



# **Response to Comments Approval Order DE19NWP-001, Site-Wide Water System Upgrade**

**July 20 – Aug. 19, 2021**

For the **Nuclear Waste Program**

Washington State Department of Ecology

Richland, Washington

August 2021, Publication 21-05-023



## Publication Information

This document is available on the Department of Ecology's website at:

<https://apps.ecology.wa.gov/publications/summarypages/2105023.html>

Ecology publishes this document to meet the requirements of [Washington Administrative Code 173-400-171\(7\)](#).

### Cover photo credit

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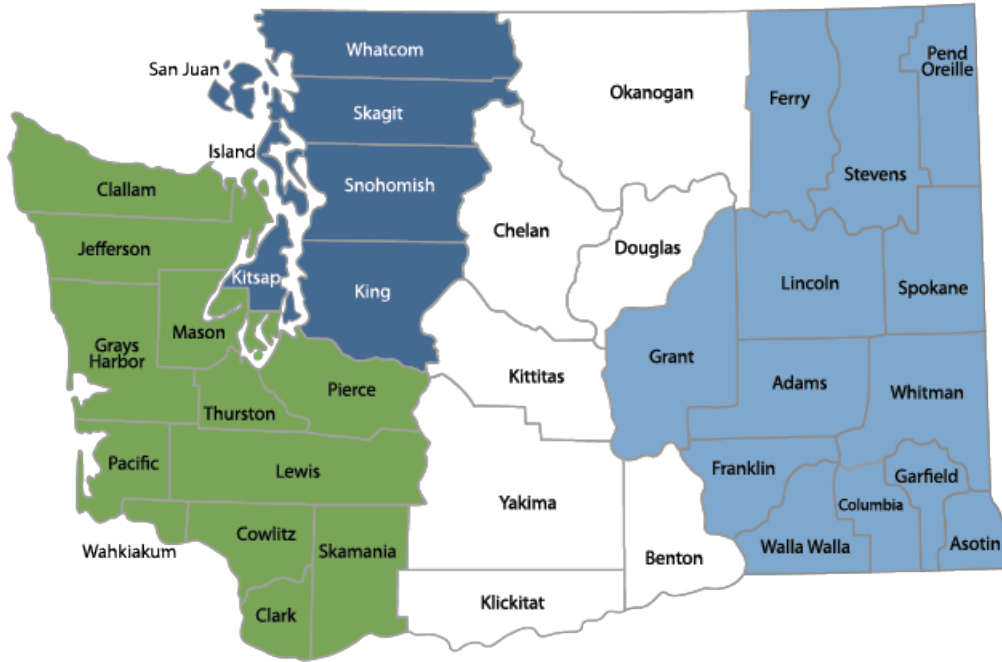
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<sup>1</sup> [www.ecology.wa.gov/contact](http://www.ecology.wa.gov/contact)

# Department of Ecology's Regional Offices

## Map of Counties Served



<b>Southwest Region</b> 360-407-6300	<b>Northwest Region</b> 425-649-7000	<b>Central Region</b> 509-575-2490	<b>Eastern Region</b> 509-329-3400
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Region	Counties served	Mailing Address	Phone
<b>Southwest</b>	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
<b>Northwest</b>	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	3190 160th Ave SE Bellevue, WA 98008	425-649-7000
<b>Central</b>	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
<b>Eastern</b>	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
<b>Headquarters</b>	Across Washington	PO Box 46700 Olympia, WA 98504	360-407-6000

# Response to Comments Approval Order DE19NWP-001, Site-Wide Water System Upgrade

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DEPARTMENT OF  
**ECOLOGY**  
State of Washington

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## Introduction

The Washington State Department of Ecology’s Nuclear Waste Program (Ecology) regulates air pollution sources at the Hanford Site. In particular, Ecology is the permitting authority for new or modified sources requiring new source review under WAC 173-400-110 on the Hanford Site.

When a new order or a modification to an existing order is proposed, Ecology may hold a public comment period to allow the public to review the proposed order and provide formal feedback. (See WAC 173-400-171 for Public Notice and Opportunity for Public Comment requirements for approval of a notice of construction application.)

The Response to Comments is the last step before issuing the final order, and its purpose is to:

- Specify which provisions, if any, of an order will become effective upon issuance of the final order, providing reasons for those changes.
- Describe and document public involvement actions.
- List and respond to all significant comments received during the public comment period and any related public hearings.

This Response to Comments is prepared for:

Comment period	Notice of Construction Application document DOE/RL-2020-33 submitted with Letter 21-ESQ-000366 Draft Approval Order DE19NWP-001, Site-Wide Water System Upgrade, July 20 – Aug. 19, 2021 Draft Technical Support Document for Approval Order DE19NWP-001
Approval Order Number	<i>DE19NWP-001</i>
Permittees	United States Department of Energy
Original Issuance date	Aug. 30, 2021
Effective date	Aug. 30, 2021

To see more information related to the Hanford Site and nuclear waste in Washington, please visit our webpage, [Hanford Cleanup](https://www.ecology.wa.gov/Hanford)<sup>2</sup>.

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<sup>2</sup> <https://www.ecology.wa.gov/Hanford>

## Reasons for Issuing the Permit

This Approval Order will authorize site-wide upgrades to the existing water production and delivery infrastructure on the Hanford Site. This system collects water from the Columbia River and treats it for uses such as drinking, fire suppression, and cleanup activities. In particular, the new emergency engines installed as part of this project will help ensure a reliable water supply for the Direct-Feed Low-Activity Waste (DFLAW) operating configuration at the Waste Treatment Plant, once it is operational. Additionally, range fires are a concern on the Hanford Site due to the natural climate and vegetation.

These upgrades will result in criteria and toxic air pollutant emissions from portions of the water treatment facility and from emergency engines needed for continuous power supply. Allowable emissions from the new source will not cause or contribute to a violation of any ambient air quality standard.

## Public Involvement Actions

Ecology encouraged public comment on the draft Approval Order DE19NWP-001 during a 30-day public comment period held July 20 through Aug 19, 2021.

The following actions were taken to notify the public:

- Emailed a notice announcing the start of the comment period to the Hanford-Info email list, which has 1,279 recipients.
- Posted the comment period notice on the Washington Department of Ecology – Hanford’s Facebook and Twitter pages.

The following public notices for this comment period are in [Appendix A](#) of this document:

- Notices sent to the Hanford-Info email list
- Notices posted on the Washington Department of Ecology – Hanford’s Facebook and Twitter pages

## List of Commenters

The table below lists the names of organizations or individuals who submitted a comment on the Draft Approval Order DE19NWP-001. The comments and responses are in [Attachment 1](#).

Commenter	Organization
Jeanne Poirier	Citizen
Hanford Mission Integration Solutions	Hanford Contractor
Confederated Tribes of the Umatilla Indian Reservation	Tribal Nation



# Attachment 1: Comments and Responses

## **Description of comments:**

Ecology accepted comments from July 20 – Aug. 19, 2021. This section provides a summary of comments that we received during the public comment period and our responses, as required by WAC 173-400-171(7)(c). Comments are grouped by individual and each comment is addressed separately.

## **I-1: JEANNE POIRIER**

### **Comment I-1-1**

Over the next decade . . . Hanford is indeed a challenging situation! What strikes me about this particular upgrade is six new diesel engines powering emergency backup generators. Is solar and continually improved battery technology not an option here?? Using diesel at a time when we need to move away from fossil fuels is questionable to me. Please do your best and good luck with the myriad problems at Hanford!!

### ***Ecology response I-1-1***

*Permittees are not required to submit an analysis of alternatives to proposed emission units under WAC 173-400-110 New Source Review. If DOE did review the potential for solar panels and batteries to provide emergency power, it would have been outside the scope of this permitting action.*

## **B-1: HANFORD MISSION INTEGRATION SOLUTIONS, LLC**

### **Comment B-1-1**

In the approval order (DE19NWP-001), please relocate Table 3 to follow paragraph 2.C.iii and re-number the tables accordingly. This will reduce future confusion regarding the applicability of the contents of the current Table 3.

### ***Ecology response B-1-1***

*Table 3 was placed under Condition 2.a because surface area and liquid concentrations are "Operation Limits" rather than "Emission Limits" under Condition 2.c. These parameters were used to calculate the emissions limits in Table 5, but exceeding the surface area or concentration limits alone would not necessarily result in excess emissions, as addressed by WAC 173-400-107, -108, and -109.*

*Due to this fact, Ecology is retaining Table 3 in the current location.*

## **T-1: CTUIR**

### **Comment T-1-1**

Water Systems Upgrade Notice of Construction Application Technical Information [DOE/RL-2020-33 Rev. 0]: Pg. 1-2:

The last paragraph reads: "L-838- "Water Feeds to 622R, 6608 Facility, and 200W Sewer Lagoons": This project will cut, cap, and abandon in place the existing export water line feeding the 622R Meteorology Lab, install a new raw water line that connects the existing raw water grid to the 622R Meteorology Lab ..."

Comment: CTUIR Hanford Policy states: "Hanford lands and resources should be restored to their pre-Hanford environmental conditions, or equivalent to those that existed at the time of the Treaty of 1855." Pipes and other unused infrastructure should not be abandoned in place as

a disposal option, as this does not restore Hanford lands to "pre-Hanford environmental conditions." This pipe, and any others replaced within the planned Site-Wide Water System Upgrade should be removed and properly disposed.

Requested Actions: Make appropriate changes to the Notice of Construction application on all piping and infrastructure that will be replaced or upgraded, specifying that replaced or to be unused items will be removed and properly disposed.

***Ecology response T-1-1***

*Pipes and other inert materials left behind would not be emission units, as defined in WAC 173-400-030(4), and would therefore be outside the scope of this permitting action. Ecology does not have the authority to require removal of these materials under WAC 173-400-110 New Source Review.*

**ECOLOGY NOTE 1:**

During the public comment period, Ecology noticed that the numbering for several conditions was inconsistent and did not follow the following standard format of 1.a.i.A. Therefore, the following corrections have been made in the final permit:

Draft Conditions 1.b.A through 1.b.C are now final Conditions 1.b.i through 1.b.iii

Draft Conditions 2.a.v.I and 2.a.v.II are now final Conditions 2.a.v.A and 2.a.v.B.

No changes were made to the text of these conditions.

**ECOLOGY NOTE 2:**

When estimating greenhouse gas emission for Table 3 of the Technical Support Document, Ecology used the "Max. Fuel Flow" of 51.9 gallons per hour listed in the L-781 Engine's manufacturer specification sheet. Ecology has determined that the fuel delivery system likely has a greater capacity than the engine can actually use. Therefore, the standby fuel consumption at 100% load, 30.6 gallons per hour, would be more appropriate for estimating potential emissions.

This reduces total greenhouse gas emissions from approximately 3,830 to 3,500 tons per year as CO<sub>2</sub> equivalent. Ecology performed this calculation as a verification that the project could not reasonably exceed the Prevention of Significant Deterioration program Significant Emission Rate of 75,000 tons per year as CO<sub>2</sub> equivalent. Table 1 of the DE19NWP-001 Technical Support Document has been updated based upon the following estimate:

### Emission Factors & Global Warming Potentials (GWP)

CO <sub>2</sub>	73.96	kg/MMBtu	40 CFR Part 98 Subpart C Table C-1 (12/16)
CH <sub>4</sub>	0.003	kg/MMBtu	40 CFR Part 98 Subpart C Table C-2 (12/16)
N <sub>2</sub> O	0.0006	kg/MMBtu	40 CFR Part 98 Subpart C Table C-2 (12/16)
CH <sub>4</sub> GWP	25		40 CFR Part 98 Subpart A Table A-1 (12/14)
N <sub>2</sub> O GWP	298		40 CFR Part 98 Subpart A Table A-1 (12/14)

### Greenhouse Gas (GHG) Calculations

Total Engine Fuel Use	619.8	gal/hr
Assumed Diesel HHV <sup>1</sup>	0.138	MMBtu/gal
Hourly Heat Input	85.53	MMBtu/hr
Total Annual Hours	500	Hours
Annual Heat Input	42,766	MMBtu/Year
CO <sub>2</sub> EF <sup>1</sup>	163.05	lb/MMBtu
CH <sub>4</sub> EF <sup>2</sup>	6.61E-03	lb/MMBtu
N <sub>2</sub> O EF <sup>2</sup>	1.32E-03	lb/MMBtu
Total GHG	3,487	tons/year
Total GHG as CO <sub>2</sub> Equivalent <sup>3</sup>	3,499	tons/year

*Blue indicates values which were taken from the permittee's Notice of Construction application, rather than published reference values supplied by Ecology.*

*Yellow indicates the final estimated GHG potential to emit, prior rounding.*

<sup>1</sup> 40 CFR Part 98 Subpart C Table C-1 (12/16). Emission factor (EF) converted from kg/MMBtu to lb/MMBtu

<sup>2</sup> 40 CFR Part 98 Subpart C Table C-2 (12/16). EF converted from kg/MMBtu to lb/MMBtu.

<sup>3</sup> Global warming potentials from 40 CFR Part 98 Subpart A Table A-1 (12/14).

## Appendix A. Copies of All Public Notices

Public notices for this comment period:

- Notices sent to the Hanford-Info email list
- Notices posted on Washington Department of Ecology – Hanford’s Facebook and Twitter pages

**From:** [McFadden, Daina \(ECY\)](#)  
**To:** [HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV](mailto:HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV)  
**Subject:** New Air NOC public comment period starts today  
**Date:** Tuesday, July 20, 2021 11:31:52 AM

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## Notice of Construction Approval Order DE19NWP-001, Site-Wide Water System Upgrade public comment period notification

The Washington State Department of Ecology is providing notification of a 30-day public comment period starting July 20 – August 19, 2021. This comment period will address Approval Order DE19NWP-001 for an air quality Notice of Construction (NOC) submitted under WAC 173-400-110 for water system upgrades at the Hanford Site.

### What changes are being proposed?

The U. S. Department of Energy (USDOE) is proposing to upgrade the water treatment and distribution system for the Hanford Site in phases over approximately the next decade. This project includes six new diesel engines powering emergency backup generators, a new Central Plateau Water Treatment Facility, and numerous modifications and upgrades to existing piping and control systems. These upgrades will improve the capacity and reliability of the current system.

Air pollutant emissions from the engines and disinfection byproducts exceed the permitting exemption levels in WAC 173-400-110(5) and do not meet a specific categorical exemption. Therefore, USDOE has submitted a NOC application for the water system upgrades.

### How to comment

Ecology invites you to review and comment on the proposed NOC Approval Order DE19NWP-001. The proposed modification is online at the Nuclear Waste Program's [public comment page](#).

Please submit comments by **August 19, 2021**. Electronic submission (preferred):

[Notice of Construction DE19NWP-001, Site-Wide Water System Upgrade](#)

Mail or hand-deliver to:

Daina McFadden  
3100 Port of Benton Blvd  
Richland WA 99354  
Fax 509-372-7971

### Public hearing

A public hearing is not scheduled, but if there is enough interest, we will consider holding one. To request a hearing or for more information, contact:

Daina McFadden

[Hanford@ecy.wa.gov](mailto:Hanford@ecy.wa.gov)

509-372-7950

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Washington Department of Ecology - Hanford

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We began a new #Hanford public comment period yesterday, involving new emission units for the site-wide water distribution system. Learn more and get your comments in by Aug. 19:

<https://ecology.wa.gov/.../Nuclear.../Public-comment-periods>



YOUR VOICE MATTERS

*Public comment period now open!*



0:01 / 0:05

0 People Reached

0 Engagements

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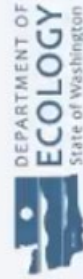
Ecology - Hanford @ecyHanford · 35s

We began a new #Hanford public comment period yesterday, involving new emission units for the site-wide water distribution system. Learn more and get your comments in by Aug. 19: [ecology.wa.gov/Waste-Toxics/N...](https://ecology.wa.gov/Waste-Toxics/N...)

@HanfordSite @EPAnorthwest @RiverProtection @EcologyWA



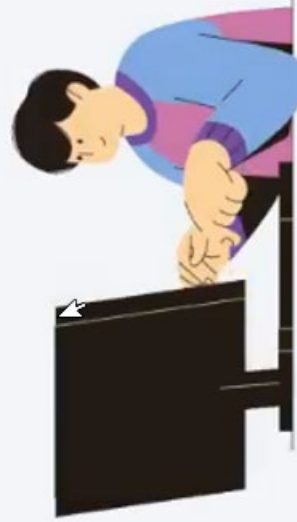
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Tell us what you think.



**PUBLIC COMMENT PERIOD**





## Site-Wide Water System Upgrade

July 20, 2021 – Aug. 19, 2021

Our agency is holding a 30-day public comment period for Notice of Construction (NOC) Approval Order DE19NWP-001, which addresses proposed modifications and new emission units for the site-wide water distribution system. The permittee is the U.S. Department of Energy.

### Proposed changes

The project will add air pollutant emissions from new emergency engines at multiple locations and chlorine disinfection byproducts from a new Central Plateau Water Treatment Facility (CPWTF). New emission units are six engines, two potable water storage tanks, and wastewater discharge from the CPWTF to existing sludge lagoons.

### Review and comment

Copies of the proposed modification and supporting documents are available below.

Please submit comments by **Aug. 19, 2021**, [electronically](#) (preferred), or deliver to:

Daina McFadden  
3100 Port of Benton Blvd  
Richland, WA, 99354  
Fax 509-372-7971

A public hearing is not scheduled, but if there's enough interest, we will consider holding one. To request a hearing, contact Daina McFadden by [email](#) or call 509-372-7950.

### Documents

[NOC Application](#)

[DE19NWP-001](#) (Approval Order)

[Technical Support Document](#)

[Health Impact Assessment \(HIA\) Letter Draft](#)

[HIA Draft](#)

### Supporting documents

[Supplemental information portfolio](#)