



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950  
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

June 12, 2019

19-NWP-093

Brian T Vance, Manager  
Office of River Protection  
United States Department of Energy  
PO Box 450, MSIN: H6-60  
Richland, WA 99352

Re: Response to Notice of Incompleteness Determination for the Criteria and Toxics Air Emissions Notice of Construction for the Operation of Portable Exhausters Supporting Single-Shell Tank Waste Retrieval at the 241-A and 241-AX Tank Farms, (TOC-ENV-NOC-5252)

References: See page 5

Dear Brian T. Vance:

On February 23, 2016, the United States Department of Energy (USDOE) submitted the Notice of Construction (NOC) application TOC-ENV-NOC-5252 for operation of four portable exhausters to support waste retrieval activities in 241-A and 241-AX Tank Farms (A/AX) (Reference 1).

On April 18, 2019, in accordance with Washington Administrative Code (WAC) 173-400-111(1)(a), the Department of Ecology (Ecology) notified USDOE in writing of all additional information necessary to complete the application (Reference 2).

On May 14, 2019, Ecology received your request for Ecology to proceed with processing the A/AX NOC application because you believe the application is complete as submitted (Reference 3). This request did not provide the required additional information to complete the application; therefore, the application remains incomplete. The following sections discuss misconceptions in your letter, and further explain why Ecology deemed the application incomplete.

#### **Incompleteness Determination Timeliness**

WAC 173-400-111(1) contains expectations for completeness determinations for NOC applications. Those expectations are not the same as the air operating permit application completeness expectations of WAC 173-401-500(4) as cited in your letter. WAC 173-400-111(1) regulation establishes that within a specified time after receiving an NOC application, the permitting authority must either notify the applicant in writing that the application is complete or notify the applicant in writing of all additional information necessary to complete the application.

In September 2015, prior to Ecology's receipt of the A/AX NOC application, the state of Washington filed a citizen suit alleging that vapors from the Hanford tank farms may present an "imminent and substantial endangerment" under the Resource Conservation and Recovery Act section 7002(a)(1)(B), 42 USC § 6972(A)(1)(B). Because the outcome of the litigation had the potential to impact permit terms, Ecology put a temporary hold on processing any new NOC permit applications for tank farm-related projects, including the A/AX NOC application. After a settlement agreement in the vapor litigation was signed in September 2018, Ecology reinitiated review of the A/AX NOC application.

On December 3, 2018, Ecology expressed concerns that the ambient air boundary for the Hanford Site, which is used in the dispersion modeling to satisfy the acceptable source impact analysis requirement of WAC 173-460-070, does not adequately evaluate risks to the public due to changes in Hanford Site access and security over time.

In lieu of issuing a formal notice of incompleteness for the A/AX NOC application, Ecology repeatedly attempted to work with USDOE to develop project-specific alternatives to satisfy the acceptable source impact analysis requirements. USDOE chose not to pursue any of the alternatives that Ecology proposed nor provide any alternatives that meet regulatory requirements.

On March 4, 2019, USDOE transmitted a request for Ecology to take action on the A/AX NOC application. In response to the request, and because the application still did not contain all the information required by the regulations, Ecology issued a notice of incompleteness on April 18, 2019 (Reference 2).

In an effort to find mutually acceptable solutions and foster a collaborative relationship, Ecology spent a considerable time working with USDOE to obtain adequate information that would meet regulatory requirements and allow for project permitting. At the request of USDOE and its contractors, Ecology tried to minimize sending formal incompleteness letters because when applications are formally determined incomplete, it tends to add lengthy process delays. However, when USDOE requested Ecology to provide a formal action, we promptly responded.

### **Ambient Air Boundary**

Ecology has accepted Hanford's ambient air boundary used in past permit applications on the assumption that the boundary was being maintained in a manner consistent with the original determination. Ecology initiated an evaluation of the boundary and found that changes in access control to the site have affected the location of the ambient air boundary. USDOE must account for these changes and demonstrate that the increase in emissions of pollutants are sufficiently low to protect human health and safety in all areas accessible by the public.

### **Source Term and Emissions Estimate Update**

Due to uncertainties in waste transfers between tanks, USDOE has submitted tank waste-related applications with conservative emission estimates. These estimates used the highest per tank sample concentrations of each pollutant from USDOE's sample databases, which is also the approach used in the A/AX NOC application. The A/AX application identified 92 toxic air pollutants (TAPs). USDOE's tank waste-related permit application for the 241-AW tank farm stack extension, submitted in December 2018, identified 11 additional TAPs that were not evaluated in A/AX, including sulfuric acid. Additionally, the recent 241-AW tank farm application submittal shows the highest per tank sample concentration of some pollutants, has increased, including trans-1, 2, -dichloroethene, which increased by a factor of 32.

In accordance with WAC 173-400-111(1)(b), a complete NOC application contains all the information necessary for processing the application, including information on the nature and amounts of emissions to be emitted, which is not the same as the air operating permit application requirements of WAC 173-401-510(2)(c) and WAC 173-401-500(6) as cited in your letter. The A/AX NOC application must be updated to account for the new data USDOE has collected for a complete emissions estimate.

### **BACT and tBACT Evaluation**

The A/AX NOC application must demonstrate that it will employ the best available control technology for criteria and toxic pollutants (BACT and tBACT). BACT and tBACT evaluates current available control technologies for each pollutant subject to the review, and determines the best technology based on feasibility, effectiveness, and cost for the specific project. The tBACT evaluation submitted was completed in 2003 for a project consisting of three 500 standard cubic feet per minute (scfm) and one 1,000-scfm exhauster systems with total project emissions of 6.5 tons per year of ammonia and 0.95 tons per year of non-ammonia TAPs.

The A/AX NOC application consists of four 3,000-scfm exhauster systems with total project emissions of 46.4 tons per year of ammonia and estimated emissions of a single TAP, nitrogen dioxide, are 2.6 tons per year alone. Since 2003, new and more effective technology has been used in the industry to control emissions. An evaluation of the current available control technologies and their application to the designed project must be made to determine what BACT and tBACT is reasonable to install and operate, as required by WAC 173-460-060.

### **DE05NWP-002, Revision 2 Modification**

Currently the A/AX tank farms can operate portable exhausters at 1,000-scfm for retrieval activities, pursuant to Approval Order DE05NWP-002, Revision 2. Retrieval operations necessary to meet Consent Decree obligations may utilize this effective permit pending (or in lieu of) resolution of the NOC application. DE05NWP-002, Revision 2, contains more stringent exhaust requirements than what is proposed in the NOC application.

Brian T Vance,  
June 12, 2019  
Page 4 of 5

19-NWP-093

Until DE05NWP-002, Revision 2, is modified to remove A/AX requirements so they can be incorporated under a separate and distinct permit modification application, the exhaust rate of the A/AX exhausters will be limited to 1,000-scfm. Otherwise, issuing a new Approval Order with known conflicts with other Approval Orders would lead to operational confusion and increased potential for permit violations.

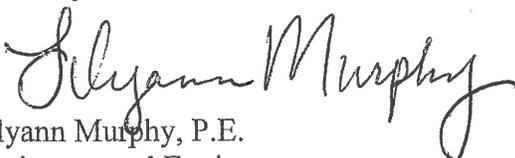
Ecology would be remiss to issue this new A/AX NOC, even if the application was complete, without having USDOE submit a modification application to remove the A/AX exhausters' requirements from DE05NWP-002, Revision 2. Modification to DE05NWP-002, Revision 2, is a separate and distinct permit modification application, but intrinsically linked with issuing the requested new permit. Both the new permit and the modified permit will need to be issued with the same effective date.

Until USDOE addresses the items identified as incomplete, and any subsequent requirements based on the results, Ecology cannot proceed with processing the A/AX exhauster NOC application. Ecology has repeatedly offered to work with USDOE to develop project-specific, non-binding alternatives that will allow us to permit the new A/AX exhausters for USDOE to increase the efficiency of retrievals and meet its Consent Decree obligations. Ecology is willing to continue to work with USDOE to develop alternatives that meet regulatory requirements and complete all necessary application items in order to facilitate issuing the permit.

By June 26, 2019, please provide Ecology with either the information required to make your application complete (Reference 2), or the date you will provide the required information. If your response does not contain the required information or the date USDOE will submit the required information, Ecology will consider this as failure to respond, and will take appropriate action.

If you have questions or need further information, please contact me at [lilyann.murphy@ecy.wa.gov](mailto:lilyann.murphy@ecy.wa.gov) or (509) 372-7951, or Alex Smith, Nuclear Waste Program Manager, at [alex.smith@ecy.wa.gov](mailto:alex.smith@ecy.wa.gov) or (509) 372-7905.

Sincerely,

  
Lilyann Murphy, P.E.  
Environmental Engineer  
Nuclear Waste Program

so

cc: See page 5

References:

1. USDOE Letter 16-ECD-0008, dated February 23, 2016, U.S. Department of Energy, Office of River Protection Submits TOC-ENV-NOC 5252, Rev. 00, Criteria and Toxics Air Emissions Notice of Construction for the Operation of Portable Exhausters Supporting Single-Shell Tank Waste Retrieval at the 241-A and 241-AX Tank Farms
2. Ecology Letter 19-NWP-063, April 18, 2019, Notice of Incompleteness Determination for the *Criteria and Toxics Air Emissions Notice of Construction for the Operation of Portable Exhausters Supporting Single-Shell Tank Waste Retrieval at the 241-A and 241-AX Tank Farms*, (TOC-ENV-NOC-5252)
3. USDOE Letter 19-ECD-0038, dated May 14, 2019, Response to Notice of Incompleteness Determination for the Criteria and Toxics Air Emissions Notice of Construction for the Operation of Portable Exhausters Supporting Single-Shell Tank Waste Retrieval at the 241-A and 241-AX Tank Farms, (TOX-ENV-NOC-5252)

cc electronic:

Dave Bartus, EPA	Mark Pakula, Ecology
Dave Einan, EPA	Alex Smith, Ecology
Jim McAuley, EPA Region 10	Environmental Portal
Kelly McFadden, EPA Region 10	Hanford Facility Operating Record
Christopher Kemp, USDOE-ORP	MSA Correspondence Control
Brian Trimberger, USDOE-ORP	USEPA Region 10 Hanford Field
Thomas Ferns, USDOE-RL	Correspondence Control
Reed Kaldor, MSA	USDOE-QRP Correspondence Control
Jessica Joyner, WRPS	USDOE-RL Correspondence Control
ERWM Staff, YN	WRPS Correspondence
Lilyann Murphy, Ecology	

cc:

Matt Johnson, CTUIR  
Jack Bell, NPT  
Alyssa Buck, Wanapum  
Laurene Contreras, YN  
Susan Leckband, HAB  
Hanford Administrative Record  
NWP Central File