



Emissions Inventory Help Sheet for Stationary Reciprocating Internal Combustion Engines (RICE)

What do I need to report?

Include:

- Amount of fuel used in each stationary RICE.
- Heat content of the fuel
 - Diesel fuel = 137,381 Btu/gallon¹
 - Natural gas = 1036 Btu/cubic foot¹
 - Propane = 91,333 Btu/gallon¹
 - Gasoline (heat content is not required)
- Emissions of carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), volatile organic compounds (VOC), primary particulate matter less than 10 microns in diameter (PM₁₀ primary) including filterables and condensibles, and primary particulate matter less than 2.5 microns in diameter (PM_{2.5} primary) including filterables and condensibles.

How do I calculate my emissions?

- Option 1: Use throughput-based emission factors (from the Source Classification Codes (SCC) and Emissions Factors help sheet). The AQD Online Portal will calculate total emissions based on the emission factors and the reported fuel throughput (which must be based on records maintained by the facility).
- Option 2: Use time-based emissions factors from a stack test or the manufacturer's emissions data sheet. The AQD Online Portal will calculate total emissions based on the emissions factors and the reported operating hours (which must be based on records maintained by the facility).
 - To convert time-based emission factors from grams per horsepower hour (g/hp-hr) to pounds per hour (lb/hr), multiply by the rated brake horsepower (bhp) and 0.0022.
Example: A 1490 bhp engine that emits 6 g/hp-hr (NO_x).
Calculation: (6 g/hp-hr) x (1490 bhp) x (0.0022 lb/g) = 19.668 lb/hr.
 - The AQD Online Portal will not calculate emissions until fuel throughput is reported. Facilities using time-based emissions factors may enter actual fuel throughput if it is known (based on records maintained by the facility) or estimated fuel throughput (based on hours of operation and the fuel consumption listed in the manufacturer's engine specifications).

¹ Reference: U.S. Energy Information Administration. Units and calculators: British thermal units. Available at: <https://www.eia.gov/energyexplained/units-and-calculators/british-thermal-units.php>.