad 1.01 \quad S \frac{lb\ SO2}{mmBtu} \frac{Ton}{2000\ lbs}$$

[OAC rule 3745-31-05(D)]

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

g) Miscellaneous Requirements

(1) At the discretion and following the approval of the Director (the appropriate Ohio EPA District Office or local air agency), the permittee may relocate the portable source within the State of Ohio without first obtaining a permit-to-install and operate (PTIO) or a permit-to-install (PTI), providing the appropriate notification and exemption requirements

have been met. The Director may issue a "Notice of Site Approval" through either of the following scenarios:

a. The approval to relocate the portable source shall be acquired in accordance the permanent exemption for portable sources in OAC rule 3745-31-03(A)(1)(p):

   i. the diesel engine (portable source) is certified to limits that meet the applicable New Source Performance Standard (NSPS) limitations, according to the rated power and model year;

   ii. the portable source is operated in compliance with any applicable best available technology (BAT) determination issued in a permit and all applicable state and/or federal rules and laws;

   iii. the portable source is operating pursuant to a currently effective PTIO or PTI and/or permit to operate (PTO) and continues to comply with the requirements of the permit;

   iv. all of the qualifying criteria for the relocated engine can be and will continue to be met at the new location;

   v. the permittee has provided a minimum of 30 days notice of the intent to relocate the portable source to the permitting authority (the Ohio EPA District Office or local air agency that has issued the effective current permit) prior to the scheduled relocation;

   vi. the Ohio EPA district office or local air agency having jurisdiction over the new site has determined that the permitted emissions would not cause a nuisance and would be acceptable under OAC rule 3745-15-07;

   vii. upon relocation, the permittee maintains records of the diesel fuel burned in the engine according to its rated power and model year, along with any other engines at the facility with the same NSPS limits; and

   viii. the Director has issued a “Notice of Site Approval”, stating that the proposed site is acceptable and the relocation of the portable source, along with any supporting permitted emissions (e.g. roadways or storage piles), would not result in the installation of a major stationary source or a modification of an existing major stationary source at the new site.

   The portable source can be relocated upon receipt of the Director’s “Notice of Site Approval” for the site; **or**

b. The Director may issue a “Notice of Site Approval” if the portable source meets the requirements of OAC rule 3745-31-05(H), as follows:

   i. the diesel engine (portable source) is certified to limits that meet the applicable New Source Performance Standard (NSPS) limitations, according to the rated power and model year;

   ii. the portable source is operating pursuant to a currently effective permit-to-install (PTI), permit-to-install and operate (PTIO), or has been

approved for registration status and continues to comply with the requirements of the permit and any applicable state and/or federal rules;

iii. the portable source has been issued a PTIO or PTI and the permittee continues to comply with the requirements of the permit, including any applicable best available technology (BAT) determination;

iv. all of the qualifying criteria for the relocated engine can be and will continue to be met at the new location;

v. the portable source owner has identified and submitted the proposed site to the Ohio EPA;

vi. the permitting District Office/local air agency and the District Office/local air agency having jurisdiction over the new site (if different) have determined that the portable source will have an acceptable environmental impact at the proposed site;

vii. a public notice, meeting the requirements OAC rule 3745-47, is published in the county where the proposed site is located;

viii. the owner of the proposed site (if not the permittee) has provided the portable source owner with approval, or an equivalent declaration, that it is acceptable to move the portable source to the proposed site;

ix. the permittee has provided the Ohio EPA with a minimum of a 15-day written notice of the relocation; and

x. upon relocation, the permittee maintains records of the diesel fuel burned in the engine according to its rated power and model year, along with any other engines at the facility with the same NSPS limits.

The portable source can be relocated upon receipt of the Director's "Notice of Site Approval" for the site. Any site approval issued by the Ohio EPA, pursuant to OAC rule 3745-31-05(H), is subject to expiration and renewal. Pursuant to OAC rule 3745-31-07(C)(3), any site approval for a portable source shall be issued for a period of time determined to be appropriate by the Director and the renewal will be reevaluated and subject to the same requirements above.

[OAC rule 3745-31-03(A)(1)(p)(i)] or [OAC rule 3745-31-03(A)(1)(p)(ii)], [OAC rule 3745-31-05(H)], [OAC rule 3745-31-07(C)(3)], and [ORC 3704.03(G)]

(2) If the relocation of the portable source would result in the installation of a major source or the modification of a major source, as defined in OAC rule 3745-31-01, the permittee shall submit an application and obtain a PTIO or PTI (as applicable) for the new location prior to moving the portable source.

When a portable source is located at a stationary source or at a site with multiple portable sources, the potential emissions of the portable source may be required to be added to that of the facility, in order to determine the potential to emit for Title V and PSD applicability. Relocation of any portable source that results in the creation of a major source, as defined in OAC rule 3745-77-01, must also meet all applicable

requirements under the Title V program contained in OAC rule 3745-77, which may include the requirement to apply for a Title V permit.

The "Notice of Intent to Relocate" shall be submitted to the Ohio EPA District Office or local air agency responsible for issuing the permits for the portable source. Upon receipt of the notice, the permitting office shall notify the appropriate Ohio EPA District Office or local air agency having jurisdiction over the new site. Failure to submit said notification or failure to receive Ohio EPA approval prior to relocation of the portable source may result in fines and civil penalties.

[OAC rule 3745-31-03(A)(1)(p)(i)], [OAC rule 3745-31-03(A)(1)(p)(ii)], and [OAC rule 3745-31-05(H)]