

FG{ID}
FLEXIBLE GROUP CONDITIONS

40 CFR Part 60, Subpart JJJJ – Natural Gas-Fired Emergency Spark Ignition (SI) Internal Combustion Engines (ICE) $25 < X \leq 500$ horsepower (HP)

Red text identifies options. Select the option that applies to the source and change the text to black. Delete red text that does not apply and renumber conditions if necessary.

Blue text is guidance or notes on the use of the template. Delete all blue text prior to issuing the final permit or submitting it with a permit application.

This template is for a natural gas-fired lean burn emergency SI RICE greater than 25 HP but less than or equal to 500 HP. The SI RICE is subject if construction was commenced, or the engine was modified or reconstructed after June 12, 2006, and was manufactured on or after January 1, 2009. NOTE: For the purposes of 40 CFR 60, Subpart JJJJ, the date that construction commenced is the date the engine is ordered by the owner or operator.

If this template is being used for an ROP Reopening or Renewal, and the NSPS conditions were established in a PTI, the appropriate footnotes which reference enforceability must be added to each applicable condition in the template.

DESCRIPTION

40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE), natural gas-fired lean burn emergency engine(s) greater than 25 HP (19 KW) but less than or equal to 500 HP (373 KW). The emergency SI ICE commenced construction after June 12, 2006 and was manufactured on or after January 1, 2009.

Emission Units: {Enter Emission Unit names}

POLLUTION CONTROL EQUIPMENT

{Enter pollution control equipment names or NA}

I. EMISSION LIMITS

The following limits apply if maximum engine power is $25 < X < 100$ HP.

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx + HC	10 g/HP-hr	Hourly	EU{ID} OR Each engine in FG{ID}	SC V.1, SC VI.1	40 CFR 60.4233(d), Table 1 to 40 CFR 60, Subpart JJJJ
2. CO	387 g/HP-hr	Hourly	EU{ID} OR Each engine in FG{ID}	SC V.1, SC VI.1	40 CFR 60.4233(d), Table 1 to 40 CFR 60, Subpart JJJJ

HC – hydrocarbon

The following limits apply if maximum engine power is $100 \leq X < 130$ HP.

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx + HC	10 g/HP-hr	Hourly	EU{ID} OR Each engine in FG{ID}	SC V.1, SC VI.1	40 CFR 60.4233(e), Table 1 to 40 CFR 60, Subpart JJJJ

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
2. CO	387 g/HP-hr	Hourly	EU{ID} OR Each engine in FG{ID}	SC V.1, SC VI.1	40 CFR 60.4233(e), Table 1 to 40 CFR 60, Subpart JJJJ

HC – hydrocarbon

The following limits apply if maximum engine power is $130 \leq X \leq 500$ HP.

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO _x	2.0 g/HP-hr - OR - 160 ppmvd at 15% at oxygen	Hourly	EU{ID} OR Each engine in FG{ID}	SC V.1, SC VI.1	40 CFR 60.4233(e), Table 1 to 40 CFR 60, Subpart JJJJ
2. CO	4.0 g/HP-hr - OR - 540 ppmvd at 15% oxygen	Hourly	EU{ID} OR Each engine in FG{ID}	SC V.1, SC VI.1	40 CFR 60.4233(e), Table 1 to 40 CFR 60, Subpart JJJJ
3. VOC	1.0 g/HP-hr ^A - OR - 86 ppmvd at 15% oxygen ^A	Hourly	EU{ID} OR Each engine in FG{ID}	SC V.1, SC VI.1	40 CFR 60.4233(e), Table 1 to 40 CFR 60, Subpart JJJJ

ppmv = parts per million by volume on a dry gas basis

^A When calculating VOC emissions for this emission limit, emissions of formaldehyde should not be included.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee may operate each engine in FG{ID} for no more than 100 hours per calendar year for the purpose of necessary 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 AQD for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. (40 CFR 60.4243(d)(2))
- Each engine in FG{ID} may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing as described in SC III.1. Except as provided in SC III.3, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or demand response, or to generate income for the permittee to supply non-emergency power as part of a financial arrangement with another entity. (40 CFR 60.4243(d)(3))

OPTIONAL – Use if supply power as part of a financial arrangement and renumber as appropriate.

- 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: (40 CFR 60.4243(d)(3)(i))
 - The engine is dispatched by the local balancing authority or local transmission and distribution system operator. (40 CFR 60.4243(d)(3)(i)(A))
 - 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. (40 CFR 60.4243(d)(3)(i)(B))
 - The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. (40 CFR 60.4243(d)(3)(i)(C))

- d. The power is provided only to the facility itself or to support the local transmission and distribution system. (40 CFR 60.4243(d)(3)(i)(D))
- e. The permittee 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 permittee. (40 CFR 60.4243(d)(3)(i)(E))

CHOOSE ONE OR MORE OPTIONS and renumber as appropriate:

If an engine was purchased as a certified engine.

- 3. If the permittee purchases an engine certified according to procedures specified in 40 CFR Part 60, Subpart JJJJ, for the same model year, and operates and maintains the certified stationary SI combustion engine and control device according to the manufacturer's emission related written instructions, the permittee must meet the requirements as specified in 40 CFR Part 1068, Subparts A through D as they apply. If the permittee adjusts engine settings according to and consistent with the manufacturer's instructions, the stationary SI internal combustion engine will not be considered out of compliance. (40 CFR 60.4243(a)(1), 40 CFR 60.4243(b)(1))

OR

If an engine was purchased as a certified engine but not operated as certified.

- 3. If the permittee purchases an engine certified according to procedures specified in 40 CFR Part 60, Subpart JJJJ, for the same model year, and does not operate and maintain the certified stationary SI combustion engine and control device according to the manufacturer's emission related written instructions, the engine will be considered a non-certified engine. The permittee must keep a maintenance plan and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. (40 CFR 60.4243(a)(2)(i){if less than 100 HP} OR (ii), 40 CFR 60.4243(b)(1))

OR

If an engine was purchased as a non-certified engine.

- 3. If the permittee purchases a non-certified engine, the permittee must keep a maintenance plan and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. (40 CFR 60.4243(b)(2)(i))

IV. DESIGN/EQUIPMENT PARAMETER(S)

- 1. The permittee must install and maintain a non-resettable hour meter on each engine in FG{ID}. (R 336.1213(3), 40 CFR 60.4237)

OPTIONAL – If using an AFR controller.

- 2. It is expected that air-to-fuel ratio (AFR) controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. (40 CFR 60.4243(g))

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

Permit staff – Change above UAR to Rule 201(3) if using in a PTI.

USE for engines greater than or equal to 100 HP:

- 1. If the permittee purchased a non-certified engine or does not operate and maintain a certified engine and control device according to the manufacturer's written emission-related instructions, the permittee is required to perform initial performance testing as indicated in 40 CFR 60.4244, but is not required to conduct subsequent performance testing unless the stationary engine undergoes rebuild, major repair or maintenance. Therefore, the permittee must demonstrate compliance as follows:
 - a. Conduct an initial performance test to demonstrate compliance with the applicable emission limits within 60 days after achieving the maximum production rate at which the engine will be operated, but not later than 180 days after initial startup, or within 1 year after the engine is no longer operated as a certified engine.
 - b. The performance tests shall consist of three separate test runs of at least 1 hour, for each performance test required in 40 CFR 60.4244 and Table 2 to 40 CFR Part 60, Subpart JJJJ.

No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. (R 336.1213(3), R 336.2001, R 336.2003, R 336.2004, 40 CFR 60.8, 40 CFR 60.4243(f), 40 CFR 60.4244, 40 CFR 60.4245, 40 CFR Part 60, Subpart JJJJ)

2. Not less than 30 days before a performance test, the permittee shall notify the department, in writing, of the time and place of the performance tests and who shall conduct them as provided in the site-specific test plan. (R 336.2001(3)(b))

OR
NA

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

Permit staff – Change above UAR to Rule 201(3) if using in a PTI.

CHOOSE ONE OR MORE OPTIONS and renumber as appropriate:

If an engine was purchased as a certified engine.

1. If the permittee purchases an engine certified according to procedures specified in 40 CFR Part 60, Subpart JJJJ, for the same model year, and operates and maintains the certified stationary SI combustion engine and control device according to the manufacturer's emission related written instructions, the permittee must keep records of conducted maintenance to demonstrate compliance. (40 CFR 60.4243(a)(1), 40 CFR 60.4243(b)(1))

OR

If an engine was purchased as a certified engine but not operated as certified.

2. If the permittee purchases an engine certified according to procedures specified in 40 CFR Part 60, Subpart JJJJ, for the same model year, and does not operate and maintain the certified stationary SI combustion engine and control device according to the manufacturer's emission related written instructions, the permittee must keep records of conducted maintenance to demonstrate compliance. **In addition, the permittee must conduct an initial performance test, as specified in SC V.1, to demonstrate compliance. {if greater than or equal to 100 HP} (40 CFR 60.4243(a)(2)(i){if less than 100 HP} OR (ii), 40 CFR 60.4243(b)(1), 40 CFR 60.4243(f))**

OR

If an engine was purchased as a non-certified engine.

3. If the permittee purchases a non-certified engine, the permittee must keep records of conducted maintenance. **In addition, the permittee must conduct an initial performance test, as specified in SC V.1, to demonstrate compliance. {if greater than or equal to 100 HP} (40 CFR 60.4243(b)(2)(i), 40 CFR 60.4243(f))**

ALWAYS INCLUDE:

4. The permittee must keep records of the following: (40 CFR 60.4245(a))
 - a. All notifications submitted to comply with 40 CFR Part 60, Subpart JJJJ and all documentation supporting any notification. (40 CFR 60.4245(a)(1))
 - b. Maintenance conducted on engine in FG{ID}. (40 CFR 60.4245(a)(2))

OPTIONAL – If the engine was purchased as a certified engine.

- c. **If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR Parts 1048, 1054, and 1060, as applicable. (40 CFR 60.4245(a)(3))**
- d. **If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that the engine meets the emission standards. (40 CFR 60.4245(a)(4))**

5. The permittee must keep records of the hours of operation for each engine in FG{ID} that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. (40 CFR 60.4243, 40 CFR 60.4245(b))

VII. REPORTING

Permit Staff – SC VII.1, 2, and 3 references to Rule 213 are ROP only. Remove before putting into a PTI. Renumber as appropriate.

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be received by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be received by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**
5. The permittee shall submit a notification specifying whether each engine in FG{ID} will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of each engine and within 30 days of switching the manner of operation. **(R 336.1213(3), 40 CFR Part 60, Subpart JJJJ)**

OPTIONAL – Use for engines greater than 100 HP and emergency demand response:

6. If an engine in FG{ID} with a maximum engine power more than 100 HP operates for the purpose specified in SC III.1, the permittee must submit an annual report. **(R 336.1213(4)(c), 40 CFR 60.4245(e))**
 - a. The report must contain the following information:
 - i. Company name and address where the engine is located. **(40 CFR 60.4245(e)(1)(i))**
 - ii. Date of the report and beginning and ending dates of the reporting period. **(40 CFR 60.4245(e)(1)(ii))**
 - iii. Engine site rating and model year. **(40 CFR 60.4245(e)(1)(iii))**
 - iv. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. **(40 CFR 60.4245(e)(1)(iv))**
 - v. Hours spent for operation for the purposes specified in SC III.1, including the date, start time, and end time for engine operation for the purposes specified in SC III.1. The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. **(40 CFR 60.4245(e)(1)(vii))**
 - b. Annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. **(40 CFR 60.4245(e)(2))**
 - c. The annual report must also be submitted electronically to the EPA using the 40 CFR Part 60, Subpart JJJJ 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 the subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the EPA at the appropriate address listed in 40 CFR 60.4. **(40 CFR 60.4245(e)(3))**

See Appendix 8 - Permit Staff: Remove if PTI, since this is ROP only.

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the federal Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as specified in 40 CFR Part 60, Subpart A and Subpart JJJJ. **(40 CFR Part 60, Subparts A and JJJJ)**

2. The permittee shall comply with all applicable provisions of the federal National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ. **(40 CFR 63.6590(c), 40 CFR Part 63, Subparts A and ZZZZ)**

Remove these footnotes if no PTIs are associated with this flexible group.

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).