



Puget Sound Clean Air Agency

1904 3rd Ave, Ste 105, Seattle, WA 98101-3317

Notice of Construction No. 12131
Registration No. 21277
Date
Original Order of Approval No. 11247

GENERAL REGULATORY ORDER

Under the authority of Puget Sound Clean Air Agency Regulation I, Section 3.03, General Regulatory Orders, this Order is issued to:

Joint Base Lewis-McChord

for the facility located at:

**IMCOM
Fort Lewis, WA 98433**

1. Joint Base Lewis-McChord (JBLM) shall limit base-wide emissions of the following pollutants during any consecutive 12-month period to:
 - a. 95 tons oxides of nitrogen (NO_x);
 - b. 95 tons carbon monoxide (CO); and
 - c. 95 tons of volatile organic compounds (VOC) as defined in 40 CFR Part 51.100.
2. By June 30 of each year, JBLM shall calculate emissions of CO, NO_x, PM, SO₂, VOC and HAP from stationary sources operated by JBLM for the previous calendar year, including but not limited to external combustion units (boilers, heaters, furnaces), stationary reciprocating internal combustion engines, gasoline refueling operations using the definition of gasoline in Regulation II, Section 2.01 (12/20/12), wood working equipment, abrasive blast equipment, stationary test engine operation, landfill emissions, degreasing and general solvent use, surface coating operations and other sources required to obtain a Notice of Construction Order of Approval under Regulation I, Article 6. Fugitive emissions, emissions from mobile sources, and emissions from nonroad engines do not need to be included in this inventory. JBLM shall calculate emissions using the methods and procedures in Condition Nos. 4 and 5 of this Order.
3. Within 60 days of the end of each month, JBLM shall calculate and record emissions over the month and the previous consecutive 12-month period for CO, NO_x, and VOC. JBLM shall calculate emissions using the methods and procedures in Condition Nos. 4 and 5 of this Order.
4. JBLM shall use the following methods and approved emission factor source in Condition No. 5 to demonstrate compliance with Condition 1 of this Order:
 - a. For combustion of natural gas in external combustion units (boilers, heaters, furnaces), emissions shall be calculated using usage records of natural gas and approved emission factors. Natural gas purchase records can be used in lieu of actual usage. The emission factor shall be based on the combustor type and heat input of the external combustion unit, and similar external combustion units can be grouped together if the same emission factor applies.

For monthly records required by Condition 3 of this Order, JBLM may use an emissions estimate based on an established worst-case monthly natural gas usage and worst-case emission factors as long as records demonstrate monthly natural gas usage was below that level.

- b. For combustion of fuel oil in external combustion units, emissions shall be calculated using usage records of fuel and approved emission factors. Fuel purchase records can be used in lieu of actual

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usage. The emission factor shall be based on the combustor type, heat input of the boiler, and the type of fuel combusted. Similar external combustion units can be grouped together if the same emission factor applies.

For monthly records required by Condition 3 of this Order, JBLM may use an emissions estimate based on an established worst-case monthly fuel usage and worst-case emission factors as long as records demonstrate monthly fuel usage was below that level.

- c. For combustion of fuel oil in emergency stationary internal combustion engines, emissions shall be calculated using fuel usage or hours of operation, load factors (if applicable) and approved emission factors. The emission factor shall be based on the fuel type used and the size of the equipment. Similar engines can be grouped together if the same emission factor applies.

For the annual emission inventory required by Condition 2 of this Order and monthly records required by Condition 3 of this Order, emissions may be calculated for the previous calendar year and the previous consecutive 12-month period by grouping emergency generators and assuming all emergency generators operated 500 hours during the 12-month period and using worst-case emission factors for the group. If this methodology is used, emission estimates for the individual month are not required.

- d. For gasoline fuel dispensing operations, emissions shall be calculated using fuel throughput and approved emission factors. The emission factor shall be based on the vapor recovery controls used at the station (uncontrolled or Phase II vapor controls) and the percent of the fleet estimated to have onboard refueling vapor recovery (ORVR) based on Washington Department of Ecology's fleet estimates.

For monthly records required by Condition 3 of this Order, JBLM may use an emissions estimate based on an established worst-case monthly throughput for each type of gas station (uncontrolled or Phase II vapor controls), the percentage of non-ORVR and ORVR vehicles, and the approved emission factors. Records of monthly throughput would be required to demonstrate below this worst-case amount.

- e. For coating, degreasing and general solvent cleaning usage, VOC emissions shall be calculated using the material balance method. Purchase records may be used as a surrogate for usage. *Hand-wipe cleaning operations used for the removal of contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component shall comply with the requirements of 40 CFR 63.744(b).*
 - f. For jet engine testing operations, emissions shall be calculated based on the number of engines tested.
 - g. Emissions from other sources shall be based on methodologies used in the Air Emissions Guide for Air Force Stationary Sources (June 2020) unless an Order of Approval specifies methodology to be used in calculating emissions to demonstrate compliance with this Order. Alternative emissions factors or methodologies must be preapproved by the Agency in writing.
5. Approved emission factors for estimating emissions include the following:
- a. For external combustion units, source specific emission tests for individual boilers or heaters if the

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test is conducted using EPA Reference Test Methods and results are approved by the Agency (preferred emission factor if available);

- b. For the landfill operations, emission factors in EPA's Compilation of Air Emission Factors (AP-42) Section 2.4.4.1 and LANDGEM;
- c. For gasoline dispensing operations, VOC emissions factors listed in the Table below (preferred emission factors unless written concurrence by Agency to use alternative emission factors):

	Pre-EVR	Uncontrolled
Fueling Emission Factors	lb/1000 gal	lb/1000 gal
non-ORVR vehicles	2.4	8.4
ORVR vehicles	0.12	0.42
Spillage	0.42	0.61
pressure driven losses, with arid permeator	0.092	0.76
Phase 1 bulk transfer losses	0.42	7.7

- d. Emission Factors contained in the Air Emissions Guide for Air Force Stationary Sources (June 2020) or the Air Program Information Management System (APIMS). If newer versions of the Air Emissions Guide for Air Force Stationary Sources become available, this version can be used if the Agency is notified by e-mail of any changes to emission factors with documentation on why the factor was updated. Approved exceptions are included below:
 - i. For the jet engine test facility, emissions from surrogate engines reviewed under Order of Approval No. 12012 may be used.
- e. Emission factors reviewed for new or modified emission sources through the Notice of Construction review process in Regulation I, Article 6, including any emission limits in the final Order of Approval;
- f. EPA's AP-42: Compilation of Air Emission Pollutant Factors; or
- g. Alternative emission factors can be used if the Agency has preapproved in writing.

General Recordkeeping and Reporting

- 6. The owner or operator shall provide a one-time notification to the Puget Sound Clean Air Agency in writing, within 60 days after the end of any 12-month period if, during that period, facility-wide emissions of NO_x, CO, or VOC exceeded 90 tons. The report shall include a summary of the total 12-month emissions and the unit specific emission factors. Upon request, the owner or operator shall provide the supporting emission calculations for the reported emission totals.
- 7. All records maintained by this Order of Approval must be maintained for five years (in hard copy or electronic format) and must be made available to Puget Sound Clean Air Agency personnel upon

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request.

8. This Order shall expire upon Puget Sound Clean Air Agency's determination that JBLM has submitted a complete application for an operating permit under Article 7 of Puget Sound Clean Air Agency Regulation I.
9. Upon issuance, this Order cancels and supersedes Order of Approval No. 11247, issued November 22, 2016.

APPEAL RIGHTS

Pursuant to Regulation I, Section 3.17 and RCW 43.21B.310, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, an appeal must be filed with the PCHB and a copy served upon Puget Sound Clean Air Agency within 30 days of receiving this Order.

Maggie Corbin
Reviewing Engineer

John Dawson
Engineering Manager

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