



4701 W. Russell Rd Suite 200
 Las Vegas, NV 89118-2231
 Phone (702) 455-5942
 Fax (702) 383-9994

DAQ Use Only

Form SS-PER-007-03: Internal Combustion Engine Worksheet

**(Must be submitted with the Minor Source Permit Application or
 the Authority to Construct—Major Source Application forms)**

Please see instructions on page 2 before filling out the form.

Supplemental Information

IDENTIFICATION

1. Source Name:	2. Source ID No.:
3. Brief Project Description:	

ENGINE SPECIFICATIONS

4. Engine Manufacturer:	
5. Engine Power Rating:	(hp) @ RPM
6. Engine Model Number:	7. Engine Serial Number:
8. Date of Engine Manufacture:	
9. Date Engine Ordered:	10. Date of Installation:
11. No. Cylinders:	12. Displacement (check one): <input type="checkbox"/> liters OR <input type="checkbox"/> in ³
13. Check ALL configurations below that apply to this engine: <input type="checkbox"/> Continuous-duty <input type="checkbox"/> Emergency	
<input type="checkbox"/> Spark Ignition OR <input type="checkbox"/> Compression Ignition	<input type="checkbox"/> Two Cycle OR <input type="checkbox"/> Four Cycle <input type="checkbox"/> Lean Burn OR <input type="checkbox"/> Rich Burn
14. Fuel type: <input type="checkbox"/> Natural gas <input type="checkbox"/> Diesel <input type="checkbox"/> Propane/LPG <input type="checkbox"/> Dual-Fuel <input type="checkbox"/> Other (specify):	
15. Maximum hours of operation per year:	

EQUIPMENT SPECIFICATIONS

16. Check ONE option below that best describes the equipment receiving power from the engine: <input type="checkbox"/> Electric Generator <input type="checkbox"/> Fire Pump <input type="checkbox"/> Air Compressor <input type="checkbox"/> Other (specify):	
17. Equipment Manufacturer:	
18. Equipment Output Rating: kW (If not kW, specify unit):	
19. Equipment Model Number:	20. Equipment Serial Number:

ENGINE EMISSIONS DATA

21. List the emission data for this unit for particulate matter under 10 microns (PM₁₀), particulate matter under 2.5 microns (PM_{2.5}), nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), and volatile organic compounds (VOCs). Greenhouse gas (GHG) emissions (calculated in CO_{2e}) are only required for sources subject to major source New Source Review and/or Title V.

Pollutant	Emissions rate	Units (check one)
PM ₁₀ /PM _{2.5}		<input type="checkbox"/> g/bhp-hr OR <input type="checkbox"/> g/kW-hr
NO _x		<input type="checkbox"/> g/bhp-hr OR <input type="checkbox"/> g/kW-hr
SO ₂		<input type="checkbox"/> g/bhp-hr OR <input type="checkbox"/> g/kW-hr
CO		<input type="checkbox"/> g/bhp-hr OR <input type="checkbox"/> g/kW-hr
VOC		<input type="checkbox"/> g/bhp-hr OR <input type="checkbox"/> g/kW-hr
GHG		<input type="checkbox"/> g/bhp-hr OR <input type="checkbox"/> g/kW-hr

<p>22. Check ALL sources of emissions data referenced above and note for which pollutant(s):</p> <p><input type="checkbox"/> Manufacturer's Guarantee* Pollutant(s):</p> <p><input type="checkbox"/> Source Test Pollutant(s):</p> <p><input type="checkbox"/> AP-42 (if no other data available) Pollutant(s):</p>
<p>23. Specify the air pollution control methods used with the engine:</p>
<p>24. 40 CFR Part 60, Subpart IIII: Is the engine subject to this regulation and/or applicable to the paragraph in this section? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. (1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is: (i) 2007 or later, for engines that are not fire pump engines; (ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines; (2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are: (i) Manufactured after April 1, 2006, and are not fire pump engines, or (ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006; (3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005; (4) The provisions of § 60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.</p>
<p>25. 40 CFR Part 60, Subpart JJJJ: Is the engine subject to this regulation and/or applicable to the paragraph in this section? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (6) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. (1) Manufacturers of stationary SI ICE with a maximum engine power less than or equal to 19 kilowatt (KW) (25 horsepower (HP)) that are manufactured on or after July 1, 2008; (2) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline fueled or that are rich burn engines fueled by liquefied petroleum gas (LPG), where the date of manufacture is: (i) On or after July 1, 2008; or (ii) On or after January 1, 2009, for emergency engines; (3) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are not gasoline fueled and are not rich burn engines fueled by LPG, where the manufacturer participates in the voluntary manufacturer certification program described in this subpart and where the date of manufacture is: (i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP),(ii) On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP, (iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP, or (iv) On or after January 1, 2009, for emergency engines; (4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured: (i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP),(ii) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP, (iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP, or (iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP); (5) Owners and operators of stationary SI ICE that are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006; (6) The provisions of § 60.4236 of this subpart are applicable to all owners and operators of stationary SI ICE that commence construction after June 12, 2006.</p>
<p>26. 40 CFR Part 63, Subpart ZZZZ: Is the engine subject to this regulation and/or applicable to the paragraph in this section? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand; (a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition; (b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site; (c) An area source of HAP emissions is a source that is not a major source; (d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable; (e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C; (f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in § 63.6675, which includes operating according to the provisions specified in § 63.6640(f); (1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii); (2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii); (3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).</p>

**Attach manufacturer's specification sheet(s) for the engine's horsepower and the emissions data certifications provided for the emission rates.*

All information above this line is required for this form to be considered complete. Duplicate sheet as needed.

The information below guides you to other forms that may have to accompany this worksheet and general information concerning the emissions data.

- For emission control equipment, use the appropriate **CONTROL EQUIPMENT** form and duplicate as needed. Be sure to indicate the emission unit that the control equipment is affecting.
- For the purpose of determining whether a source needs a Minor Source Permit, DAQ will calculate its potential to emit (PTE) using 8,760 hours of operation for all continuous-duty engines and 500 hours of operation for emergency equipment.
- Emergency equipment for which these units are not the primary power supply, such as emergency generators and emergency fire pumps, will include operations due to testing, maintenance, and emergencies. DAQ will limit the maximum operating hours for testing and maintenance to the limits specified in any applicable NSPS or NESHAP (e.g., 100 hrs/yr).
- Continuous-duty equipment for which these units are the primary power supply will calculate a source's permitted PTE using 8,760 hours per year, unless the emission unit is physically or voluntarily limited.
- Use the Boiler form (SS-PER-007-01) if there is a boiler on-site.

Form Instructions

Before filling out this worksheet, locate the **Supplemental Information** box at the top right.

- If submitting this worksheet with a permit application, leave the box unchecked.
 - If submitting this worksheet without a permit application, or in response to a DAQ request for supplemental/requested information, check the box.
1. Provide the source name as it appears on the application. If a permit already exists for this operation, the source name should match the name on the permit.
 2. If the source is existing and already has a permit, provide the number as it appears on the permit. Otherwise, enter "New."
 3. Provide a brief description of the proposed project as it appears on the permit application. Indicate whether the engine is being proposed as a new emission unit, replacing an existing emission unit, or being modified. If it is being modified or replacing an existing emission unit, list the affected emission unit number in this box.

USE ATTACHMENT IF ADDITIONAL SPACE IS REQUIRED.

- 4-7. Specify the manufacturer, rating, model number, and serial number of the engine.
8. Specify the manufacture date of the engine.
9. Specify the order date of the engine.
10. Specify the installation date of the engine.
11. Specify the number of cylinders in the engine.
12. Specify the displacement of the engine.
13. Specify all the configurations that apply to the engine.
14. Specify the fuel(s) that will be combusted in the engine.
15. Specify the maximum hours of operation per year. If it is not 8,760 hours, the maximum will be an operational limit in your permit. Emergency units will use 500 hours of operation per year.
16. Specify the equipment receiving power from the engine.
- 17-20. Specify the manufacturer, rating, model number, and serial number of the equipment that receives power from the engine.
21. Specify the emissions data for the engine for all the pollutants listed. Major source NSR or Title V sources are only required to provide the GHG emission rate. If the emission rate is calculated using AP-42 emission factors, no verification is required.
22. Specify all sources of emissions data, and for which pollutants.
23. Specify the method of air pollution control used with the engine.
- 24-26. Specify which of the 3 regulations applies to this engine, according to engine type and when construction commenced.