



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

# AERA-04

Certification for Emergency  
Internal Combustion Engines  
Air Emissions Risk Analysis (AERA)

Doc Type: Air Emissions Risk Assessment – External Documentation

## Instructions on Page 3

### Facility Information

1. AQ Facility ID No.: \_\_\_\_\_ 2. AQ File No.: \_\_\_\_\_

3. SIC Code: \_\_\_\_\_ 4. Date of submittal: \_\_\_\_\_

5. Facility name: \_\_\_\_\_

6. Facility location

Street address: \_\_\_\_\_

City: \_\_\_\_\_ State: MN Zip code: \_\_\_\_\_ County: \_\_\_\_\_

*AQ = air quality ID = identification No. = number SIC = standard industrial classification*

This certification must be signed by a responsible official and submitted with any Air Emissions Risk Analysis (AERA) where emissions from an internal combustion engine are not assessed because the engine is associated with emergency use only. Please review additional background information found in the accompanying instructions.

### Certification

I certify under penalty of law that the emission units listed below are for emergency use only, where an emergency internal combustion engine is an engine that is operated when unforeseen conditions result in disruption of electrical power to the stationary source.

“Emergency” or “emergency use only” does **not** include:

- Electrical generators used to supply electricity to a stationary source with an interruptible electrical power supply during times that the supplier has interrupted the supply as provided in the agreement governing the interruptible supply.
- Electrical generators operated at the request of the electric power supplier to assist in meeting peak electrical energy demand.

“Interruptible power supply” means that the owner/operator of a stationary source has agreed with the supplier of electricity which allows the supplier to restrict or discontinue supply of electricity for some specified time period after providing adequate prior notice.

#### 7. Emission unit description:

(Column 1)	IC engine #1	IC engine #2	IC engine #3	IC engine #4	IC engine #5
<b>Stack/Vent No.</b>					
<b>Type of Use</b>					
<b>Rated heat input</b> (mmBtu/hr)					
<b>Rated mechanical output</b> (HP and RPM)					
<b>Fuel type</b> (include % sulfur)					
<b>Fuel consumption rate</b> (gal/hr or cf/hr)					
<b>Stack height</b> (m)					
<b>Engine Location<sup>1</sup></b> UTM coordinates in NAD 1983					
<b>Testing frequency and duration</b>					

mmBtu = Million British Thermal Units  
gal/hr = gallons per hour  
UTM = Universal Transverse Mercator

HP = horse power  
cf/hr = cubic feet per hour  
NAD = National Atmospheric Deposition

RPM = revolutions per minute  
m = meter

<sup>1</sup> Please provide a facility map, clearly labeling IC engines and their locations.

**8. Additional information (optional):**

(Column 1)	IC engine #1	IC engine #2	IC engine #3	IC engine #4	IC engine #5
<b>Stack inside diameter</b> (m)					
<b>Stack velocity or flow</b> Show units (m/s, m <sup>3</sup> /s, or ft <sup>3</sup> /min)					
<b>Stack temperature</b> (K)					
<b>Urban or rural</b>					
<b>Nearest receptor distance</b> (m)					

*m/s = meter per second**m<sup>3</sup>/s = cubic meter per second**ft<sup>3</sup>/min = cubic feet per minute**K = Kelvin**m = meter***Certification**

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I also certify, in accordance with Minn. R. 7007.0500, subp. 2 (K)(2) and subp. 2 (K)(3), that I have reviewed the procedures implemented by my facility to maintain compliance and that those procedures are, to the best of my knowledge and belief, reasonable to maintain compliance with all applicable requirements.

**Owner:**

Print name: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Phone number: \_\_\_\_\_

**Operator:**

Print name: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Phone number: \_\_\_\_\_

## Instructions

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1) **AQ Facility ID No.** -- Fill in your Air Quality (AQ) Identification (ID) Number (No.).

2) **Facility name** – Enter your facility name

This certification is required under Minn. R. 7007.0500, subp. 3. This certification must be signed by a “responsible official” (defined in Minn. R.7007.0100, subp. 22), which is the person who performs policy or decision making functions for the company. (A delegate may be allowed in some cases. Please refer to the rule section listed above.) The certification also must be signed by a responsible official for each co-permittee. A co-permittee is a corporation, partnership, sole proprietorship, municipality, state, federal or other public agency other than the permittee that is either a owner or operator of the facility. If the permittee is the owner and a co-permittee is the operator (or vice-versa), then the responsible officials for both the permittee and the co-permittee must sign the certification.

3) **Emission unit description**

Information requested in Column One should be submitted for each stack corresponding with an internal combustion engine at an emergency generator or fire pump.

**Type of Unit** – Describe the application of the engine: emergency generator, fire pump.

**Rated heat input** – Enter the rated heat input of the engine, in units of million British thermal units (mmBtu) per hour.

**Rated mechanical output** – Fill in the rated output of the engine in horsepower at a specified RPM.

**Fuel type** – Fill in the fuel type (e.g., natural gas, diesel). For diesel fuel, provide the weight percent sulfur content.

**Fuel consumption rate** – Fill in the manufacturer's rated fuel consumption for the engine. This information can be obtained from the manufacturer. If the engine has been derated, attach the supporting documentation.

**Stack height** – Enter the stack height for each stack associated with each engine. Units should be in meters.

**Engine location** – Describe the general location of each engine on the property, e.g., southwest corner of building. Alternatively, or in addition, a figure/sketch could be attached.

**Testing frequency and duration** -- Describe the testing frequency and duration for each emergency generator. If there is more than one emergency generator on the property, also indicate if generators are tested concurrently.

4) **Additional information (optional)**

The information requested in this item is necessary to perform modeling of an emissions source. This information is optional and can be provided if readily available. Stack parameters are important pieces of information in modeling emissions from any source.

Urban and rural descriptors are used to evaluate heat island effects and to provide information on land use. If the facility is located in an area that is neither urban nor rural, a project proposer can indicate a 50/50 mix (similar to AERMOD descriptors).

### Background Information for AERA-04, Certification of Emergency IC Engines

The MPCA considers “emergency” or “emergency use only” with respect to an emissions unit driven by an IC engine to mean use during unforeseen circumstances. Some examples include:

- Damage to the to the electric utility's distribution equipment due to weather or circumstances beyond the owner's control, such as lightning strikes, tornadoes, ice storms or floods which render electricity from the utility unavailable until repairs are made.
- Fires which result in the automatic start of need to start IC engine-driven fire pumps.
- Breakdown or loss of availability of electric motor-driven boiler feedwater pumps which require use of IC engine-driven feedwater pumps.

Equipment and/or emission units described as “standby” or “backup” are presumed also to be for emergency use only.

The MPCA also expects that in the case of electric generators that are large enough to keep a stationary source in operation during emergency interruption of power, that such generators be used only for orderly plant shutdown. They are not used to keep the source operating indefinitely during the emergency generation of power.

### Minimizing emissions and impacts from emergency IC engines

Owners of emergency IC engines are encouraged to minimize emissions from these engines through the following practices:

- Make test runs as short as allowed by insurance and building code considerations.
- Stagger test runs so all emergency units are not operated on the same day.
- For diesel-fueled engines, use diesel fuel with less than 0.05 percent sulfur.
- Avoid calm atmospheric conditions when testing so that emissions are quickly dispersed.
- Increase the discharge height of the stack to lower ground-level air concentrations.