

February 17, 2017

USDOE Notice of Construction
Approval Order No. DE16NWP-003

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**NON-RADIOACTIVE AIR EMISSIONS
NOTICE OF CONSTRUCTION APPROVAL ORDER
CONDITIONS AND RESTRICTIONS
DE16NWP-003**

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

REGULATORY AUTHORITY

Pursuant to the Washington State Department of Ecology (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 (USDOE) proposes to modify their existing facility (Hanford) located in Richland, Washington.
2. The proposed project consists of construction of the Effluent Management Facility (EMF) in support of the direct feed of low-activity waste configuration at the Waste Treatment and Immobilization Plant (WTP).
3. A Notice of Construction (NOC) application for an Approval Order for non-radioactive air emissions for the EMF was completed on September 20, 2016.
4. Hanford is an existing major stationary source of a regulated pollutant.
5. Hanford is located in a Class II Area designated as “attainment” for the purpose of NOC permitting for all pollutants.
6. The facility, if operated as herein required, will be in accordance with applicable rules and regulations, as set forth in Chapter 173-400 WAC and 173-460 WAC, and the operation thereof, at the location proposed, will not result in ambient air quality standards being exceeded.
7. The WTP is covered by PSD-02-01, but emissions covered by this NOC Application do not require a modification of the Prevention of Significant Deterioration (PSD) permit.
8. Dimethyl mercury (DMM) modeled emissions exceeded the acceptable source impact level (ASIL) emission levels of WAC 173-460.
9. The permittee submitted RPP-ENV-59016, Rev 1 to Ecology for evaluation of DMM emissions using WAC 173-460-090, *Controls of New Sources of Toxic Air Pollutants: Second Tier Review*.
10. Ecology determined Toxic Air Pollutants from the operation defined in RPP-ENV-59016, Rev 1, will have no significant impact on air quality.
11. This NOC Application conforms to the assumptions and analysis of RPP-ENV-59016, Rev 1, and bounds DMM emissions such that they have no significant impact on air quality.
12. Best Available Control Technology for Toxics (tBACT) for the control of particulates and aerosols is the use of High Efficiency Particulate Air (HEPA) filters.
13. The proposed project, if constructed and operated as herein required, will provide all known, available, and reasonable methods of emission control.

1 **THEREFORE, IT IS ORDERED** that the project as described in said Notice of Construction application,
2 as detailed in emission estimates, detailed in plans, specifications, and other information, submitted to the
3 Department of Ecology in reference thereto, is approved for construction, installation and operation,
4 provided compliance with the conditions and restrictions described below are met. This ORDER will be
5 identified as NOC APPROVAL ORDER **DE16NWP-003**.

6
7 **1.0 APPROVAL CONDITIONS**

8 **1.1 Emission Limits**

9 **1.1.1** Visible emissions from the Effluent Management Facility shall not exceed five (5)
10 percent opacity.

11 **1.1.2** All TAPs, as submitted in the Permittee's NOC Application as Table 1 and subsequent
12 follow-on informational email, shall be below their respective ASIL or approved through
13 a Second Tier review.

14 **1.1.3** Total mercury emissions shall not exceed 1.01E-04 pounds per 24-hr period.

15 **1.2 Operational Limits**

16 **1.2.1** The ventilation systems shall be operated in compliance with tBACT controls in
17 Finding 12.

18 **1.3 Compliance Demonstration**

19 **1.3.1** Compliance with Approval Condition 1.1.1 shall be met by Tier 3 Visible Emissions
20 Survey requirements of the Hanford Air Operating Permit.

21 **1.3.1.1** Should visible emissions be observed which are not solely attributable to water
22 condensation, compliance with Approval Condition 1.1.1 shall be met by performing an
23 opacity determination utilizing 40 Code of Federal Regulations (CFR) Part 60,
24 Appendix A, Method 9, providing that such determination shall not place the visible
25 emission observer in hazard greater than that identified for the general worker.

26 **1.3.2** Compliance with Approval Condition 1.1.2 shall be demonstrated by emission unit
27 sampling as described in Section 3.0 for TAPs and applying these readings to determine
28 the mass release rate of these TAPs in pounds and their respective release rate averaging
29 times in WAC 173-460-150.

30 **1.3.3** Compliance with Approval Condition 1.1.3 shall be demonstrated as described in Section
31 3.4.

32 **1.3.4** Compliance with Approval Condition 1.2.1 shall be met by operating the exhauster
33 systems in accordance with tBACT emission controls found for this project.

34
35 **2.0 NOTIFICATION AND SUBMITTALS**

36 **2.1 Addressing**

37 Any required notifications and submittals required under these Approval Conditions shall be sent to the
38 address below or to where Ecology directs them to be sent.

39

1 Washington State Department of Ecology
2 Nuclear Waste Program
3 3100 Port of Benton Boulevard
4 Richland, Washington 99354
5

6 **2.2 Operational Notice**

7 **2.2.1** Notification will be made to Ecology at least ten (10) days prior to initial testing.

8 **2.2.2** Notification will be made to Ecology at least ten (10) days prior to acceptance of
9 radioactive Tank Waste. Ecology shall provide approval before radioactive Tank Waste
10 is accepted for the first time.

11 **2.3 Recordkeeping**

12 Specific records shall be kept on the Hanford Site by the Permittee and made available for inspection by
13 Ecology upon request. The records shall be organized in a readily accessible manner and cover a
14 minimum of the most recent sixty (60) month period. The records to be kept shall include the following:

15 Records of calibration of stack gas flow rate and temperature measurement devices.

16 Stack flow rates and temperatures records.

17 Emission monitoring results required in Section 3.0.

18 Supporting data and calculations to demonstrate compliance as detailed in Approval Conditions
19 1.3.1, 1.3.2, 1.3.3, and 1.3.4.

20 All monitoring and operations records required to operate and maintain the emission control
21 equipment which implements tBACT as described in Section 1.0.

22 Laboratory analysis result summaries taken in accordance with these approval conditions of any
23 samples undertaken after the effective date of this ORDER which are examined for mercury or other
24 TAPS.

25 **2.4 Reporting**

26 Results of emission assessments conducted pursuant to Section 3.1 shall be submitted to Ecology within
27 ninety (90) days of completion of such assessment.

28 Identification of any TAP not previously identified within the NOC Application emissions estimate shall
29 be submitted to Ecology within ninety (90) days of completion of laboratory analyses which verify
30 emissions of that toxic air pollutant from the project.

31 Identification of any exceedance of Condition 1.1 Emission Limits shall be submitted to Ecology within
32 ninety (90) days of identification.

33 Visible emission surveys, conducted pursuant to Compliance Demonstration requirement 1.3.2, shall be
34 submitted to Ecology within thirty (30) days of completion of the survey with an assessment of the cause
35 of visible emissions and a report of the maintenance conducted to maintain the subject exhaust system's
36 tBACT operations.

37
38 **3.0 EMISSION MONITORING AND SAMPLING**

39 **3.1 Baseline Assessment**

40 All baseline assessments shall be conducted within ninety (90) days after commencement of operations
41 with actual tank waste.

1 **3.1.1 Dimethyl Mercury Baseline**

2 Dimethyl mercury sampling and analysis will be in accord with the United States Environmental
3 Protection Agency (EPA) approved procedures. All samples will be collected in close proximity of the
4 mercury monitor.

5 **3.1.2 Mercury Baseline**

6 Mercury sampling and analysis will be in accord with the EPA approved procedures. All samples will be
7 collected in close proximity of the mercury monitor.

8 **3.2 TAPs Emission Assessment**

9 Permittee will develop and implement an annual sampling and analysis plan (SAP). The SAP shall
10 address a minimum of the three analytes with the highest potential ambient concentration relative to their
11 ASILs of WAC 173-460-150 in addition to dimethyl mercury and elemental mercury. The SAP will need
12 to be submitted and approved by Ecology before sampling occurs. Analytical methods for the analyses
13 shall be the EPA, Occupational Safety and Health Administration (OSHA), or National Institute for
14 Occupational Safety and Health (NIOSH) approved, or by approved equivalent method.

15 **3.3 Dimethyl Mercury Assessment**

16 Permittee will install a mercury monitor to measure emission unit emission values of total mercury with a
17 minimum frequency of once every minute. All measurements of mercury on the mercury monitor will be
18 considered to be dimethyl mercury. This is to account for the fact that dimethyl mercury currently does
19 not have a real-time monitoring device.

20 The mercury monitor will be installed near the location where the Permittee established emission rates
21 used in the AERMOD modeling program to determine concentration in ambient air.

22 Mercury monitor standardized readings will be compared to the limit in condition 1.1.3. If the measured
23 mercury values exceed the limit, the facility will need to cease operation in a safe and controlled manner.

24 Ecology shall be notified within 24 hours of any exceedance of mercury monitoring.

25

26 **4.0 GENERAL CONDITIONS**

27 All plans, specifications, and other information submitted to the Department of Ecology relative to this
28 project and any authorizations or approvals or denials in relation thereto shall be incorporated herein and
29 made a part thereof.

30 **4.1 AVAILABILITY OF ORDER AND O&M MANUAL**

31 Legible copies of this Order and the O&M manual shall be available to employees in direct operation of
32 the exhaust systems, and be available for review upon request by Ecology.

33 **4.2 REGISTRATION FEES**

34 The applicant will pay the required registration fees within the deadline date specified on the invoice
35 from Ecology.

36

37 **4.3 DISCONTINUING CONSTRUCTION AND/OR OPERATIONS**

38 It shall be grounds for rescission of this approval if physical construction and/or operation is
39 discontinued for a period of eighteen (18) months or more. Ecology may extend the 18-month period
40 upon a satisfactory showing that an extension is justified.

1 **4.4 COMPLIANCE ASSURANCE ACCESS**

2 Access to the source by representatives of Ecology or the EPA shall be permitted upon request. Failure
3 to allow such access is grounds for enforcement action under the federal Clean Air Act or the
4 Washington State Clean Air Act, and may result in revocation of this Approval Order.

5 **4.5 EQUIPMENT OPERATION**

6 Operation of the ventilation system and related equipment shall be conducted in compliance with all data
7 and specifications submitted as part of the NOC application and in accordance with the O&M manual,
8 unless otherwise approved in writing by Ecology.

9 **4.6 ACTIVITIES INCONSISTENT WITH THE NOC APPLICATION AND THIS**
10 **APPROVAL ORDER**

11 Any activity undertaken by the permittee or others, in a manner that is inconsistent with the NOC
12 application and this determination, shall be subject to Ecology enforcement under applicable regulations.

13 **4.7 OBLIGATIONS UNDER OTHER LAWS OR REGULATIONS**

14 Nothing in this Approval Order shall be construed to relieve the permittee of its obligations under any
15 local, state, or federal laws or regulations.

16 **4.8 MODIFICATIONS**

17 Any modifications to the ventilation system’s operating and maintenance procedures, contrary to
18 information in the NOC application, shall be reported to Ecology at least 60 days before such
19 modification. Such modification may require a new or amended NOC Approval Order.

20 **YOUR RIGHT TO APPEAL**

21 You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within
22 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and
23 Chapter 371-08 WAC. “Date of receipt” is defined in RCW 43.21B.001(2).

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

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

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

30 **ADDRESS AND LOCATION INFORMATION**

Street Addresses	Mailing Addresses
<p>Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503</p> <p>Pollution Control Hearings Board 1111 Israel RD SW STE 301 Tumwater, WA 98501</p>	<p>Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608</p> <p>Pollution Control Hearings Board PO Box 40903 Olympia, WA 98504-0903</p>

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

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

5 The provisions of this authorization are severable and, if any provision of this authorization, or
6 application of any provisions of this authorization to any circumstance, is held invalid, the application of
7 such provision to their circumstances, and the remainder of this authorization, shall not be affected
8 thereby.

9
10 The New Source Review Fee has been assessed according to WAC 173-455. No approval of a permit or
11 service for any activity covered in this Order will be valid until the required fee is paid in full.

12
13 The effective date of this authorization shall be the signature date of the ORDER. All references
14 to procedures or test methods shall be to those in effect as of the effective date of this ORDER.

15
16 **DATED** at Richland, Washington, this 17th day of February, 2017.

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REVIEWED AND PREPARED BY:



Philip M. Gent, PE

APPROVED BY:



Alexandra K. Smith, Program Manager

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