40 CFR Part 63, Subpart ZZZZ

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Summary of Requirements

Engine Category	Date Constructed	Compliance Date	Emission Limitations	Operating Limitations	Fuel Requirements	Performance Tests	Monitoring, Installation, Collection, Operation and Maintenance Requirements	Initial Compliance	Continuous Compliance	Notification Requirements	Recordkeeping Requirements	Reporting Requirements	General Provisions (40 CFR part 63)
Stationary RICE at Major Sources													
Existing Stationary Engine <500 HP Located at Major Source of HAP													
Emergency CI (EU 087)	Before 6/12/2006	5/3/2013	63.6602 Table 2c	No Requirements	No Requirements	No Requirements	63.6625(e), (f), (h), (i)	No Requirements	63.6605 63.6640	No Requirements	63.6655 (except 63.6655(c))	Footnote 1 of Table 2c	Yes, except per 63.6645(a)(5), the following do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h).
Non-Emergency CI 100≤HP≤500 (EU 088)	Before 6/12/2006	5/3/2013	63.6602 Table 2c	No Requirements	>300 HP with displacement <30 l/cyl: 63.6604	63.6612 63.6620 Table 4 Table 5	63.6625(h) ≥300 HP: 63.6625(g)	63.6630 Table 5	63.6605 63.6640	63.6645	63.6655 (except 63.6655(c), (e), and (f))	63.6650 (except 63.6650(g))	Yes
Non-Emergency CI <100 HP (EU 089)	Before 6/12/2006	5/3/2013	63.6602 Table 2c	No Requirements	No Requirements	No Requirements	63.6625 (e), (h), (i)	No Requirements	63.6605 63.6640	No Requirements	63.6655 (except 63.6655(c) and (f))	No Requirements	Yes, except per 63.6645(a)(5), the following do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h).

Summary of Requirements

Engine Category	Date Constructed	Compliance Date	Emission Limitations	Operating Limitations	Fuel Requirements	Performance Tests	Monitoring, Installation, Collection, Operation and Maintenance Requirements	Initial Compliance	Continuous Compliance	Notification Requirements	Recordkeeping Requirements	Reporting Requirements	General Provisions (40 CFR part 63)
Emergency SI	Before 6/12/2006	10/19/2013	63.6602 Table 2c	No Requirements	No Requirements	No Requirements	63.6625(e), (f), (h), (j)	No Requirements	63.6605 63.6640	No Requirements	63.6655 (except 63.6655(c))	Footnote 1 of Table 2c	Yes, except per 63.6645(a)(5), the following do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h).
Non-Emergency SI 4SLB 100≤HP≤500	Before 6/12/2006	10/19/2013	63.6602 Table 2c	No Requirements	No Requirements	63.6612 63.6620 Table 4 Table 5	63.6625(h)	63.6630 Table 5	63.6605 63.6640	63.6645	63.6655 (except 63.6655(c), (e), and (f))	63.6650 (except 63.6650(g))	Yes
Non-Emergency SI 4SLB <100 HP	Before 6/12/2006	10/19/2013	63.6602 Table 2c	No Requirements	No Requirements	No Requirements	63.6625(e), (h), (j)	No Requirements	63.6605 63.6640	No Requirements	63.6655 (except 63.6655(c) and (f))	No Requirements	Yes, except per 63.6645(a)(5), the following do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h).
Non-Emergency SI 2SLB 100≤HP≤500	Before 6/12/2006	10/19/2013	63.6602 Table 2c	No Requirements	No Requirements	63.6612 63.6620 Table 4 Table 5	63.6625(h)	63.6630 Table 5	63.6605 63.6640	63.6645	63.6655 (except 63.6655(c), (e), and (f))	63.6650 (except 63.6650(g))	Yes
Non-Emergency SI 2SLB <100 HP	Before 6/12/2006	10/19/2013	63.6602 Table 2c	No Requirements	No Requirements	No Requirements	63.6625(e), (h), (j)	No Requirements	63.6605 63.6640	No Requirements	63.6655 (except 63.6655(c) and (f))	No Requirements	Yes, except per 63.6645(a)(5), the following do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h).
Non-Emergency SI 4SRB 100≤HP≤500	Before 6/12/2006	10/19/2013	63.6602 Table 2c	No Requirements	No Requirements	63.6612 63.6620 Table 4 Table 5	63.6625(h)	63.6630 Table 5	63.6605 63.6640	63.6645	63.6655 (except 63.6655(c), (e), and (f))	63.6650 (except 63.6650(g))	Yes
Non-Emergency SI 4SRB <100 HP	Before 6/12/2006	10/19/2013	63.6602 Table 2c	No Requirements	No Requirements	No Requirements	63.6625(e), (h), (j)	No Requirements	63.6605 63.6640	No Requirements	63.6655 (except 63.6655(c) and (f))	No Requirements	Yes, except per 63.6645(a)(5), the following do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h).
Non-Emergency Landfill/Digester Gas 100≤HP≤500	Before 6/12/2006	10/19/2013	63.6602 Table 2c	No Requirements	No Requirements	63.6612 63.6620 Table 4 Table 5	63.6625(h)	63.6630 Table 5	63.6605 63.6640	63.6645	63.6655 (except 63.6655(c), (e), and (f))	63.6650 (except 63.6650(g))	Yes
Non-Emergency Landfill/Digester Gas <100 HP	Before 6/12/2006	10/19/2013	63.6602 Table 2c	No Requirements	No Requirements	No Requirements	63.6625(e), (h), (j)	No Requirements	63.6605 63.6640	No Requirements	63.6655 (except 63.6655(c) and (f))	No Requirements	Yes, except per 63.6645(a)(5), the following do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h).
Existing Stationary Engine >500 HP Located at Major Source of HAP													
Limited Use	Before 12/19/2002	No Requirements											
Emergency	Before 12/19/2002	These engines are subject to the requirements in 40 CFR 63.6640(f). No other requirements apply.											
Non-Emergency CI	Before 12/19/2002	5/3/2013	63.6600(d) Table 2c	63.6600(d) Table 2b	>300 HP and <30 l/cyl:63.6604	63.6610 63.6615 63.6620 Table 3 Table 4 Table 5	63.6625(a), (b), (g), (h), (k)	63.6630 Table 5	63.6605 63.6635 63.6640	63.6645	63.6655 (except 63.6655(c), (e), and (f))	63.6650 (except 63.6650(g))	Yes
Non-Emergency SI 4SLB	Before 12/19/2002	6/15/2007	No Requirements										
Non-Emergency SI 2SLB	Before 12/19/2002	6/15/2007	No Requirements										
Non-Emergency SI 4SRB	Before 12/19/2002	6/15/2007	63.6600(a) Table 1a	63.6600(a) Table 1b	No Requirements	63.6610 63.6615 63.6620 Table 3 Table 4 Table 5	63.6625(a), (b), (h), (k)	63.6630 Table 5	63.6605 63.6635 63.6640	63.6645	63.6655 (except 63.6655(c), (e), and (f))	63.6650 (except 63.6650 (g))	Yes
Landfill/Digester Gas	Before 12/19/2002	No Requirements											

aNote that certain engines covered under 40 CFR part 63, subpart ZZZZ, may be subject to additional requirements under 40 CFR part 60, subparts IIII and JJJJ.

bFor assistance in determining the potential to emit, please refer to http://www.epa.gov/ttn/chief/ap42/index.html or contact your EPA regional office or state permitting staff. To determine the potential to emit, you may use emission factors from http://www.epa.gov/ttn/chief/ap42/ch03/index.html, test data, or other published information.

For reference information, refer to http://www.epa.gov/ttn/atw/rice/ricepg.html - Implementing Information - 12-03-2010 - RICE Summary Table of Requirements.

[1]Note: emergency engines have to comply with the definition of an emergency stationary RICE, which includes being operated per the requirements in 40 CFR 63.6640(f).

Abbreviations:

CI-Compression Ignition

SI-Spark Ignition

4SLB-4 Stroke Lean Burn

2SLB-2 Stroke Lean Burn

4SRB-4 Stroke Rich Burn

Summary of Requirements

Engine Category	Date Constructed	Compliance Date	Emission Limitations	Operating Limitations	Fuel Requirements	Performance Tests	Monitoring, Installation, Collection, Operation and Maintenance Requirements	Initial Compliance	Continuous Compliance	Notification Requirements	Recordkeeping Requirements	Reporting Requirements	General Provisions (40 CFR part 63)
Stationary RICE at Major Sources													
Emergency CI (EU 087)	**Before 6/12/2006**	**5/3/2013**	**63.6602 Table 2c** You must meet the following requirement, except during periods of startup: a. Change oil and filter every 500 hours of operation or annually, whichever comes first; b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. During periods of startup you must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.	**No Requirements**	**No Requirements**	**No Requirements**	**63.6625(e), (f), (h), (i)** (e) You must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. (f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed. (h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply. (i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.	**No Requirements**	**63.6605** **63.6640** 63.6605(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times. 63.6605(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. 63.6640(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart. 63.6640(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE. 63.6640(e) If you own or operate an existing emergency stationary RICE you do not need to comply with the requirements in Table 8 to this subpart. 63.6640(f) Requirements for emergency stationary RICE. (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines. i) There is no time limit on the use of emergency stationary RICE in emergency situations. (ii) You may operate your emergency stationary RICE 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 insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator 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 owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. (iii) You may operate your emergency stationary RICE 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.	**No Requirements**	**63.6655** **(except 63.6655(c))** 63.6655(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section. (1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv). (2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. (3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii). (4) Records of all required maintenance performed on the air pollution control and monitoring equipment. (5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. (d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you. (e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan (f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator 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. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.	**Footnote 1 of Table 2c** If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.	**Yes, except per 63.6645(a)(5), the following do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b)-(e), (g) and (h).**
Non-Emergency CI 100≤HP≤500 (EU 088)	**Before 6/12/2006**	**5/3/2013**	**63.6602 Table 2c** Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP: Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O2 Non-Emergency, non-black start CI stationary RICE 300<HP≤500: a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O2; or b. Reduce CO emissions by 70 percent or more.	**No Requirements**	**>300 HP with displacement <30 l/cyl: 63.6604** If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. 40CFR 80.510(b) Beginning June 1, 2010 . All NR diesel fuel is subject to the following per-gallon standards: (1) Sulfur content. (i) 15 ppm maximum for NR diesel fuel. (2) Cetane index or aromatic content, as follows: (i) A minimum cetane index of 40; or (ii) A maximum aromatic content of 35 volume percent.	**63.6612** **63.6620** **Table 4** **Table 5** (a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2). See 63.6620. See Table 4 and Table 5 for requirements to limit the concentration of formalydhyde or CO and sampling method/performance tests.	**63.6625(h) ≥300 HP: 63.6625(g)** (g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section. (1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or (2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals. (h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.	**63.6630 Table 5** (a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart. (c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645. See Table 5 for requirements to limit the concentration of formalydhyde or CO and sampling method/performance tests	See above	**63.6645** (a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified. (g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1). (h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).	**63.6655** **(except 63.6655(c), (e), and (f))**	**63.6650** **(except 63.6650(g))** See 63.6650	**Yes**

[4]Note emergency engines have to comply with the definition of an emergency stationary RICE, which includes being operated per the requirements in 40 CFR 63.6640(f).

Abbreviations:
CI-Compression Ignition
SI-Spark Ignition
4SLB-4 Stroke Lean Burn
2SLB-2 Stroke Lean Burn
4SRB-4 Stroke Rich Burn