

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

IN THE MATTER OF APPROVING A NEW)
AIR CONTAMINANT SOURCE FOR)
Department of Corrections)

Preliminary Determination
Approval Order No. 17AQ-E021

TO: Dorothy Trainer
Department of Correction
P.O. Box 769
Connell, Washington 99326

Department of Corrections submitted a Notice of Construction (NOC) application on April 24, 2017, for the installation and operation of a new emergency engine to be located at 1301 N Ephrata Ave, Connell, WA 99326, in Franklin County. The legal description is the SW ¼, of Section 19, Township 14 North, Range 32 East of the Willamette Meridian.

The new engine is an 800 kW Caterpillar C27 emergency generator and will replace the existing Detroit Diesel 750 kW emergency generator onsite.

The original Correctional Center was constructed without an Approval Order. The emission sources are one 750 KW Detroit Diesel Generator (will be replaced by the new engine) , one 100 KV Detroit Diesel Generator, forty three small natural gas HVAC heating units (8.035 million BTU per hour), forty one small natural gas water heaters (6.275 million BTU per hour), ten natural gas space heaters (1.5 million BTU per hour), five natural gas clothes dryers (1.435 million BTU per hour), twenty six natural gas warmer hoods (0.78 million BTU per hour), two food service natural gas steam kettles (0.335 million BTU per hour), two food service natural gas ovens (0.20 million BTU per hour), three natural gas grills (est. 0.18 million BTU per hour), and two natural gas domestic style ranges (est. 0.192 million BTU per hour). The potential natural gas consumption is 18.932 million BTU per hour.

Ecology issued Order of Approval No. 07AQ-E200 for the Coyote Ridge Corrections Center to add two 2.5 megawatt (MW) Caterpillar 3516CD standby generators, thirty five natural gas heated boilers (16.99 million BTU per hour), forty one natural gas hot water heaters (7.955 million BTU per hour), thirteen natural gas unit heaters (4.14 million BTU per hour), two natural gas radiant heaters (2.705 million BTU per hour), and nine natural gas HVAC units (1.341 million BTU per hour). Each 2.5 MW emergency generator is powered by a 3604 brake horsepower, distillate fired, and reciprocating internal combustion engine (RICE) and is certified by the manufacturer to meet EPA Tier 2 standards. The 2.5 MW RICE engines are equipped with catalytic converters to reduce the CO and other incomplete combustion by products by 85 percent. The maximum fuel consumption by each emergency generator is 173.3 gallons per hour. The potential natural gas consumption by boiler and heaters is 33.131 million BTU per hour.

In relation to the above, the State of Washington Department of Ecology (Ecology), pursuant to Revised Code of Washington (RCW) 70.94.152, Washington Administrative Code (WAC) 173-460-040, and WAC 173-400-110, makes the following determinations:

1. The project, if constructed and operated as herein required, will be in accordance with applicable rules and regulations, as set forth in Chapter 173-400 WAC, and Chapter 173-460 WAC, and the operation thereof, at the location proposed, will not emit pollutants in concentrations that will endanger public health or exceed any ambient air quality standard.
2. The proposed project, if constructed and operated as herein required, will utilize best available control technology for criteria pollutants and toxics best available control technology for all toxic air pollutants.

THEREFORE, IT IS ORDERED that the project as described in the Notice of Construction application and more specifically detailed in plans, specifications, and other information submitted to Ecology is approved for construction and operation, provided the following are met:

APPROVAL CONDITIONS

1. ADMINISTRATIVE

- 1.1 Upon issuance of this approval, Approval Order No. No.07AQ-E200 is rescinded and replaced with the conditions and evaluations of this approval.

2. EMISSION AND OPERATION LIMITS

- 2.1 The emergency engines shall comply with the maximum hours of operation as shown below.

Description	Unit	Maximum Hours of Operation
134 hp Detroit Diesel Engine	1	500 hours per year for each engine for all operation.
Caterpillar 3516CD	2	
Caterpillar C27	1	50 hours per year for readiness testing and maintenance.

- 2.2 The owner or operator shall comply with the following fuel requirements.

Description	Permitted Fuel	Usage Limit
134 hp Detroit Diesel Engine	Low sulfur no.1 or no.2 distillate fuel. Maximum sulfur content shall be less than 0.05 percent by wt.	--
Caterpillar 3516CD		86,650 gallons/year for each engine
Caterpillar C27	Ultra-low sulfur diesel fuel. Maximum fuel sulfur content shall not exceed 15 ppm by wt.	--
Facility-wide Natural Gas Combustion (All boilers, water heaters, space heaters, and process	Pipe line grade natural gas.	447 million standard cubic feet per year

ovens)		
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2.3 The minimum stack height for release of the emissions from the Caterpillar 3516CD emergency engines shall be 29 feet above ground level.

2.4 The following engines must comply with the emission standards as shown below.

Unit	Emission Standard in g/Kw-hr (g/bhp-hr)		
	PM	NMHC+ NO _x	CO
Caterpillar 3516CD	0.20 (0.15)	6.4 (4.8)	3.5 (2.6)
Caterpillar C27			

2.5 The owner or operator shall install, operate and maintain the Caterpillar C27 engine according to the manufacturer's specifications. The Caterpillar C27 engine must be equipped with a non-resettable hour meter prior to initial startup.

3. COMPLIANCE REQUIREMENTS

3.1 Each emergency RICE engine shall receive a factory approved service inspection after the first 4000 hours of a cycle and before the end of each 7000 hour cycle period to maintain the applicable EPA Performance Standards: Tier II for the Caterpillar 3516CD and Caterpillar C27 engines. (Cycle means each 7000 hours of operation time.)

3.2 The owner or operator shall demonstrate compliance with the emission standards in condition 2.4 of this approval by keeping records of engine manufacturer data certifying compliance with the standards.

3.3 The small natural gas combustion sources and VOC sources as proposed shall not be subject to periodic testing.

3.4 Ecology reserves the right to order performance testing if equipment are found to have emission problems during an inspection or if service of equipment is not being performed as required.

3.5 All source testing procedures shall be in accordance with the methods in 40 CFR Part 60, Appendix A.

4. OPERATION & MAINTENANCE (O&M) MANUAL

4.1 A site-specific O&M manual for all combustion equipment shall be compiled and followed. Manufacturer's instructions and procedures can be incorporated. The O&M manual shall be updated to reflect any modifications of the equipment or its operating procedures. The O&M manual for all equipment shall at a minimum include a description of:

- a. Normal operating parameters.

- b. Instrumentation to monitor operating parameters and monitoring procedures.
- c. Maintenance schedule.
- d. Record keeping requirements.

5. MONITORING and RECORDKEEPING

- 5.1 Specific records shall be kept on-site by the owner or operator and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover the most recent 60-month period. The records to be kept shall include the following:
- a. Occurrence and duration of any malfunction in the operation of the emergency generators. The record shall include identification of each emergency generator, date, time, duration and/or cause, as applicable.
 - b. Maintenance conducted.
 - c. The emergency generator fuel consumption by quantity during each calendar year. This recordkeeping shall be done via fuel bills and/or meter readings.
 - d. Natural gas consumption for the facility during each calendar year.
 - e. Hours of operation of each engine in emergency and non-emergency situation that are recorded through the non-resettable hour meter. The owner or operator shall record the time of operation of the engine and the reason the engine was in operation during that time.
 - f. The annual records of purchase and Safety Data Sheets (MSDS) on all paints, coatings, solvents, and adhesives shall be kept on file.

6. REPORTING

- 6.1 An annual report shall be submitted no later than 30 days following the end of each annual calendar year or on an alternative schedule requested in writing and approved by Ecology. The annual report shall include the following:
- a. The total annual fuel consumption and the hour meter readings on each emergency generator.
 - b. The total annual fuel consumption of natural gas.
 - c. The annual estimate of the total VOC and toxic air contaminant emissions from all paints, coatings, solvents, and adhesives.

- 6.2 All notifications, reports, and other submittals shall be sent to:

Washington State Department of Ecology
Air Quality Program
4601 N. Monroe Street
Spokane, WA 99205-1295

7. GENERAL CONDITIONS

- 7.1 **Commencing/Discontinuing Construction and/or Operations** - The portion of this Approval Order regulating the proposed construction shall become invalid if

construction of the equipment described in the NOC application is not commenced within eighteen (18) months after receipt of the Approval Order. If construction or operation of a portion or all of the equipment described in the NOC application is discontinued for a period of eighteen (18) months, the portion of the Approval Order regulating the inactive equipment shall become invalid. Ecology may extend the 18-month period upon a satisfactory showing that an extension is justified.

- 7.1 Compliance Assurance Access: The owner or operator shall provide access for EPA or Ecology personnel for the purposes of compliance assurance inspections. Failure to allow access without reasonable cause may be grounds for revocation of this Order approving the NOC.
- 7.2 Availability of Order and O&M Manual: Legible copies of this Order and the O&M manual or vendor-supplied O&M instructions shall be available to employees in direct operation of the approved units, and be available for review upon request by Ecology.
- 7.3 Equipment Operation: Operation of the approved units and related equipment shall be conducted in compliance with all data and specifications submitted as part of the NOC application and in accordance with the O&M manual vendor-provided O&M instructions, unless otherwise approved in writing by Ecology.
- 7.4 Modifications: Any modification to the approved units and related equipment's operating or maintenance procedures, contrary to information in the NOC application, shall be reported to Ecology at least 60 days before such modification. Such modification may require a new or amended NOC Approval Order.
- 7.5 Activities Inconsistent with the NOC Application and this Approval Order: Any activity undertaken by the permittee or others, in a manner that is inconsistent with the NOC application and this determination, shall be subject to Ecology enforcement under applicable regulations.
- 7.6 Obligations under Other Laws or Regulations: Nothing in this Approval Order shall be construed to relieve the permittee of its obligations under any local, state or federal laws or regulations.

All plans, specifications, and other information submitted to the Department of Ecology relative to this project and further documents and any authorizations or approvals or denials in relation thereto shall be kept at the Eastern Regional Office of the Department of Ecology in the "Air Quality Controlled Sources" files, and by such action shall be incorporated herein and made a part thereof.

Nothing in this approval shall be construed as obviating compliance with any requirement of law other than those imposed pursuant to the Washington Clean Air Act and rules and regulations thereunder.

A one-month testing and break-in period is allowed, after any part or portion of this project becomes operational, to make any changes or adjustments required to comply with allocable rules and regulations pertaining to air quality and conditions of operation imposed herein. Thereafter, any violation of such rules and regulations or of the terms of this approval shall be subject to the sanctions provided in Chapter 70.94RCW.

Authorization may be modified, suspended or revoked in whole or part for cause including, but not limited to the following:

- a. Violation of any terms or conditions of this authorization;
- b. Obtaining this authorization by misrepresentation or failure to disclose fully all relevant fact.

The provisions of this authorization are severable and, if any provision of this authorization, or application of any provisions of their circumstances, and the remainder of this authorization, shall not be affected thereby.

YOUR RIGHT TO APPEAL:

You have a right to appeal this Approval Order to the Environmental and Land Use Hearing Office, Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Approval Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B .001 (2).

To appeal you must do the following within 30 days of the date of receipt of this Approval Order:

- File your appeal and a copy of this Approval Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Approval Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION: You may file your appeal in person at the street address(es) below, or by mail at the mailing address(es) below:

STREET ADDRESSES

**Pollution Control Hearings Board
1111 Israel Road SW, Suite 301
Tumwater, WA 98501**

**The Department of Ecology
Attn: Appeals Processing Desk**

MAILING ADDRESSES

**Pollution Control Hearings Board
P.O. Box 40903
Olympia, WA 98504-0903**

**The Department of Ecology
Attn: Appeals Processing Desk**

**300 Desmond Drive SE
Lacey, WA 98503**

**P.O. Box 47608
Olympia, WA 98504-7608**

*For additional information visit the Environmental Hearings Office Website: <http://www.eho.wa.gov>
To find laws and agency rules visit the Washington State Legislature Website: <http://www1.leg.wa.gov/CodeReviser>*

DATED at Spokane, Washington this st day of , 2018.

REVIEWED BY:

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