

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

GENERAL ORDER OF APPROVAL  
FOR RICH-BURN, SPARK IGNITION,  
GASEOUS FOSSIL FUEL-POWERED  
EMERGENCY ELECTRICAL GENERATORS

General Order No. 06-AQG-005  
Issued Oct 6, 2006

**Table 1: Applicability Criteria for this General Order of Approval**

Criterion	Limitation
Fuel	Gaseous fossil fuels, such as natural gas and propane.
Generator set size	Not greater than 850 brake horsepower (BHP) engine.
Engine qualifications	Spark ignition. Rich burn design: Equipped with 3-way catalytic muffler.
Location	Located in counties or at industrial facilities under jurisdiction of the Department of Ecology
Minimum distances to property line and publicly-accessible buildings vary with engine size	If the exhaust stack extends at least ten feet above the roof line, there are no location restrictions. Engines under 100 BHP may use a shorter stack with location restrictions shown in Table 2.
Minimum stack height criteria Minimum stack height varies with engine size and location.	Engines over 100 BHP, exhaust stack must extend at least ten feet above the roof line. Engines 100 BHP or less may use a shorter stack with location restrictions shown in Table 2.
Allowed operating hours	Not more than 30 hours in any calendar year for required testing, and not more than 500 hours total operation in any calendar year.
Other criteria	1. The generator set is not part of a new major stationary source or major modification to a major stationary source which is subject to review under the Prevention of Significant Deterioration program.

Criterion	Limitation
	2. The addition of the generator set to an existing source does not make the source subject to the Air Operating Permit program or require a modification in an existing Air Operating Permit.

**Table 2: Emergency Generator Placement, Small Engines with Stack Height Less Than 10 Feet Above Roofline**

Engine BHP	Exhaust stack height above housing or adjacent building roofline	Minimum from property line (feet)	Minimum distance from nearest single story building (feet)	Minimum distance from nearest building two stories or greater in height (feet)
<b>Rural Environment</b>		Fewer than 24,000 persons live within 2 miles of the proposed generator.		
≤ 25	3 feet	Zero	Zero	Zero
	4.5 feet	Zero	Zero	Zero
	6 feet	Zero	Zero	Zero
	10 feet	Zero	Zero	Zero
> 25 to 50	3 feet	Zero	75	75
	6 feet	Zero	Zero	Zero
	10 feet	Zero	Zero	Zero
> 50 to 100	3 feet	Zero	95	280
	6 feet	Zero	Zero	184
	10 feet	Zero	Zero	Zero
<b>Urban Environment</b>		24,000 persons or more live within 2 miles of the proposed generator.		
≤ 25	3 feet	Zero	Zero	Zero
	4.5 feet	Zero	Zero	Zero
	6 feet	Zero	Zero	Zero
	10 feet	Zero	Zero	Zero
> 25 to 50	3 feet	Zero	Zero	Zero
	6 feet	Zero	Zero	Zero
	10 feet	Zero	Zero	Zero
> 50 to 100	6 feet	Zero	Zero	145
	10 feet	Zero	Zero	Zero

**Process to apply for coverage**

Submit:

1. The appropriate application forms.

Contact the Ecology office which covers the location of your proposed emergency generator set installation for a copy.

**Table 3: Ecology Permit Issuing Offices**

Air Quality Program Central Regional Office 15 West Yakima Ave -- Suite 200 Yakima, WA 98902-3452 Tel. No 509-575-2490	Air Quality Program Eastern Regional Office N. 4601 Monroe Spokane, WA 99205-1295 Tel. No 509-329-3400
Industrial Section PO Box 47600 Olympia, WA 98504-7600 Tel. No.	Nuclear Waste Program Hanford Unit 3100 Port of Benton Blvd. Richland, WA 99354 Tel. No. 509-372-7950
On the internet at : <a href="http://www.ecy.wa.gov/programs/air/airhome.html">http://www.ecy.wa.gov/programs/air/airhome.html</a>	

2. The application/coverage fee of \$500
3. Documentation of SEPA compliance

If SEPA for this project has been done by another agency, submit copy of Determination of Nonsignificance, Mitigated Determination of Nonsignificance, or Environmental Impact Statement issued for the project.

If SEPA has not been done by another agency, submit a completed SEPA checklist and our SEPA processing fee of. A copy of the checklist is available from the above contacts or on the internet at [http://www.ecy.wa.gov/biblio/forms-sepa\\_forms.html](http://www.ecy.wa.gov/biblio/forms-sepa_forms.html).

**Granting of Coverage**

For those units that qualify for coverage, the applicant will receive a Coverage Order within 30 days after the complete application has been received.

For those units that do not qualify for coverage, the applicant will receive a letter from Ecology within 30 days after the application has been received. The letter will state why the unit does not qualify for coverage under this General Order of Approval.

## Approval Conditions

### 5. General and siting criteria

Parameter	Requirement or limitation
Fuel usage requirements	Gaseous fossil fuels, such as natural gas and propane.
Annual hours of use	Not more than 30 hours in any calendar year for required testing, and not more than 500 hours total operation in any calendar year.
Exhaust stack	Vertical exhaust.  Minimize bends, obstructions, and building interference with exhaust dispersion.  A minimum of ten feet above the roofline or compliant with the requirements in Table 2.
Minimum distance from stack to property line and to publicly-accessible buildings	No restriction if stack is at least ten feet above the roofline.  If stack is less than ten feet above the roofline, distances must comply with the requirements in Table 2.  If publicly-accessible buildings are constructed after submittal of this application that are within the distance limitation indicated in Table 2, permittee will immediately notify in writing the permit issuing office (Table 3).  If the building being serviced by the emergency generator set is converted from private access to publicly-accessible, permittee will immediately notify in writing the permit issuing office (Table 3).

2. Engine qualifications:

- 2.1 Rich-burn design.
- 2.2 Equipped with three-way (non-selective catalytic) catalytic muffler.
- 2.3 Not greater than 850 BHP at full load.
- 2.4 Emissions limits:
  - 2.4.1 Nitrogen oxides (NO<sub>x</sub>): Not greater than 1.5 grams per brake horsepower-hour (g/BHP-hr).
  - 2.4.2 Carbon monoxide (CO): Not greater than 1.33 g/BHP-hr.
  - 2.4.3 Particulate matter less than 10 microns in aerodynamic diameter (PM<sub>10</sub>): Not greater than 0.07 g/BHP-hr.
  - 2.4.4 Volatile organic compounds: Not greater than 0.025 g/BHP-hr.
  - 2.4.5 Engines capable of greater than 500 BHP: Formaldehyde emissions less than or equal to 350 parts per million dry volume basis (engine design compliant with 40 CFR 63 Subpart ZZZZ).

3. Emission limitations monitoring, recordkeeping and reporting requirements

Pollutant or parameter	Limitation(s)	Monitoring	Recordkeeping	Reporting
Fuel usage	Consistent with the fuel economy of an engine maintained according to manufacturer's recommendations and engine use limit specified in this permit.	None	None	None
Hours of operation	Not more than 30 hours per year for required testing.  Not more than 500 hours per year total operating time.	Non-resettable hour meter	Cumulative calendar year operating hours.  Keep most recent 3 years' records.  Provide records to Ecology within 48 hours of request.	None
Pollutant emissions	500 BHP or less engine capacity: Use three-way-catalytic (TWC) muffler.	None	None	None

Pollutant or parameter	Limitation(s)	Monitoring	Recordkeeping	Reporting
	Over 500 BHP engine capacity: TWC muffler and compliant with the emission standards in 40 CFR Part 60 Subpart III.	None	Documentation from manufacturer that engine is certified to meet 40 CFR Part 60 Subpart III standards.  Provide documentation to Ecology within 48 hours of request.	None
Visible emissions	10% exclusive of visible condensed water vapor as measured by EPA Method 9, 40 CFR Part 60, Appendix A (July 1, 2000).	Once each day during periods of operation, observe stack for visible emissions (smoke coming from the stack).	In either a permanent-bound log book or in readily accessible computer memory, record dates and times of observation and whether smoke can be seen coming from the stack.  If smoke can be seen coming from the stack, record any corrective actions taken.  Provide records to Ecology within 48 hours of request.	If corrective action fails to eliminate visible smoke within 24-hours, report in writing to permit issuing office (Table 3)

Daily visual stack exhaust observation procedure:

Observe the emergency generator set stack exhaust during daylight hours while the generator is in operation. Observe the exhaust from the stack from a location with a clear view of the stack and where the sun is not directly in the observer's eyes. The observer shall be at least 15 feet but not more than 0.25 mile from the stack.

### Other Conditions of Approval

4. The emergency generator set installed shall be the one described in the application and Order issued granting coverage under this General Order of Approval.
5. The emergency generator set shall be installed where and as described in the permit application.
6. The permittee shall submit to Ecology the date installation of the emergency generator set is started and completed<sup>1</sup>.
  - 6.1 This Order shall become invalid if installation of the generator set is not begun within 18 months after receipt of final approval, if installation is discontinued for a period of 18 months or more, or if construction is not complete in a period of time deemed reasonable by Ecology.
  - 6.2 Ecology may extend these deadlines upon a satisfactory showing that an extension is justified. The extension request must be received by the Ecology prior to expiration of the Order.
7. Operation and Maintenance.
  - 7.1 The permittee is to follow all recommended operation and equipment maintenance provisions supplied by the manufacturer of the unit.
  - 7.2 If the visual inspection for opacity indicates that any smoke can be seen, the permittee is to take immediate steps to bring the generator back into compliance with the limitation.
8. Periodic emissions inventory information and other information may be requested by the Ecology. Information requested by Ecology shall be submitted within 30 days of receiving the request unless otherwise specified. Ecology will supply the necessary forms to use for periodic emission inventory.
9. Annual/periodic Registration or Air Operating Permit fees. The applicant will pay the required registration fees within 30 days of receipt of the invoice from Ecology.
10. Access to the source for the purpose of determining compliance with the terms of this General Order of Approval by Ecology staff shall be permitted during normal business hours. Failure to allow such access is grounds for an enforcement action under the Washington State Clean Air Act.
11. The applicant is required to comply with applicable rules and regulations pertaining to air quality, and conditions of operation imposed upon issuance of this order. Any violation of applicable state and/or federal air quality rules and regulations or of the terms of this approval shall be subject to the sanctions provided in Chapter 70.94 RCW. Authorization under this Order may be modified, suspended, or revoked in whole or part for cause including, but not limited to, the following:

11.1 Violation of any terms or conditions of this authorization;

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<sup>1</sup> Electronic mail submittals of the notifications to the approving office are encouraged to reduce paperwork.

11.2. Obtaining this authorization by misrepresentation or failure to disclose fully all relevant facts.

12. The provisions of this General Order of Approval are severable and, if any provision of this authorization, or application of any provisions of this authorization to any circumstance, is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

**Legal Basis to Issue This General Order of Approval**

The Department of Ecology Air Quality Program is issuing this General Order of Approval as allowed under Washington Administrative Code (WAC) 173-400-560. Receipt of a Coverage Order for installation of a specific unit under this approval satisfies the requirements of WAC 173-400-110.

**Approvals**

<b>PREPARED BY:</b>	<b>APPROVED BY:</b>
<i>Bernard Brady</i>	<i>Stuart A. Clark</i>
Date: <i>10/5/06</i>	Date: <i>10/06/06</i>
Bernard Brady, PE	Stuart A. Clark, Program Manager
Air Quality Program	Air Quality Program
Department of Ecology	Department of Ecology

