

Note to Permit Engineer: This permit condition applies to stationary compression ignition (CI) internal combustion engines (ICE) that commence construction after July 11, 2005 where the engine is either (1) manufactured after April 1, 2006 and are not fire pump engines, or (2) manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006, and to any stationary CI ICE that are modified or reconstructed after July 11, 2005.

15A NCAC 2D .0524 "NEW SOURCE PERFORMANCE STANDARDS" - For the following equipment, The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards" (NSPS) as promulgated in 40 CFR 60, Subpart indicated below, and including Subpart A "General Provisions."

Emission Source(s)	Regulation
(NO SOURCES SELECTED)	40 CFR 60, Subpart IIII "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)"

a. Emission Standards:

FOR NON-EMERGENCY AND EMERGENCY ENGINES

- i. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4204 and 60.4205 over the entire life of the engine.

FOR NON-EMERGENCY ENGINES

- i. For the pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder, the Permittee must comply with the applicable emission standards in Table 1 of 40 CFR 60 Subpart IIII.[60.4204(a)]
- ii. For the pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder, the Permittee must comply with the emission standards in 40 CFR 94.8(a)(1).[60.4204(a)]
- iii. For the 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder, the Permittee must comply with the emission standards for new CI engines in 40 CFR 60.4201, as applicable.[60.4204(b)]
- iv. For the non-emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder, the Permittee must meet the following requirements:

- A. Limit the emissions of NO_x in the stationary CI ICE exhaust as listed in 40 CFR 60.4204(c).[60.4204(c)]
- B. Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the engine exhaust to 0.15 grams per KW-hour (0.11 grams per HP-hour).[60.4204(c)(4)]

FOR EMERGENCY ENGINES

- i. For the pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines, the Permittee must comply with the emission standards in Table 1 of 40 CFR 60, Subpart IIII.[60.4205(a)]
- ii. For the pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines, the Permittee must comply with the emission standards in 40 CFR 94.8(a)(1).[60.4205(a)]
- iii. For the 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines, the Permittee must comply with the emission standards for new nonroad CI engines in 40 CFR 60.4202, for all pollutants, for the same model year and maximum engine power.[60.4205(b)]
- iv. For the fire pump engines with a displacement of less than 30 liters per cylinder, the Permittee must comply with the emission standards in Table 4 of 40 CFR 60 Subpart IIII, for all pollutants.[60.4205(c)]
- v. For the emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder, the Permittee must meet the following requirements:
 - A. Limit the emissions of NO_x in the stationary CI ICE exhaust as listed in 40 CFR 60.4205(d).[60.4205(d)(1) and (d)(2)]
 - B. Limit the emissions of PM in the stationary CI ICE exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).[60.4205(d)(3)]

b. Fuel Requirements:

FOR NON-EMERGENCY AND EMERGENCY ENGINES

- i. Engines subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, as listed below, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [60.4207(b)]
 - A. Has a maximum sulfur content of 15 ppm; and [40 CFR 80.510(b)]
 - B. Has a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.[40 CFR 80.510(b)]
- ii. Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).[60.4207(d)]

c. Monitoring Requirements:

FOR NON-EMERGENCY ENGINES

- i. If the non-emergency stationary CI ICE is equipped with a diesel particulate filter to comply with the emissions standards listed above, the diesel particulate filter must be installed with a backpressure monitor that notifies the Permittee when the high backpressure limit of the engine is approached.[60.4209(b)]

FOR EMERGENCY ENGINES

- i. For the emergency stationary CI ICE that does not meet the standards applicable to non-emergency engines, the Permittee must install a non-resettable hour meter prior to startup of the engine.[60.4209(a)]

d. Compliance Requirements:

FOR NON-EMERGENCY AND EMERGENCY ENGINES

- i. The Permittee must do all the following, except as permitted under 40 CFR 60.4211(g):[60.4211(a)]
 - A. operate and maintain the stationary CI ICE and control device according to the manufacturer's written emission-related instructions or procedures developed by the Permittee that are approved by the engine manufacturer.[60.4211(a)(1)]
 - B. Change only those emission-related settings that are permitted by the manufacturer [60.4211(a)(2)]; and
 - C. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable.[60.4211(a)(3)]
- ii. For the pre-2007 model year stationary CI ICE with a displacement of less than 10 liters per cylinder that is not a fire pump engine, or for the CI fire pump engine that is manufactured prior to the model years in Table 3 of 40 CFR 60 Subpart IIII and must comply with the emission standards specified in 40 CFR 60.4205(c), the Permittee must demonstrate compliance according to **one** of the methods specified below:[60.4211(b)]
 - A. Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.[60.4211(b)(1)]
 - B. Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.[60.4211(b)(2)]
 - C. Keeping records of engine manufacturer data indicating compliance with the standards.[60.4211(b)(3)]
 - D. Keeping records of control device vendor data indicating compliance with the standards.[60.4211(b)(4)]
 - E. Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 60.4212, as applicable.[60.4211(b)(5)]
- iii. For the 2007 model year and later stationary CI ICE that must comply with the emission standards specified in 40 CFR 60.4204(b) or 4205(b), or for the CI fire

- pump engine that is manufactured during or after the model year that applies to the fire pump engine power rating in Table 3 to 40 CFR 60 Subpart IIII that must comply with the emission standards specified in 40 CFR 60.4205(c), the Permittee must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4204(b), or 4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g).[60.4211(c)]
- iv. For the stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder, the Permittee must demonstrate compliance according to the following requirements:
- A. Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in 40 CFR 60.4213.[60.4211(d)(1)]
 - B. Establishing operating parameters to be monitored continuously to ensure the stationary ICE continues to meet the emission standards. The Permittee must petition EPA for approval of operating parameters to be monitored continuously. The petition must include the information described in 40 CFR 60.4211(d)(2)(i) through (v).[60.4211(d)(2)]
 - C. For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in 40 CFR 60.4213.[60.4211(d)(3)]
- v. An owner or operator of a modified or reconstructed stationary CI ICE that must comply with the emission standards of 40 CFR 60.4204(e) or 60.4205(f) must demonstrate compliance according to one of the following methods:[60.4211(e)]
- A. Purchasing, or otherwise owning or operating, and engine certified to the emission standards in 40 CFR 60.4204(e) or 60.4205(f), as applicable.[60.4211(e)]

- B. Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in 40 CFR 60.4212 or 60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.[60.4211(e)]
- vi. If the Permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or if the Permittee changes emission-related settings in a way that is not permitted by the manufacturer, the Permittee must demonstrate compliance per the requirements of 40 CFR 60.4211(g).[60.4211(g)]

FOR EMERGENCY ENGINES

- vii. The Permittee must operate the emergency stationary ICE according to the requirements in paragraphs A through C below. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs A through C below, is prohibited. If you do not operate the engine according to the requirements in paragraphs A through C below, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. [60.4211(f)]
- A. There is no limit on the use of emergency stationary ICE in emergency situations.
 - B. You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs I through III below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph C below counts as part of the 100 hours per calendar year allowed by this paragraph B.
 - I. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
 - II. Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR

60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

III. Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

- C. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph B above. Except as provided in paragraph I below, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- I. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
- (a) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
 - (b) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
 - (c) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
 - (d) The power is provided only to the facility itself or to support the local transmission and distribution system.
 - (e) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.
- e. Notification Requirements: In addition to any other notification requirements to the Environmental Protection Agency (EPA), the Permittee is required to notify the Regional Supervisor, DAQ, in WRITING, of the following:

FOR NON-EMERGENCY AND EMERGENCY ENGINES

- i. The date construction (40 CFR 60.7) or reconstruction (40 CFR 60.15) of an affected source is commenced, postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.[40 CFR 60.7(a)(1)]
 - ii. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.[40 CFR 60.7(a)(3)]
 - iii. If the stationary CI ICE is greater than 2,237 KW (3,000 HP), or has a displacement of greater than or equal to 10 liters per cylinder, or is a pre-2007 model year engine that is greater than 130 KW (175 HP) and not certified, then the Permittee must submit an initial notification as required in 40 CFR 60.7(a)(1). The notification must include the information listed in 40 CFR 60.4214(a)(1).[60.4214(a) and (a)(1)]
 - iv. If the engine is an emergency stationary ICE, the Permittee is **not** required to submit an initial notification.[60.4214(b)]
- f. Recordkeeping Requirements:

FOR NON-EMERGENCY AND EMERGENCY ENGINES

- i. If the stationary CI ICE is greater than 2,237 KW (3,000 HP), or has a displacement of greater than or equal to 10 liters per cylinder, or is a pre-2007 model year engine that is greater than 130 KW (175 HP) and not certified, then the Permittee must keep records of the following:
 - A. All notifications submitted to comply with 40 CFR 60 Subpart IIII and all documentation supporting any notification;[60.4214(a)(2)(i)]
 - B. Maintenance conducted on the engine;[60.4214(a)(2)(ii)]
 - C. If the stationary CI ICE is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards;[60.4214(a)(2)(iii)]
 - D. If the stationary CI ICE is not a certified engine, documentation that the engine meets the emissions standards; [60.4214(a)(2)(iv)]
 - E. If the stationary CI ICE is equipped with a diesel particulate filter, the Permittee must keep records of any corrective action taken after the backpressure monitor has notified the Permittee that the high backpressure limit of the engine is approached.[60.4214(c)]

- F. All records required under this section shall be maintained for a period of two (2) years following the date of such record. All records shall be kept on-site and made available to DAQ personnel upon request. The Permittee shall be deemed in non-compliance with 15A NCAC 2D .0524 if recordkeeping requirements are not maintained.[40 CFR 60.7(f)]

FOR EMERGENCY ENGINES

- G. Starting with the model years in Table 5 to 40 CFR 60, Subpart IIII, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the Permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee must record the time of operation of the engine and the reason the engine was in operation during that time.[60.4214(b)]

- g. Reporting Requirements:

FOR EMERGENCY ENGINES (note: make this title red type and bold)

- i. If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for purposes specified in paragraphs d.vii.B and C above or that operates for the purposes specified in paragraph d.vii.C.I above, you must submit an annual report according to the following requirements: [60.4214(d)]
- A. The report must contain the following information:
- I. Company name and address where the engine is located.
 - II. Date of the report and beginning and ending dates of the reporting period.
 - III. Engine site rating and model year.
 - IV. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
 - V. Hours operated for the purposes specified in paragraphs d.vii.B.II and III above, including the date, start time, and end time for engine operation for the purposes specified in paragraphs d.vii.B.II and III above.
 - VI. Number of hours the engine is contractually obligated to be available for the purposes specified in paragraphs d.vii.B.II and III above.
 - VII. Hours spent for operation for the purposes specified in paragraph d.vii.C.I above, including the date, start time, and end time for engine operation for the

purposes specified in paragraph d.vii.C.I above. The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

- B. The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.
- C. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 60.4.