



Response to Comments LAWPS Operating Permit Modification – Agency Initiated

June 28 – Aug. 12, 2021

For the **Nuclear Waste Program**

Washington State Department of Ecology

Richland, Washington

Sept. 2021, Publication 21-05-024



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ADA Accessibility

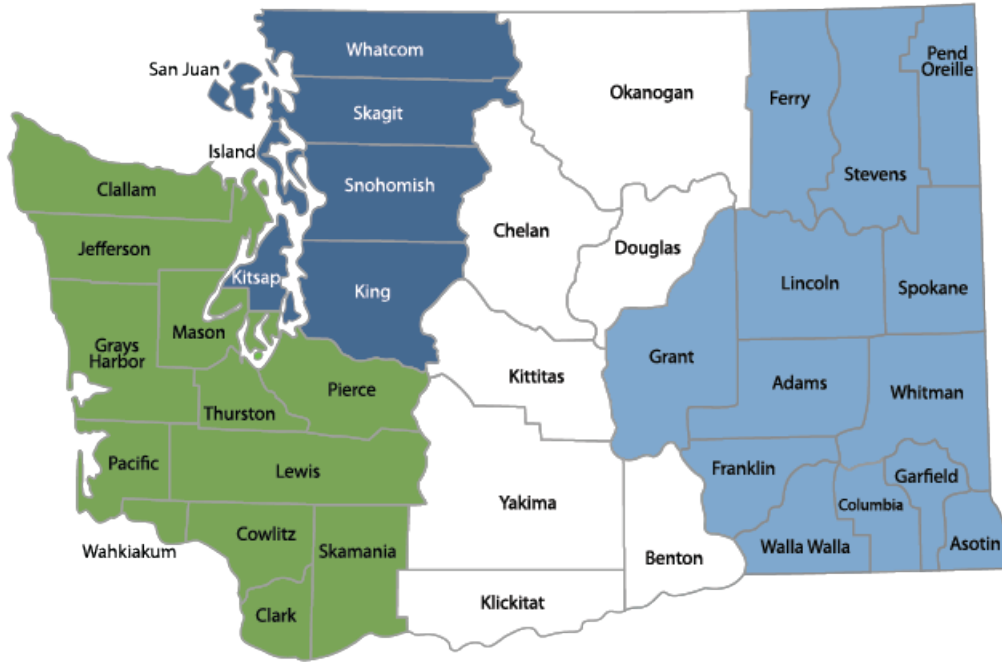
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¹ www.ecology.wa.gov/contact

Department of Ecology's Regional Offices

Map of Counties Served



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

Response to Comments LAWPS Operating Permit Modification

June 28 – Aug. 12, 2021

Nuclear Waste Program
Washington State Department of Ecology
Richland, WA

Sept. 2021 | Publication 21-05-024



DEPARTMENT OF
ECOLOGY
State of Washington

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Introduction

The Washington State Department of Ecology’s Nuclear Waste Program (Ecology) manages dangerous waste within the state by writing permits to regulate its treatment, storage, and disposal. When a new permit or a significant modification to an existing permit is proposed, Ecology holds a public comment period to allow the public to review the change and provide formal feedback. (See [Washington Administrative Code \[WAC\] 173-303-830](#) for types of permit changes.)

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

- Specify which provisions, if any, of a permit will become effective upon issuance of the final permit, 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	LAWPS Operating Permit Modification June 28 – Aug. 12, 2021
Permit	<i>Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Operating Unit Group 1, Low-Activity Waste Pretreatment System (LAWPS)</i>
Permittees	U.S. Department of Energy – Office of River Protection and Washington River Protection Solutions
Original Issuance date	Jan. 29, 2021
Effective date	Oct. 18, 2021

To see more information related to the Hanford Site and nuclear waste in Washington, please visit our webpage, [Hanford Cleanup](#)².

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

Reasons for Issuing the Permit

The Permit establishes requirements to ensure waste management activities are protective of human health and the environment. This Agency Initiated permit modification provided operating details for Phase One of the Low-Activity Waste Pretreatment System (LAWPS) Operating Unit Group and the necessary information to close out the Interim Compliance (IC) Schedule Item LAWPS-1. The IC Schedule Item LAWPS-1 required the permittees to submit to Ecology for review an operating permit modification request, including related AP Farm Tanks 241-AP-106, 241-AP-107 and 241-AP-108 operational requirements to support LAWPS operations.

The following were included in the permit modification to support the public comment period:

- Unit Specific Permit Conditions
- Appendix 1
- Appendix 2.6
- Addendum B, Waste Analysis Plan
- Addendum C, Process Information
- Addendum E, Security
- Addendum G, Personnel Training
- Addendum H, Closure Plan
- Addendum I, Inspection Plan
- Addendum J, Contingency Plan
- Supplemental Information

The permit modification included two versions of Addendum J, Contingency Plan. The previous Addendum J was struck out and was replaced with an entirely new document, the *Building Emergency Plan for Tank Farms*.

Public Involvement Actions

Ecology encouraged public comment on the LAWPS Operating Permit Modification during a 45-day public comment period held June 28 through Aug. 12, 2021.

The following actions were taken to notify the public:

- Mailed a public notice announcing the comment period to 1,107 members of the public.
- Placed a public announcement legal classified notice in the Tri-City Herald on June 27, 2021.
- Emailed a notice announcing the start of the comment period to the Hanford-Info email list, which has 1,286 recipients.

- Posted the comment period notice on the Washington Department of Ecology – Hanford’s Facebook and Twitter pages.

The Hanford information repositories located in Richland, Spokane, and Seattle, Washington, and Portland, Oregon, received the following documents for public review:

- Focus sheet
- Transmittal letter
- Fact sheet for the proposed LAWPS Operating Permit Modification
- Draft LAWPS Operating Permit Modification

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

- Focus sheet
- Classified notice in the Tri-City Herald
- 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 [unit name] Permit modification. The comments and responses are in [Attachment 1](#).

Commenter	Organization
Anonymous	Citizen
Confederated Tribes of the Umatilla Indian Reservation	Tribe
Department of Energy/Washington River Protection Solutions	Organization

Attachment 1: Comments and Responses

Description of comments:

Ecology accepted comments from June 28 through Aug. 12, 2021. This section provides a summary of comments that we received during the public comment period and our responses, as required by RCW 34.05.325(6)(a)(iii). Comments are grouped by individual and each comment is addressed separately.

I-1: ANONYMOUS

Comment I-1-1

Operating Conditions

Page "Conditions.4" states that "Dangerous and/or mixed waste may be transferred from DWMUs within the LAWPS OUG to an on-site DWMU or an off-site permitted Treatment, Storage, or Disposal Facility ... "

This statement could be interpreted to allow treatment of pre-treated tank waste at Perma-Fix Northwest (PFNW) inside the City of Richland. PFWN has an expired permit, an out of date EIS, a poor safety record, and is only just feet above the water table, as compared to hundreds of feet in the 200 areas. Please do not allow transfer of any of the LAWPS related tank waste to PFWN, even as a "treatability test." Such tests have been used as an open ended exception to Ecology's regulations. Tank waste and its derivatives should be treated on-site, as a risk management measure and to protect the public health.

Response to I-1-1

Ecology is currently working with Perma-Fix Northwest to update and renew their RCRA permit and ensure the proper SEPA documentation is in place to ensure the safe management of mixed waste at Perma-Fix Northwest located in Richland, WA. Perma-Fix Northwest is not currently approved to receive or treat any tank waste from the Hanford tank farms.

Comment I-1-2

Orphan Waste Disposal

TPA change control form M-62-21-02 establishes milestone M-062-60, which requires a disposition pathways evaluation for the Cs-137 loaded Ion Exchange Columns to be produced by the LAWPS processes. Until a disposal pathway is found, this waste is an orphan that allows construction and operations without an entire mission definition. I would appreciate if the disposition pathway report could be accelerated, so that the costs and risks are known. An endless series of reports seems to be a waste of money.

Response to I-1-2

Thank you for your comment. Ecology agrees that a disposal pathway is of extreme importance and we continue to work with the Permittees to ensure that long-term storage, treatment, and disposal of the waste is protective of human health and the environment.

Comment I-1-3

Integrated Flow Sheet

There has been no integrated flow sheet to show the impacts of the LAWPS and DFLAW operations. Ecology accepted DOE's excuses for not actually performing TPA milestone M-062-50 work scope in favor of work to be done "later," which is a quality assurance violation. How much more waste is produced over what was baseline WTP operations? More liquid added, more and different air emissions? More sodium hydroxide added to make even more glass? I

would appreciate if Ecology could obtain and publish the Integrated Flowsheets that DOE has sponsored and published so far, and any new ones that completed. These reports are:

RPP-RPT-57991, One System: Tank Waste Disposition Integrated Flowsheet - River Protection Project Reference Integrated Flowsheet Rev 0, 2014;

RPP-RPT-57991 "One System River Protection Project Integrated Flowsheet;" Rev 1, 2015; RPP-RPT-57991 One System River Protection Project Integrated Flowsheet;" Rev 2, 2017;and

RPP-RPT-57991 "River Protection Project Integrated Flowsheet;" Rev 3, 2019. This will help to answer questions about how the LA WPS process is affecting overall risks and costs.

Response to I-1-3

In response to your comment, here are some specific details: Spent ion exchange resin is generated in the LAWPS (TSCR) process. Unlike the spent ion exchange resin generated in the original WTP pretreatment process, the LAWPS spent ion exchange resin is a single use resin which remains loaded with contaminants, including radioactive cesium, after use. The LAWPS spent ion exchange resin is managed as a new waste stream that DOE plans to incorporate into the waste stream fed to the WTP HLW vitrification process. The LAWPS (TSCR) process requires a more dilute waste stream. In the DFLAW Configuration the LAW melters will be run at feed rates lower than the Baseline Configuration, since more of the heat input to the LAW melters will be used to evaporate water rather than melt glass former materials and waste. Consequently, the air emissions are expected to be the same or lower during the DFLAW operations. Additional sodium hydroxide and other corrosion inhibiting chemicals will be added to the waste stream as needed with dilution water to produce a more dilute waste; however, the amount added will be relatively small since it is being added for corrosion inhibition as the waste is diluted. All revisions of RPP-RPT-57991 (0, 1, 2, and 3) are available to the public and can be found at:

<https://www.hanford.gov/page.cfm/FOIA/FOIRequestsReceivedbyRLandORPin2021>

B-1: CTUIR

Comment B-1-1

Addendum B, "Waste Analysis Plan" Pg 11:

Lines 16-18 of the proposed modification read: "Blending could include removing a portion of the feed and replacement with selected alternative feed. This blending approach could include the addition of water as a part of the remedy."

Comment: It is a concern that this language will potentially allow dilution of the waste stream with water to meet waste feed acceptance criteria for Low Activity Waste, where the waste will then be concentrated to hazardous levels later in the vitrification processes.

Requested Action: Please change wording to: "Blending could include removing a portion of the feed and replacement with selected alternative feed. This blending approach could include the addition of water as a part of the remedy for meeting TSCR waste feed viscosity and density requirements."

Response to B-1-1

Ecology accepts the proposed language to Addendum B and will revise the sentence as suggested.

T-1: WRPS/DOE (PERMITTEES)

Comment T-1-1

Compliance Schedule Item LAWPS-2 in Appendix 1.0 has been completed. Tri-Party Agreement (TPA) change notice M-62-21-02 was approved by both Ecology and DOE on 6/8/2021 to establish a series of TPA milestones for long-term management of the spent ion exchange columns and media. We recommend that Appendix 1.0 be further revised to reflect item LAWPS-2 as "complete" similar to what is proposed for item LAWPS-01.

Response to T-1-1

Ecology agrees, Tri-Party Agreement (TPA) change notice M-62-21-02 was approved by both Ecology and DOE on 6/8/2021 to create four new interim milestones and two new target dates for the long-term management of the spent ion exchange columns and associated media. Appendix 1 will be revised to reflect Interim Compliance Item LAWPS-2 as "complete".

Appendix A. Copies of All Public Notices

Public notices for this comment period:

- Focus sheet
- Classified notice in the Tri-City Herald
- Notices sent to the Hanford-Info email list
- Notices posted on Washington Department of Ecology – Hanford’s Facebook and Twitter pages

LAWPS Operating Permit Modification

- Public comment period June 28 – Aug. 12, 2021
- Agency Initiated permit modification
- Provides operating details
- Closes Interim Compliance (IC) schedule item LAWPS-1

Public comment invited

The Washington State Department of Ecology (Ecology) is proposing a change to the Hanford Facility Resource Conservation and Recovery Act Permit, Revision 8C.

This change affects the Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste for the Low-Activity Waste Pretreatment System (LAWPS) Operating Unit Group (OUG) 1.

This Agency Initiated permit modification provides operating details for Phase One of the LAWPS OUG and IC Schedule Item LAWPS-1.

The Permittees are:

U.S. Department of Energy
Office of River Protection
P.O. Box 450
Richland, WA 99352

Washington River Protection Solutions
P.O. Box 850
Richland, WA 99352

The LAWPS OUG will remove cesium and filter solids from tank supernatant waste for subsequent transfer to the Waste Treatment and Immobilization Plant (WTP) Low-Activity Waste (LAW) Facility for vitrification. The IC Schedule Item LAWPS-1 requires the Permittees to submit to Ecology for review an operating permit

modification request, including related AP Farm Tanks 241-AP-106, 241-AP-107 and 241-AP-108 operational requirements to support LAWPS operations.

Background

The Hanford Site occupies 580 square miles in southeastern Washington State. Beginning in 1943, the site produced plutonium for the nation's defense program. Plutonium production ceased in the late 1980s. Today, waste management and environmental cleanup are the primary missions at Hanford.

The LAWPS Operating Unit Group will be located in the 200 East Area of the Hanford Site and will be operated in phases with Phase One as a Tank Side Cesium Removal (TSCR) unit.

Overview of changes

The following documents are included in the permit modification to support the public comment period:

- Unit Specific Permit Conditions
- Appendix 1
- Appendix 2.6
- Addendum B, Waste Analysis Plan
- Addendum C, Process Information
- Addendum E, Security
- Addendum G, Personnel Training
- Addendum H, Closure Plan
- Addendum I, Inspection Plan
- Addendum J, Contingency Plan
- Supplemental Information

The permit modification includes two versions of Addendum J, Contingency Plan. The current Addendum J has been struck out and will be

replaced with an entirely new document, both documents are included in support of the public comment period.

Why this permit change matters

The Permit establishes requirements to ensure waste management activities are protective of

human health and the environment. This permit change provides operating and maintenance details for the LAWPS OUG and the necessary information to closes out the IC Schedule Item LAWPS-1.



Figure 1 Process, Ancillary, and Control Enclosures on the Balance of Facilities pad- photo courtesy USDOE

Reviewing the proposed changes

Ecology invites to you to review and comment on this proposed LAWPS operating permit modification. See the last page for comment period dates and information on how to submit comments.

Copies of the application for the proposed permit and supporting documentation will be available during the public comment period online at [Ecology's website](https://ecology.wa.gov/Waste-Toxics/Nuclear-waste/Public-comment-periods)¹. The documents will also be available at the Hanford Public Information Repositories listed on the next page.

Ecology will consider and respond to all significant comments received during the public comment period. We will document our responses and issue a response to comments document when we make our final permitting decision.

¹ [Ecology.wa.gov/Waste-Toxics/Nuclear-waste/Public-comment-periods](https://ecology.wa.gov/Waste-Toxics/Nuclear-waste/Public-comment-periods)

Hanford's Information Repositories

Ecology Nuclear Waste Program
Resource Center
3100 Port of Benton Blvd.
Richland, WA 99354
509-372-7950

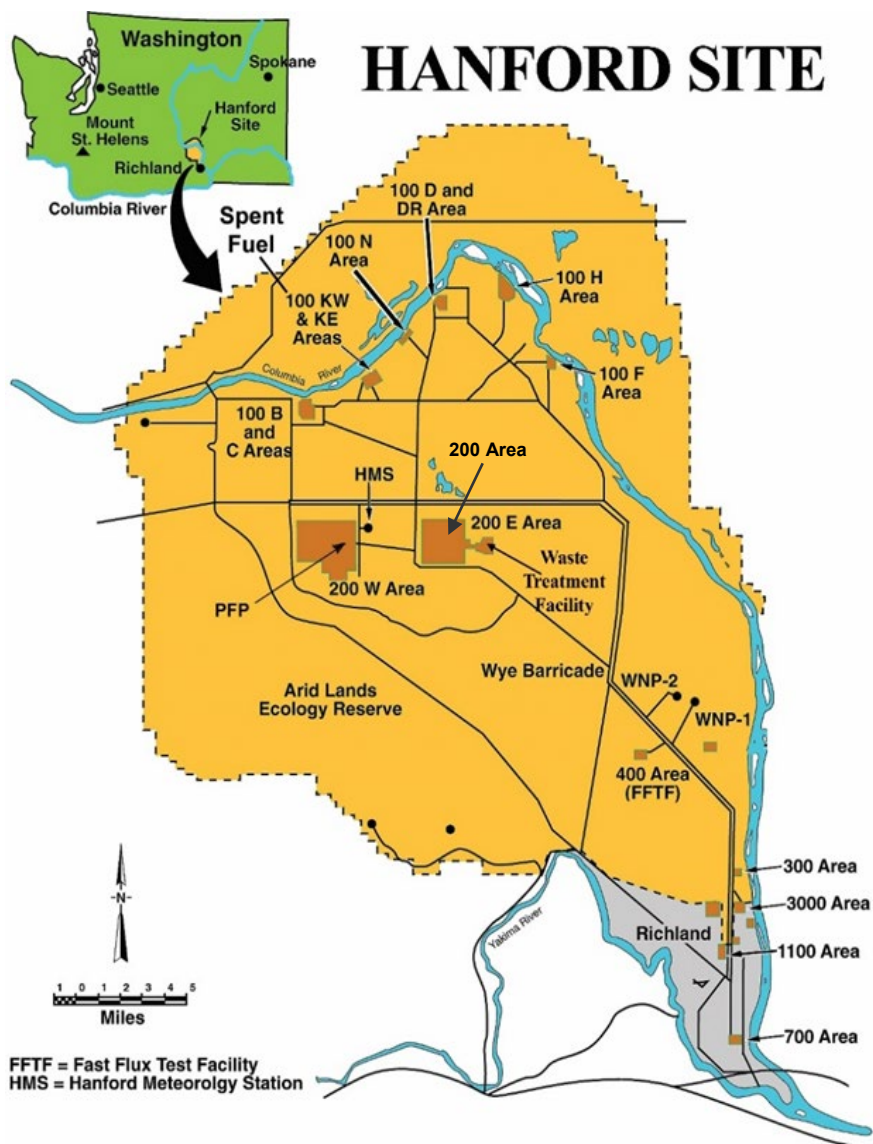
U.S. Department of Energy
Administrative Record
2440 Stevens Drive, Room 1101
Richland, WA 99354
509-376-2530

Washington State University Tri-Cities
Department of Energy Reading Room
2770 Crimson Way, Room 101L
Richland WA 99354

University of Washington
Suzzallo Library
P.O. Box 352900
Seattle, WA 98195
206-543-5597

Gonzaga University
Foley Center
502 E Boone Avenue
Spokane, WA 99258
509-313-6110

Portland State University
Millar Library
1875 SW Park Avenue
Portland, OR 97207
503-725-4542





3100 Port of Benton Blvd
Richland WA 99354

LAWPS operating permit modification

Public comment period June 28 to Aug. 12, 2021

Electronic submission (preferred):
<https://nw.ecology.commentinput.com/?id=cx2HN>

Mail or hand delivery

Daina McFadden
3100 Port of Benton Blvd
Richland, WA 99354

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
509 372 7950
Hanford@ecy.wa.gov

To request an ADA accommodation, contact Ecology by phone at 509 372 7950, email at Daina.McFadden@ecy.wa.gov, or visit <https://ecology.wa.gov/accessibility>. For Relay Service or TTY call 711 or 877 833 6341.

From: [McFadden, Daina \(ECY\)](#)
To: HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV
Subject: Upcoming comment period in June
Date: Thursday, May 27, 2021 2:55:35 PM

LAWPS permit modification 30-day advance notice

The Washington State Department of Ecology is providing notification of a 45-day public comment period starting late June 2021. This comment period will address proposed modifications to the Low-Activity Waste Pretreatment System (LAWPS) Operating Unit Group 1, 8C.2021.1D. The Permittees are the United States Department of Energy, Office of River Protection and Washington River Protection Solutions. LAWPS is located on the Hanford Site in southeastern Washington.

What changes are being proposed?

This proposed draft permit modification will revise and update the LAWPS in Part III of the Hanford Site-wide Permit with operating and maintenance details and will complete Interim Compliance Schedule Item, LAWPS-1.

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

509-372-7950

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From: [McFadden, Daina \(ECY\)](#)
To: HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV
Subject: LAWPS public comment period starts today!
Date: Monday, June 28, 2021 9:23:20 AM

LAWPS Operating permit modification public comment period notification

The Washington State Department of Ecology is providing notification of a 45-day public comment period starting June 28 – Aug. 12, 2021. This comment period will address proposed modifications to the *Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste* for the Low-Activity Waste Pretreatment System (LAWPS) Operating Unit Group (OUG) 1. The Permittee(s) are the U.S. Department of Energy and Washington River Protection Solutions. LAWPS will be located on the Hanford Site in southeastern Washington. This Agency Initiated permit modification provides operating details for Phase One of the LAWPS OUG and closes Interim Compliance Schedule Item LAWPS-1.

[What changes are being proposed?](#)

The following documents are included in the permit modification to support the public comment period:

- Unit Specific Permit Conditions
- Appendix 1
- Appendix 2.6
- Addendum B, Waste Analysis Plan
- Addendum C, Process Information
- Addendum E, Security
- Addendum G, Personnel Training
- Addendum H, Closure Plan
- Addendum I, Inspection Plan
- Addendum J, Contingency Plan
- Supplemental Information

[How to comment](#)

Ecology invites you to review and comment on this proposed LAWPS Operating permit modification. The proposed modification is online at the Nuclear Waste Program's [public comment page](#). Copies of the proposed modification are located on the [Administrative Record](#) and at [Information Repositories](#).

Please submit comments by **Aug. 12, 2021**. Electronic submission (preferred):

[LAWPS Operating permit modification](#)

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
509-372-7950

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Washington Department of Ecology - Hanford
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We have TWO new #Hanford public comment periods starting today! They involve the State Waste Discharge Permit and the Low-Activity Waste Pretreatment System. Learn more and get comments in by July 28 & Aug. 12: <https://ecology.wa.gov/Waste-Toxics/Nuclear-was...> See More



👍 Ecology - Hanford 🌐 @ecyHanford · 2m



We have TWO new #Hanford public comment periods starting today! They involve the State Waste Discharge Permit and the Low-Activity Waste Pretreatment System. Learn more and get comments in by July 28 & Aug. 12: ecology.wa.gov/Waste-Toxics/N... @EcologyWA @HanfordSite @EPAnorthwest



LAWPS Operating permit modification

June 28, 2021 – Aug. 12, 2021

Our agency is holding a 45-day public comment period addressing proposed modifications to the Hanford Dangerous Waste Permit for the Low-Activity Waste Pretreatment System (LAWPS) Operating Unit Group (OUG) 1. The permittee(s) are the U.S. Department of Energy and Washington River Protection Solutions.

LAWPS will be located on the Hanford Site in southeastern Washington. This agency initiated permit modification provides operating details for Phase One of the LAWPS OUG and closes Interim Compliance Schedule Item LAWPS-1.

Proposed changes

The following documents are included in the permit modification to support the public comment period:

- Unit Specific Permit Conditions
- Appendix 1
- Appendix 2.6
- Addendum B, Waste Analysis Plan
- Addendum C, Process Information
- Addendum E, Security
- Addendum G, Personnel Training
- Addendum H, Closure Plan
- Addendum I, Inspection Plan
- Addendum J, Contingency Plan
- Supplemental Information

Review and comment

Copies of the proposed modification and supporting documents are available below, at the Hanford Information Repositories listed at the bottom of this page, and at the [Hanford Administrative Record](#).

Please submit comments by **Aug. 12, 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

[Cover sheet](#)
[Transmittal letter](#)
[Focus sheet](#)
[Fact sheet](#)

Permit files

Unit Specific Conditions	Addendum I Inspection Plan
Addendum B Waste Analysis Plan	Addendum J Contingency Plan
Addendum C Process Information	Building Emergency Plan
Addendum E Security	Appendix 1.0 Interim Compliance Schedule
Addendum G Personnel Training	Appendix 2.6 Mechanical Drawings
Addendum H Closure Plan	H-14-111331-3 Rev 03

Supplemental Information

[21-ECD-001375](#)