

**AIR EMISSIONS
NOTICE OF CONSTRUCTION APPROVAL ORDER
CONDITIONS AND RESTRICTIONS**

REGULATORY AUTHORITY:

Pursuant to the Washington State Department of Ecology General Regulations for Air Pollution Sources, Chapter 173-400 Washington Administrative Code (WAC), and Controls for New Sources of Toxic Air Pollutants, Chapter 173-460 WAC, Ecology finds the following:

FINDINGS:

1. The United States Department of Energy proposes to modify their existing facility (Hanford) located in Richland, Washington.
2. A Notice of Construction (NOC) application was submitted on June 28, 2006. The application was found to be complete on July 5, 2006.
3. Hanford is an existing major stationary source that emits more than 250 tons of a regulated pollutant per year.
4. The proposed project consists of installing and operating two diesel driven compressor units to support equipment testing at the Hanford 300 Area, 336 Building.
5. Hanford is located in a Class II Area designated as "attainment" for the purpose of NOC permitting for all pollutants.
6. Emissions of criteria pollutants from the proposed project are below the Prevention of Significant Deterioration Significant Emission Rates.
7. Criteria air pollutant emissions from the proposed project are below the *de minimus* levels in WAC 173-400-110(5)(d) with the exception of nitrogen oxides.
8. Toxic Air Pollutants (TAPs) from the proposed project are below the Small Quantity Emission Rates (SQERs) of WAC 173-460-080(2)(e) for those pollutants with defined SQERs, and compliant with the Acceptable Source Impact Limit for Polyaromatic Hydrocarbons for which no SQER is defined.
9. Best Available Control Technology (BACT) and Toxics-Best Available Control Technology (T-BACT) for this project has been determined to be the use of 40 CFR Part 89 Tier 2 compliant engines.
10. The proposed project, if constructed and operated as herein required, will provide BACT and T-BACT.
11. The proposed project, if 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 will not result in ambient air quality standards being exceeded.

12. The project will have no significant impact on air quality.

THEREFORE, IT IS ORDERED that the project as described in said NOC application, and as detailed in emission estimates, and impact and control technology assessments submitted to Ecology in reference thereto, is approved for construction, installation, and operation, provided compliance with the conditions and restrictions described below. This ORDER will be identified as NOC ORDER **DE06NWP-002**.

1.0 SPECIFIC APPROVAL CONDITIONS

1.1 Effective Date

The effective date of this authorization will be that as signed in Section 3.0. All references to procedures or test methods will be to those in effect as of the effective date of this ORDER.

1.2 Emission Limits

- 1.2.1 Visible emissions will not exceed 10%.
- 1.2.2 Emissions of Nitrogen oxides (NO_x) and Non-methane Hydrocarbons (NMHC) will not exceed 6.35 tons per year.
- 1.2.3 Emissions of Carbon Monoxide (CO) will not exceed 3.47 tons per year.
- 1.2.4 Emissions of particulate matter (PM) will not exceed 0.20 tons per year.
- 1.2.5 Emissions of Toxic Air Pollutants (TAPs) identified within the Notice of Construction for which SQERs are defined, are not to exceed SQERs of WAC 173-460-080(2)(e).
- 1.2.6 Emissions of Polycyclic Aromatic Hydrocarbons (PAHs) will not result in ambient concentrations exceeding 4.8E-03 µg/m³.
- 1.2.7 Emission of sulfur dioxide (SO₂) is not to exceed 0.20 tons per year.

1.3 Compliance Demonstration

- 1.3.1 Compliance with Approval Condition 1.2.1 will be met by Tier 1 Visible Emissions Survey requirements of the Hanford Air Operating Permit.
- 1.3.2 Compliance with Approval Conditions 1.2.2, 1.2.3, and 1.2.4 will be demonstrated by:
 - 1.3.2.1 Engine Limitation
 - 1.3.2.1.1 Installation of engines certified to meet Tier 2 (or higher Tier) emission limitations of 40 CFR Part 89.
 - 1.3.2.1.2 Installation of no more than two engines at any given time.
 - 1.3.2.1.3 Installation of no engines rated above 450 kW.
 - 1.3.2.2 Operational Limitation
 - 1.3.2.2.1 All recommended operation and equipment maintenance provisions supplied by the manufacturer(s) of the engine(s) will be current.
 - 1.3.2.2.2 A non-resettable hour meter will be installed on each engine and operated.
 - 1.3.2.2.3 Operational hours of use for all engines under this order will not result in a ratio exceeding 1.0 as calculated by Equation 1.

Equation 1: Operational Hours Limitation Calculation

$$\frac{\sum_{i=1}^n \frac{\text{Engine rating (kW)}_i \cdot (\text{Engine Operating Hours})_i}{450 \text{ kW}}}{2,000 \text{ hours}} \leq 1.0$$

Where :

i = Unique engine identifier,

n = Total number of engines employed over 12 month period,

Engine rating employed in Equation 1 shall not be less than 225 kW, and

Engine Operating Hours shall be calculated monthly for a 12 month period

- 1.3.3 Compliance with Approval Condition 1.2.5 will be demonstrated by:
1.3.3.1 Compliance with Approval Conditions 1.3.2.1.1, 1.3.2.1.3, AND 1.3.2.2.3
OR
1.3.3.2 Calculation of Toxic Air Pollutant emissions, employing air pollutant emission factors of AP 42¹, Table 3.3-2.
- 1.3.4 Compliance with Approval Condition 1.2.6 will be demonstrated by:
1.3.4.1 Compliance with Approval Condition 1.3.3, OR
1.3.4.2 Calculation of Toxic Air Pollutant emissions, employing PAH air pollutant emission factors of AP 42, Table 3.3-2, and dispersion analysis.
- 1.3.5 Compliance with Approval Condition 1.2.7 will be demonstrated by use of fuel containing no greater than 0.05 weight percent sulfur (500 parts per million by weight).

1.4 Manuals

Operations and Maintenance (O&M) manuals for all equipment, procedures, and controls associated with the proposed activities that have the potential to affect emissions to the atmosphere will be followed. Manufacturer's instructions may be referenced. The O&M manuals will be updated to reflect any modifications of the process or operating procedures. Copies of the O&M manuals will be available to Ecology upon request.

¹ AP 42, Fifth Edition, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, <http://www.epa.gov/ttn/chief/ap42/index.html>

1.5 Recordkeeping

Specific records will be kept on the Hanford Site by the Permittee and made available for inspection by Ecology upon request. The records must be organized in a readily accessible manner and cover a minimum of the most recent sixty (60) month period, except when otherwise specified. The records to be kept must include the following:

1. Visual Emission surveys conducted pursuant to Approval Condition 1.3.1.
2. Manufacturer's Tier II (minimum) engine certification(s), required by Approval Condition 1.3.2.1.1 will be retained from initial use to a minimum of sixty (60) months following retirement from use.
3. Maintenance records for maintenance conducted pursuant to Approval Condition 1.3.2.2.1.
4. Twelve-month cumulative operating hours for each engine, calculated monthly.
5. Calculations prepared pursuant to Approval Conditions 1.3.3.2 and 1.3.4.2.
6. Vendor's certification for diesel fuel quality for all purchases.

2.0 SUBMITTALS

2.1 Addressing

Any required notifications and reports required under these Approval Conditions must be sent to:

Washington State Department of Ecology
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, Washington 99354

2.2 Operational Notice

Operational notification will be made within thirty (30) days following initial startup of the engines covered by this ORDER.

2.3 Reporting

Emissions will be compiled into estimates and reported annually, beginning as part of the calendar year 2006 non-radioactive inventory of airborne emissions, pursuant to WAC 173-400-105.

3.0 APPROVAL ORDER AND RESTRICTIONS

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

1. Violation of any terms or conditions of this authorization.
2. Obtaining this authorization by misrepresentation, or failure to fully disclose all relevant facts.

The provisions of this authorization 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, will not be affected thereby.

Any person aggrieved by this ORDER may obtain review thereof by application, within thirty (30) days of receipt of this ORDER, to:

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

Concurrently, copies of the application must be sent to:

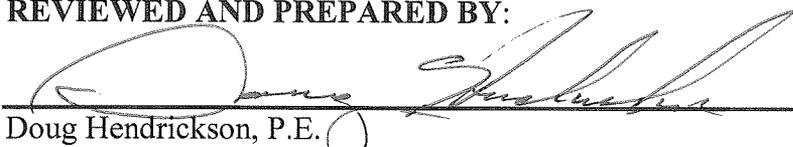
Washington State Department of Ecology
P. O. Box 47600
Olympia, Washington 98504-7600

Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

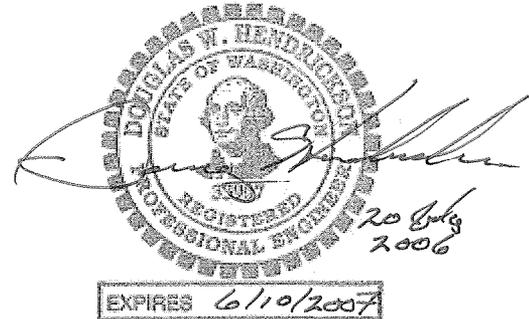
These procedures are consistent with the provisions of Chapter 43.21B RCW, and the rules and regulations adopted thereunder.

DATED at Richland, Washington, this 20th day of July 2006.

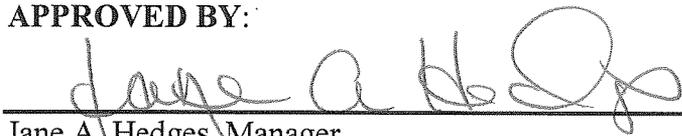
REVIEWED AND PREPARED BY:



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APPROVED BY:



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Nuclear Waste Program