



# **Response to Comments Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility Class 2 permit modification**

**Oct. 26 to Dec. 27, 2021**

For the **Nuclear Waste Program**

Washington State Department of Ecology

Richland, Washington

February 2022, Publication 22-05-003



## Publication Information

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

<https://apps.ecology.wa.gov/publications/summarypages/2205003.html>

Ecology publishes this document to meet the requirements of [Washington Administrative Code 173-303-840 \(9\)](#).

### Cover photo credit

- Photo by Washington State Dept. of Ecology, July 26, 2020

## Contact Information

Amena Mayenna, Environmental Engineer

Nuclear Waste Program

3100 Port of Benton Blvd

Richland, WA 99354

Phone: 509-372-7950

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

**Website**<sup>1</sup>: [Washington State Department of Ecology](#)

## ADA Accessibility

The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188.

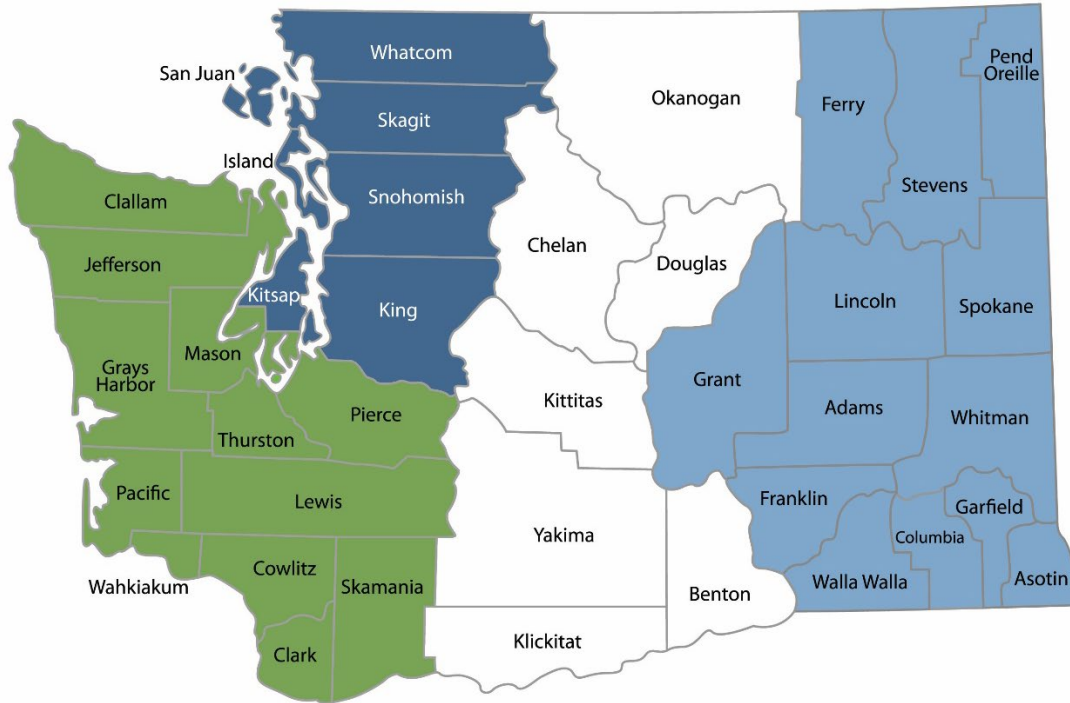
To request an ADA accommodation, contact Ecology by phone at 509-372-7950 or email [Daina.McFadden@ecy.wa.gov](mailto:Daina.McFadden@ecy.wa.gov). For Washington Relay Service or TTY call 711 or 877-833-6341. Visit Ecology's website for more information.

---

<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> 206-594-0000	<b>Central Region</b> 509-575-2490	<b>Eastern Region</b> 509-329-3400
-----------------------------------------	-----------------------------------------	---------------------------------------	---------------------------------------

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	PO Box 330316 Shoreline, WA 98133	206-594-0000
<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 Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility Class 2 permit modification**

---

**Oct. 26 to Dec. 27, 2021**

Nuclear Waste Program  
Washington State Department of Ecology  
Richland, WA

**February 2022 | Publication 22-05-003**



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

# Table of Contents

**Introduction ..... 6**

**Reasons for Issuing the Permit ..... 7**

**Public Involvement Actions ..... 7**

**List of Commenters ..... 8**

**Attachment 1: Comments and Responses ..... 9**

**Appendix A. Copies of All Public Notices..... 10**

## 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 is the Response to Comments for:

Comment period	Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility Class 2 permit modification, Oct. 26 – Dec. 27, 2021
Permit	<i>Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit Group 3, Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility (Permit)</i>
Permittees	U.S. Department of Energy (USDOE)
Original issuance date	Jan. 28, 1998
Effective date	Feb. 28, 2022

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

---

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

## Reasons for Issuing the Permit

The proposed Class 2 permit modification affects the Liquid Effluent Retention Facility (LERF) and the 200 Area Effluent Treatment Facility (ETF) portion of the Permit. This proposed permit modification is required to implement new procedures for decontamination of the LERF basins and the 200 ETF tank systems.

## Public Involvement Actions

USDOE encouraged public comment on the LERF/ETF Decontamination permit modification during a 60-day public comment period held Oct. 26 through Dec. 27, 2021.

The following actions were taken to notify the public:

- Mailed a public notice announcing the comment period to 1,067 members of the public.
- Placed a public announcement legal classified advertisement in the Tri-City Herald on Oct. 25, 2021.
- Emailed a notice announcing the start of the comment period to the Hanford-Info email list, which has 1,251 recipients.
- Posted the comment period notice on the Washington Department of Ecology – Hanford’s Facebook and Twitter pages.

USDOE held a virtual public meeting 5:30 p.m. Nov. 30, 2021 on Microsoft Teams. Nine members of the public attended, no comments were received.

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
- Draft LERF/ETF Permit Modification

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

- Focus sheet
- Classified advertisement 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 Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility Class 2 permit modification. The comments and responses are in [Attachment 1](#).

Commenter	Organization
Presler, Gene	Citizen
Poirier, Jeanne	Citizen
Howard, Pamela	Citizen
Cram, Shannon	Citizen
Kuroiwa-Lewis, Nathalie	Citizen
Hanford Challenge	Organization
Columbia Riverkeeper	Organization
Heart of America NW	Organization



# Attachment 1: Comments and Responses

## **Description of comments:**

Ecology accepted comments from Oct. 26 through Dec. 27, 2021. This section provides a summary of comments that we received during the public comment period and our responses, as required by Revised Code of Washington 34.05.325(6)(a)(iii). Comments are grouped by individual and each comment is addressed separately.

## **I-1: GENE PRESLER**

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

I just turned 70 years old in November 2021. Hanford Nuclear cleanup has always been, and always will be a toxic failure. As long as you keep barging Navy nuclear waste up the Columbia River to Hanford WA, and to the problem plagued nuclear waste treatment plant in eastern Idaho, every time another nuclear craft expires in Puget Sound. Coating Hanford with concrete is bad idea too. It hides the stuff for a while, but is already aged, and failing at other nuclear sites. No one wants borehole. Good luck attempting to turn it into safe glass. Gene

<https://www.youtube.com/watch?v=bFmSk5ly0Ww>

### ***Response to I-1-1***

*Thank you for your comment.*

*Ecology expects the Permittees to ensure safe operations of the LERF/ETF facilities to protect human health and the environment. This permit modification will help to ensure that the facility is operated in a safe manner and that the waste will be treated in a way that is protective of human health and the environment.*

## **I-2: JEANNE POIRIER**

### **Comment I-2-1**

Thank you for providing an opportunity to comment on the Permit Modification for the LERF and ETF Decontamination. A transparent, accountable, and safe cleanup is important to me.

Indeed, anything going on at Hanford is a concern to me. I appreciate oversight on the tremendous amount of water involved and re-using it safely, appropriately. When any waste is sent offsite from Hanford, please ensure the party involved is absolutely safe for the community area it inhabits and has excellent record of integrity. Good luck on vitrification and all the volatile components present in this portion of clean-up at Hanford Nuclear reservation.

### ***Response to I-2-1***

*Thank you for your comment.*

*Regarding risks of treating ETF secondary wastes at an off-site facility, Ecology will ensure that all such wastes are treated, stored and disposed at an approved facility and in full compliance with dangerous waste regulations and applicable permits in a manner fully protective of human health and the environment.*

## **I-3: PAMELA HOWARD**

### **Comment I-3-1**

Thank you for making it possible for individuals to comment on the Permit Modification for the Liquid Effluent Retention Facility and the Effluent Treatment Facility Decontamination.

For quite some time, I have followed Hanford because Hanford is the most contaminated site in the Western Hemisphere, and because of Hanford's history, the importance of the land to Native Tribes, its proximity to highly populated areas and the Columbia River, and the incredible challenges to clean up the highly toxic waste materials.

Transparency and basic terminology are very important to the public. In addition to making permit applications understandable to people with varied ranges of expertise, these records must be clear for generations to come.

The liquid Effluent Retention Facility and the Effluent Treatment Facility will be receiving many different combinations of high-level toxic waste and lower-level toxic waste . At any given time, the mass balance assumptions must be calculated and made known. In addition waste should never be without a process for further necessary treatment or safe disposal.

I have read some of Perma-Fix Northwest's history. The Company's record of safety issues and regulatory problems should disqualify the them from storing highly toxic materials. I encourage you to locate an authorized facility.

Thank you for the consideration of my comments.

### ***Response to I-3-1***

*Thank you for your comment.*

*Regarding the mass balance, USDOE's letter 20-ECD-0057 (<https://pdw.hanford.gov/document/AR-04401>) stated USDOE is committed to continue work on the mass balance, including submittal of mass balance information related to the permit application and modifications.*

*Regarding risks of treating ETF secondary wastes at an off-site facility, Ecology will ensure that all such wastes are treated, stored and disposed at an approved facility and in full compliance with dangerous waste regulations and applicable permits in a manner fully protective of human health and the environment.*

## **I-4: SHANNON CRAM**

### **Comment I-4-1**

To Whom it May Concern,

Thank you for this opportunity to provide comments on the Permit Modification for the LERF and ETF Decontamination. A transparent, accountable, and safe cleanup is important to me.

In response to the proposed permit modification, I request the following:

1. Increase Accessibility and Transparency of Public-facing Materials. U.S. DOE's virtual public meeting and materials were confusing and explanations were full of jargon and unclear terminology. Please design your meetings to be accessible to the public. Provide clear, plain language explanations including synonyms or multiple descriptions to describe something in basic terminology. The goal of a public meeting is to engage the public and provide a clear explanation of the comment period.

2. Sample the Liquid Waste Heel after Decontaminating the Basin.

Instead of relying solely on the amount of flushing water, U.S. DOE should also test the heel after cleaning the basin to validate that remaining waste concentrations meet the standard to be able to introduce new types of waste to the basin.

3. Don't Send ETF Brine to Perma-Fix NW, a facility with a history of worker overexposures and safety issues including fires.

Thank you for your consideration,

Shannon Cram

### ***Response to I-4-1***

*1. Comment noted. DOE strives to ensure public meetings are meaningful and materials provided are done so in a clear and concise a manner as possible.*

*2. Adding a known quantity of water to a known volume of solution with a known concentration will result in a lower concentration that can be easily and reliably calculated. With waste constituent concentrations determined through sampling prior to use of decontamination procedures, the volumes and concentrations can be precisely calculated to determine post decontamination concentrations that demonstrate sampling is not required. The decontamination process was specifically designed to be the most efficient for LERF/ETF operations while at the same time ensure the agreed upon decontamination standard can be met with certainty.*

*3.Regarding risks of treating ETF secondary wastes at an off-site facility, Ecology will ensure that all such wastes are treated, stored and disposed at an approved facility and in full compliance with dangerous waste regulations and applicable permits in a manner fully protective of human health and the environment.*

## **I-5: NATHALIE KUROIWA-LEWIS**

### **Comment I-5-1**

To Whom It May Concern,

Thank you for this opportunity to submit feedback during this comment period for Class 2 Permit Modification to LERF and ETF Dangerous Waste Permit Decontamination.

I write to you as a WA state resident and university professor with strong ties to Japan who values a safe and transparent nuclear waste clean-up at Hanford. I follow new developments at Hanford very closely because I understand how critical nuclear waste clean-up is to the health of our environment.

Comments are as follows:

1. Please make information more accessible and understandable to the public by providing more context to issues in language that breaks down the science for a general audience. Much

of the language is very acronym-heavy and jargon-specific. If the language can be translated for a non-technical audience, this would help a great deal.

2. Sample waste heel after decontaminating the basin. Also, is there a plan in place for dealing with a waste heel that may be solid, in case the situation should arise over time after multiple uses?

3. More clarification on how output looks like. Once water is tested and if it is determined it can be put into the ground, how is the water deposited into the ground? Is there specific storage in place, etc.,?

4. More clarification on the 4th basin in LERF.

5. Because of the problematic safety record at Perma-Fix Northwest, don't send ETF brine to Perma-Fix.

6. What is the relationship between the permit modification and use of waste codes in place for LERF and ETF? What is the permit modification modifying? How are waste codes being determined? What scientific principles, policy, methodology is determining the waste code? Is there a relationship between the DOE's desire to reclassify HLW and the use of waste codes?

7. Can you ensure that the DOE submits an integrated mass balance flow as a single secondary document per M-62-46?

Thank you for your time and I appreciate this opportunity to comment.

Sincerely,

Nathalie Kuroiwa-Lewis

### ***Response to I-5-1***

*1. Comment noted. USDOE strives to ensure public meetings are meaningful and materials provided are done so in a clear and concise a manner as possible.*

*2. Adding a known quantity of water to a known volume of solution with a known concentration will result in a lower concentration that can be easily and reliably calculated. With waste constituent concentrations determined through sampling prior to use of decontamination procedures, the volumes and concentrations can be precisely calculated to determine post decontamination concentrations that demonstrate sampling is not required. The decontamination process was specifically designed to be the most efficient for LERF/ETF operations while at the same time ensure the agreed upon decontamination standard can be met with certainty.*

*3. After meeting delisting requirements, the treated effluent is sent to the State Approved Land Disposal Site (SALDS). SALDS is located north of the 200 West Area.*

*4. The 4th basin (LERF Basin 41) was added to the permit in (date). LERF Basin 41 will manage liquid effluent waste streams originating from WTP operations. Basin 41 permit was issued on June 28, 2021.*

*5. Regarding risks of treating ETF secondary wastes at an off-site facility, Ecology will ensure that all such wastes are treated, stored and disposed at an approved facility and in full compliance*

*with dangerous waste regulations and applicable permits in a manner fully protective of human health and the environment.*

*6. Decontamination of listed waste codes from the LERF Basins and the 200 Area ETF tank systems is necessary to maintain segregation of the waste streams processed through the 200 Area ETF. The procedure will keep treatment requirements of different waste sources separate. Without a decontamination procedure for both LERF Basins and ETF tank systems, Land Disposal Requirements (LDR) requirements become additive when different waste sources are mixed together and then all applicable treatment requirements have to be met for the secondary waste generated. The permit modification is necessary to establish the process of decontamination and to include it to the permit so that it becomes a standard process for the LERF/ETF facility. The waste generator determines the waste codes according to WAC-173-303. HLW is outside the scope of this permit modification.*

*7. Ecology accepted DOE's proposal to alter the TPA milestone based on DOE letter 20-ECD-0057 (<https://pdw.hanford.gov/document/AR-04401>). While Ecology accepted the milestone as complete, it is important to acknowledge that DOE's letter committed to continued work on the mass balance, including submittal of mass balance information related to the permit application and modifications.*

## **O-1: HANFORD CHALLENGE**

### **Comment O-1-1**

Increase Accessibility and Transparency of Public-Facing Materials: U.S. DOE's virtual public meeting and materials were confusing and explanations were full of jargon and unclear terminology. Please design your meetings to be accessible to the public. Provide clear, plain language explanations including synonyms or multiple descriptions to describe something in basic terminology. The goal of a public meeting is to engage the public and provide a clear explanation of the comment period. For example: At the meeting on 11/30/21 it took multiple rounds of Q&A to translate and understand what was meant by "decontamination means removing waste codes."

### ***Response to O-1-1***

*Comment noted. USDOE strives to ensure public meetings are meaningful and materials provided are done so in a clear and concise a manner as possible.*

### **Comment O-1-2**

Sample the Liquid Waste "Heel" after Decontaminating the Basin: A 550,000 gallon heel of liquid waste is left in the LERF Basins after each decontamination cycle. The amount of flushing water is calculated ahead of time to ensure the types of waste are adequately removed. Instead of relying solely on the amount of flushing water, U.S. DOE should also test the heel after cleaning the basin to validate that remaining waste concentrations meet the standard to be able to introduce new types of waste to the basin.

### ***Response to O-1-2***

*Adding a known quantity of water to a known volume of solution with a known concentration will result in a lower concentration that can be easily and reliably calculated. With waste constituent concentrations determined through sampling prior to use of decontamination procedures, the volumes and concentrations can be precisely calculated to determine post decontamination concentrations that demonstrate sampling is not required. The decontamination process was specifically designed to be the most efficient for LERF/ETF operations while at the same time ensure the agreed upon decontamination standard can be met with certainty.*

### **Comment O-1-3**

Don't Send ETF Brine to Perma-Fix Northwest: Per addendum page B.8, ETF products now include brine as well as powder. Brine is intended for "treatment at an authorized dangerous waste facility." DOE should identify the facility and verify this is acceptable under the "authorized facility's" permits. If there is no facility with active valid permits, DOE will have an orphan waste. Is the brine stream affected by the new grout skid that is in design, according to the monthly reports? Can it grout this brine? Please do not send, as was previously identified, ETF brine to Perma-Fix Northwest in Richland. The brine can generate toxic gases when the pH is adjusted, and, without a mass balance, no one can tell how much ammonia or technetium, or tritium, or NOx sources will be included. High concentrations of ammonia pose a fire and explosion hazard, especially in confined spaces. Sending brine to Perma-Fix Northwest, a facility with a history of worker overexposures and safety issues including fires, puts nearby communities at risk and is a major concern. Safety and regulatory problems at Perma-Fix Northwest are identified in detail in a 2020 Hanford Challenge report.

### ***Response to O-1-3***

*ETF brine is beyond the scope of this permit modification. Given that, Ecology is aware of the concerns and has had discussions with USDOE regarding the risks posed by grouting high concentrations of ammonia.*

*Regarding risks of treating ETF secondary wastes at an off-site facility, Ecology will ensure that all such wastes are treated, stored and disposed at an approved facility and in full compliance with dangerous waste regulations and applicable permits in a manner fully protective of human health and the environment.*

### **Comment O-1-4**

Require Submittal of Integrated Mass Balance Flow as a Single Secondary Document: Please ensure that the U.S. Department of Energy meets its requirement to submit a Mass Balance Flow as a single secondary document, as part of the milestone M-62-46, that states: Submit to Ecology as a secondary document a Mass Balance Flow from Tank Farms to Low Activity Waste Pretreatment Capability to Low Activity Waste to Effluent Management Facility to Recycle to Tank Farms and to ETF/LERF. (Note that this milestone number was changed to M-62-50).

## ***Response to O-1-4***

*Ecology accepted DOE's proposal to alter the TPA milestone based on DOE letter 20-ECD-0057 (<https://pdw.hanford.gov/document/AR-04401>). While Ecology accepted the milestone as complete, it is important to acknowledge that DOE's letter committed to continued work on the mass balance, including submittal of mass balance information related to the permit application and modifications.*

## **O-2: COLUMBIA RIVERKEEPER**

### **Comment O-2-1**

I. Cleanup at Hanford must Employ a Whole-Site Cleanup Strategy for Groundwater.

Riverkeeper urges Energy to establish requirements to ensure that waste management activities are protective of human health and the environment, now and in the future. An integral part of this is establishing a whole-site approach to groundwater at Hanford.

LERF, ETF, and other facilities in the 200 Area are critical to the overall mission of protecting the Columbia River. "The LERF and 200 Area ETF comprise an aqueous waste treatment system located in the 200 East Area. Both LERF and 200 Area ETF may receive aqueous waste through several inlets." These facilities treat and store large volumes of liquid waste and will include liquid waste from WTP once DFLAW operations begin. Hanford's groundwater is severely contaminated, and contaminated groundwater plumes from the Central Plateau are approaching or already reaching the River. Previous Riverkeeper Comments on the Integrated Disposal Facility (IDF) outlined the importance of addressing groundwater contamination from the Central Plateau.

"Groundwater beneath IDF is already contaminated from past Hanford operations. According to the Hanford Site RCRA Groundwater Monitoring Report for 2020, nitrate concentrations in 2020 were above the DWS [Drinking Water Standards] in six IDF wells. Additionally, chromium and iron concentrations in unfiltered samples were above the DWS in June (both) and August (iron only).<sup>2</sup> And, according to the Hanford Site Environmental Report for 2019, long-lived, mobile radionuclides such as I-129 and Tc-99 remain in the groundwater (extensively in the case of I-129) in the Central Plateau.<sup>3</sup> The IDF,Â's location in an area with already-impacted groundwater heightens the importance of understanding and carefully managing wastes stored in the facility. Ecology and Energy must ensure that the people who will use groundwater or the Columbia River, far into the future, will be protected from Hanford's pollution."

Looking at groundwater emanating from the Central Plateau is concerning and underscores the necessity of a site-wide approach to groundwater. The facilities in the Central Plateau such as LERF and 200 Area ETF deal with liquid waste. Given the severity of groundwater contamination in the area, Energy should not assume that treatment processes will capture all of the toxic and radioactive components of liquid waste sent through these facilities. The Tri-Party Agencies (TPA) must carefully plan to address every contaminant (i.e. tritium, iodine-129) that will easily mobilize to the Columbia River. What we need is a whole-site conceptual sense of how operations in the area will impact long-term releases to groundwater.



People plan to and currently use the River that runs along Hanford. Riverkeeper supports and advocates for a future of unrestricted use of the River Corridor for all peoples and Energy should proceed towards cleanup that achieves an unrestricted use standard of the River Corridor. Energy's current parsed approach to groundwater cleanup will not achieve this in the long run.

### ***Response to O-2-1***

*Ecology is working to ensure that long-term storage, treatment, and disposal of the waste is protective of human health and the environment.*

*Wastewater that is treated at the Hanford Site and intended for disposal to ground must meet specific criteria set forth in the various State Waste Discharge Permits issued to the Site. There are strict controls in place to ensure these treated wastewaters are clean enough to be disposed of to ground and not impact the natural groundwater quality.*

*The LERF and 200 Area ETF maintains a groundwater monitoring program in which groundwater is sampled to detect for releases from the facility. Monitoring is performed on a quarterly and semiannual basis. This monitoring program helps prevent migration of contaminated groundwater to the Columbia River.*

### **Comment O-2-2**

II. Energy Must Take Public Participation More Seriously.

Public participation through engagement in comment periods is one of the few ways for people to express their concerns about Hanford cleanup and participate in a forum to get their questions answered. Over the years, Riverkeeper has submitted thousands of comments from our membership alone, indicating that Hanford is a top priority for people in Oregon and Washington, and around the country. However, this comment period seems to have been offered as an afterthought by Energy, not a meaningful way for the public to participate, as indicated below

In coordination with Ecology, DOE developed a Class 2 permit modification that describes the decontamination procedures and associated waste management activities. The modification was submitted to Ecology and a public comment period for this proposed modification will run from Oct. 26 to Dec. 27. The Temporary Authorization request is being submitted prior to the completion of the permittees' 60-day public comment period.<sup>5</sup> [emphasis added].

This temporary authorization request to begin decontamination activities at LERF Basin 42 supersedes the public's ability to comment on these new permit modifications, making a public comment period seem rather moot.

Furthermore, Energy's ability to adequately communicate with the public on comment periods must change. The public meeting for this comment period had attendees, who have worked on Hanford for years, thoroughly confused on the basic principle of what this permit modification did. Other public participation materials were no more understandable. This comment period

should not have been this confusing. Hanford Challenge's Comment Guide plainly breaks down this comment period

This permit modification implements new processes for cleaning the LERF Basins and ETF after certain types of liquid waste have been stored and treated in them. Because certain types of contaminants must be kept separate, sometimes the LERF Basins and ETF will need to be washed with water before new contaminants can be accepted for storage or treatment. Waste will be sampled and characterized before being accepted at LERF and ETF. Before flushing a LERF basin or ETF that needs to be decontaminated, waste will be sampled to determine how much water needs to be used to remove the contaminants. After flushing, the LERF Basin or ETF is ready to accept new liquid waste. The flushing water will be treated at ETF after the cleaning process.

Energy must clarify its public participation materials and presentations for the public to reduce barriers to public participation.

### ***Response to O-2-2***

*Comment noted. USDOE strives to ensure public meetings are meaningful and materials provided are done so in a clear and concise a manner as possible.*

*Regarding TA:*

*Ecology's TA approval letter 21-NWP-188 stated the following:*

*"Ecology's policy is to entertain a TA request at the end of a public comment period to allow the public the opportunity to comment on the modification prior to the commencement of TA activities. The TA activities requested for this project are unique in that, some of the requested activities are already in the permit, and they are also process-related not construction efforts. Given that the activities are mostly already covered in the permit and are reversible should the permit change before issuance, Ecology is making an exception to our TA policy.*

*Ecology will make a final permit decision after reviewing the public comments received during the public comment period beginning on October 26, 2021 and ending on December 27, 2021 as detailed in WAC 173-303-840(8). If Ecology receives public comments affecting the conditions of the final permit, then waste codes will not be removed from LERF Basin 42."*

### **Comment O-2-3**

III. Sample the Residual Liquid Waste in the LERF Basin.

After the decontamination process, liquid waste is left in the LERF Basin, also known as the heel. Energy must test the heel after each decontamination cycle, ensuring the remaining waste meets the concentration standards for the introduction of new wastes into the basin. Relying solely on a prior calculation of "flushing water" to meet the standard is insufficient to adequately ensure the LERF basin meets standards.

### ***Response to O-2-3***

*Adding a known quantity of water to a known volume of solution with a known concentration will result in a lower concentration that can be easily and reliably calculated. With waste constituent concentrations determined through sampling prior to use of decontamination procedures, the volumes and concentrations can be precisely calculated to determine post decontamination concentrations that demonstrate sampling is not required. The decontamination process was specifically designed to be the most efficient for LERF/ETF operations while at the same time ensure the agreed upon decontamination standard can be met with certainty.*

### **Comment O-2-4**

The careful management of the 200 Area and facilities is vital . These facilities receive liquid waste from across Hanford, and already we see toxic radioactive groundwater plumes emanating from the area. It is time for a new conceptual approach to groundwater that takes a site-wide approach to the problem. People care about Hanford and robustly use the River Corridor. Riverkeeper urges Energy to reapproach its public outreach and focus on clarity to allow the public to adequately participate in public comment periods. Furthermore, temporary authorizations that are not a safety issue should not supersede the public's ability to comment and have those comments considered.

Thank you for considering Riverkeeper's input on the Proposed Permit Modification.

### ***Response to O-2-4***

*Thank you for your comment. Ecology is working to ensure that long-term storage, treatment and disposal of the waste is protective of human health and the environment.*

*Public comment period: Comment noted. DOE strives to ensure public meetings are meaningful and materials provided are done so in a clear and concise a manner as possible.*

*Regarding TA:*

*Ecology's temporary authorization (TA) approval letter (21-NWP-188) states that: Ecology will make a final permit decision after reviewing the public comments received during the public comment period beginning on October 26, 2021 and ending on December 27, 2021 as detailed in WAC 173-303-840(8). If Ecology receives public comments affecting the conditions of the final permit, then waste codes will not be removed from LERF Basin 42."*

*Ecology has clearly stated that this TA approval will not supersede the public's ability to comment and have those comments considered.*

## **O-3: HEART OF AMERICA NW**

### **Comment O-3-1**

**Class 2 Permit Modification Notification to the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion for the Liquid Effluent Retention Facility (LERF) and 200 Area Effluent Treatment Facility (ETF) (S-2-8, T-2-8)**

LERF receives wastes which originate as High-Level Nuclear Waste which is Mixed Hazardous and Radioactive Waste under RCRA, FFCA (Federal Facilities Compliance Act) and the WA HWMA (WA Hazardous Waste Management Act, RCW Chapter 70A.300).

Our comments focus on the recognition that these wastes can be considered as if they are newly generated aqueous waste waters which may be treated and disposed on the Hanford site pursuant to the permit and interpretations applied by Ecology, EPA and USDOE. We agree with this interpretation. It is important that the agencies recognize that if the permit and regulations allow for these wastes, which originate in High-Level Waste Tanks, to be treated and disposed on-site in accord with RCRA Land Disposal Restrictions (LDR, 40 CFR 268), then other wastes which originate in tanks and are aqueous wastes must also be able to receive similar treatment.

USDOE has consistently recognized that these wastes are not “listed wastes” which are designated hazardous at the point of generation – in the tank as High Level Nuclear Mixed Waste. Thus, a new point of generation may exist

The sources of waste treated in LERF are clearly High-Level Nuclear Mixed Tank Wastes as describe in the Waste Analysis Plan at Addendum B.7:

“First, aqueous waste can be transferred to LERF through a dedicated pipeline from the 200 West Area. Second, aqueous waste can be transferred through a pipeline that connects LERF with the 242-A Evaporator and Waste Treatment and Immobilization Plant (WTP). Third, aqueous waste also can be transferred to LERF from pipelines that connect LERF to either Load-In Station, or ETF through a distribution point located at the surge tank berm. Fourth, aqueous waste can be transferred into LERF through a series of sample ports located at each basin. Finally, aqueous waste can be transferred through a pipeline that connects LERF with the WTP.”

At Addendum B.8, the draft permit language in the WAP explains that ETF treats waste that originate in the tanks and

“200 Area ETF is designed to treat the contaminants anticipated in process condensate from the 242-A Evaporator, WTP-EMF (Effluent Management Facility), and other aqueous wastes from the Hanford Site.”

The following image is slide 3 of the USDOE presentation on the “Proposed Permit Modification,” which clearly illustrates that the wastes treated in LERF originate in Double Shell High Level Mixed Nuclear Waste tanks. Nonetheless, Ecology agrees that the secondary wastes from vitrification may be treated and disposed onsite without vitrification. This same standard and logic must apply as well to TBI wastes which are treated to the same RCRA standards:

## Direct-Feed Low-Activity Waste Configuration (cont.)

Chemical and radioactive waste is stored in Hanford's Tank Farms. The U.S. Department of Energy (DOE) will safely, efficiently and effectively treat Hanford tank waste through the Direct-Feed Low-Activity Waste (DFLAW) Program to vitrify it (immobilize it within glass).

- Secondary liquid waste will be created during the vitrification of low-activity waste in the Waste Treatment and Immobilization Plant (WTP) during the DFLAW process
- The Liquid Effluent Retention Facility (LERF) and the 200 Area Effluent Treatment Facility (ETF) will be used to manage and treat the secondary liquid waste



Typical tank contents with a liquid (blue) and solid (yellow) fraction shown

The 242-A Evaporator wastes and LERF wastes from 242-A are also described in the draft permit as originating from Double Shell High-Level Nuclear Mixed Waste Tanks (similar to TBI test waste of 2,000 gallons from SY-101):

“The 242-A process condensate is a dangerous waste because it is derived from a listed, dangerous waste stored in the Double-Shell Tank (DST) System. The DST waste is transferred to the 242-A Evaporator where the waste is concentrated through an evaporation process. The concentrated slurry waste is returned to the DST System, and the evaporated portion of the waste is recondensed, collected, and transferred as process condensate to the LERF.”

Addendum B.9.

The Waste Treatment Plant (WTP) treats waste from the tanks, and the evaporator reduces volume of tank waste through evaporation – creating secondary waste stream transferred to LERF. There is no doubt as to the original source of the waste: the High-Level Nuclear Mixed Waste Tanks. For purposes of RCRA and HWMA permitting, it is not relevant how or when USDOE applies a Waste Incidental to Retrieval (WIR) Determination pursuant to USDOE Order 435.1. In order to utilize near surface landfill disposal of the waste after treatment, a WIR must be issued, otherwise the waste would have to be disposed in a deep geologic repository

pursuant to the Nuclear Waste Policy and Atomic Energy Acts. Ecology has always agreed that both secondary wastes streams such as those from the 242-A Evaporator, ETF and LERF may be disposed in Hanford's ERDF or IDF landfills or discharged after treatment along with vitrified waste for which a WIR determination has been issued.

“Under 40 CFR 261, Appendix IX, Table 2 incorporated by reference by WAC 173-303-910(3), the treated effluent from 200 Area ETF is considered a delisted waste; that is, the treated effluent is no longer a listed dangerous waste subject to the hazardous waste management requirements of RCRA provided that the delisting criteria are satisfied and the treated effluent does not exhibit a dangerous characteristic.”

Addendum B.9, Section B.1.1

However, Ecology has recently and repeatedly opined that aqueous wastes which have had Cesium and other “key radionuclides” removed to the extent practicable (Order 435.1 requirement for WIR determination) and are then treated to meet LDR treatment standards are not allowed to be, or eligible to be, disposed offsite in permitted disposal facilities because once the waste originated in a High-Level Mixed Nuclear Waste tank it remains “listed” hazardous waste designated at its point of origin. Ecology has taken this position in regard to wastes proposed to be treated under a demonstration project referred to as the Test Bed Initiative (TBI). Ecology officials have pointed to this as barring offsite disposal of waste if removed and treated as part of an urgent removal action or action to comply with the HWMA and RCRA requirements to remove liquids from a leaking hazardous waste tank (we note that this position can only apply to ultimate disposal, not to the removal itself, and that it is dubious that the permitting requirements are applicable if there is a removal action to respond to the documented release from Tank B-109).

Ecology has, in numerous documents and forums related to TBI, maintained that all tank waste has been designated as “listed” dangerous hazardous waste at the point of generation and can not be treated and disposed of as wastewater even after treatment to meet LDR standards.

However, the Waste Analysis Plan for the LERF and ETF permit specifically states that the wastes – including wastes originating in High-Level Mixed Nuclear Waste tanks, as we document above – are aqueous wastewaters which may be treated and disposed as characteristic wastes, not listed non-wastewater wastes (nonwasted water is above 10% organic) subject to the vitrification treatment standard. See Addendum B.11:

“The requirements of 40 CFR 264, Subpart BB (WAC 173-303-691) are not applicable to the LERF or 200 Area ETF because aqueous waste with 10 percent or greater organic concentration would not be acceptable for processing at the LERF or 200 Area ETF. Waste characterization is performed in accordance with Addendum B, “Waste Analysis Plan,” to demonstrate that incoming aqueous waste is below 10 percent total organic content.”

If Ecology's logic and interpretation in regard to aqueous waste following treatment to LDR

standards applies to TBI test waste for supernate liquids from Tank SY-101 or leakable liquids from B-109, then the same standard that the waste streams from tanks which go to LERF must apply to bar disposal of treated LERF waste in IDF. Both sets of waste streams originate in a Mixed Waste tank.

Simply put: if treated waste from LERF may be permitted for on-site disposal after meeting LDR treatment standards then so must other waste which qualifies as a wastewater after removal of key radionuclides and treatment (and which will be disposed offsite with far lower risks to groundwater than the secondary wastes that will be disposed in the Hanford IDF landfill).

Ecology cannot claim that LERF wastes have a new point of generation but that other wastes which go through processes that are the same in the eyes of the law are not considered to have a new point of generation.

If TBI wastes are not wastewater, then neither are LERF, 242-A Evaporator or ETF wastes and none of them are eligible for permitting for disposal on site in any form other than vitrified waste.

If LERF, 242-A Evaporator and ETF wastes - which originate in the same High-Level Nuclear Mixed Waste tanks – are eligible for treatment and disposal as characteristic wastes and waters after treatment, then so must the similar TBI wastes.

The irony is heightened by Ecology stating that tank wastes disposed on-site must have treatment as good as glass” (“vitrification”) while allowing waste streams that originate in tanks to be treated and disposed in the Hanford IDF landfill after applying other forms of treatment for wastes that do not go through WTP for vitrification or which are not captured in vitrification at WTP. TBI wastes on the other hand would not even be subject to the Ecology standard for onsite disposal since the waste will be disposed after meeting LDR standards in offsite landfills which are magnitudes more protective of groundwater than the IDF landfill.

## II. Objection to transfer to Central Waste Complex:

Addendum B.2.2.3 and B.6.1.1 call for secondary wastes which do not meet treatment standards and secondary wastes to be transferred to the Central Waste Complex (CWC)  
This is not permissible as:

- a) The CWC is not permitted – it was never eligible for “interim” status and there is no such regulatory allowance for interim status permitting for a facility built without permits after RCRA and which does not meet RCRA standards, and decades after all interim status legally expired.
- b) CWC has an illegal and unpermitted backlog of thousands of containers of waste stored without legally required characterization and decades beyond the maximum allowed storage time period for accumulation for treatment.

Therefore, the permit must either send waste directly for treatment as a licensed facility, not send any waste, or ensure much more waste is removed and being treated as fast as commercial treatment capacity would allow. Treatment capacity is available far in excess of the current TPA milestone rate approved in 2021.

***Response to O-3-1***

*The contents of these comments (e.g., Test Bed Initiative, new point of generation, and High-Level Nuclear Mixed Waste Tanks) are beyond the scope of this permit modification.*



## Appendix A. Copies of All Public Notices

Public notices for this comment period:

- Focus sheet
- Classified advertisement 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



**Comment Period**

Oct. 26 – Dec. 27, 2021

**Virtual Public Meeting**

Nov. 30, 5:30 p.m. PT  
(see page 3 for details)

**Send comments by**  
**Dec. 27 to**

<https://nw.ecology.commentinput.com/?id=B6ikH>

**Administrative Record:**

<https://go.usa.gov/xMGfx>

**Contact Information**

Jennifer Colborn, HMIS  
(509) 528-6687  
jennifer\_m\_colborn@rl.gov

Daina McFadden, Ecology  
(509) 372-7950  
Hanford@ecy.wa.gov



The U.S. Department of Energy (DOE) is holding a 60-day public comment period on a proposed Class 2 permit modification to the Hanford Dangerous Waste Permit, “Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility” chapter. This proposed permit modification is required to implement new procedures for listed waste code decontamination of the Liquid Effluent Retention Facility (LERF) basins and the 200 Area Effluent Treatment Facility (ETF) tank systems.

**Background**

The Hanford Site is located in southeastern Washington state along the Columbia River. The 580-square-mile site was created in 1943 as part of the Manhattan Project to produce plutonium for the nation’s defense program. Today, waste management and environmental cleanup are the main missions at Hanford.

The DOE and contractor Washington River Protection Solutions are requesting a Class 2 modification to the LERF and 200 Area ETF operating unit group of the Hanford Dangerous Waste Permit. The LERF and 200 Area ETF are mixed-waste treatment and storage units for treating liquid effluents from Hanford cleanup facilities. These facilities include the 242-A Evaporator and the Waste Treatment and Immobilization Plant’s Effluent Management Facility (when it becomes operational) to support treating tank waste through the Direct-Feed Low-Activity Waste Program (see map).



### Overview

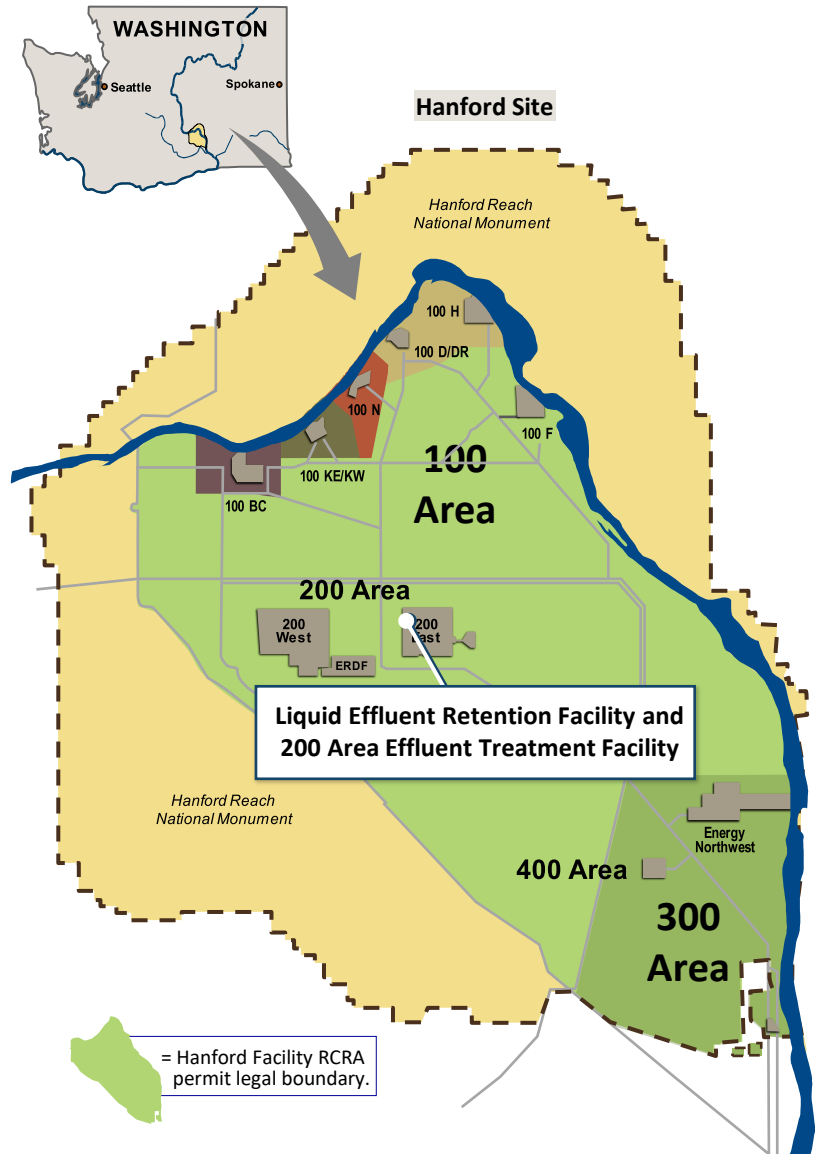
The Hanford Dangerous Waste Permit establishes requirements to ensure that waste management activities protect human health and the environment. DOE is proposing a Class 2 permit modification pursuant to [WAC 173-303-830](#), which requires a 60-day comment period, a public meeting, a newspaper notice, and a mailing list notice. This fact sheet is the mailing notice.

### Summary of Changes

If approved, the modification would allow DOE to implement new procedures for listed waste code decontamination of the LERF basins and the 200 Area ETF tank systems.

### Permit Chapters Affected by this Modification

- Addendum B, Waste Analysis Plan
- Addendum C, Process Information



The Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility are monitored closely by the operations staff in the control room.



Outside the 200 Area Effluent Treatment Facility.

## Public Involvement

**A 60-day public comment period will begin Oct. 26 and continue through Dec. 27.** A virtual public meeting will be held Nov. 30, at 5:30 p.m. PT, and will include a presentation introducing the LERF and 200 Area ETF modification for the implementation of new procedures for listed waste code decontamination of the LERF basins and the 200 Area ETF Facility tank systems. During the virtual meeting, you can view the presentation, hear the speakers and ask questions. To participate via Microsoft Teams, please follow the instructions below:

**Join on your computer or mobile app**

[Click here to join the meeting](#)

<https://bit.ly/3AZjWJI>

**Join with a video conferencing device**

[197920091@teams.bjn.vc](mailto:197920091@teams.bjn.vc)

Video Conference ID: 115 769 227 1

[Alternate VTC instructions](#)

**Or call in (audio only)**

[+1 509-931-1284](tel:+15099311284) United States, Spokane

[\(833\) 633-0875](tel:+18336330875) United States (Toll-free)

Phone Conference ID: 228 614 076#

All comments must be submitted by Dec. 27, in writing, by mail or electronically (preferred) to:

Washington State Department of Ecology

3100 Port of Benton Boulevard

Richland, WA 99354

<https://nw.ecology.commentinput.com/?id=B6ikH>

At the conclusion of the public comment period, the Washington State Department of Ecology will address public comments and issue a final permit.

Copies of the proposed plan and supporting documentation will be available online during the public comment period in the Administrative Record at <https://go.usa.gov/xMGfx>. Hanford Public Information Repository locations are listed at <https://go.usa.gov/xVDTS>.

The permittee's compliance history during the life of the permit being modified is available from the Washington State Department of Ecology contact person.

*Please contact Jennifer Colborn, at [Jennifer M Colborn@rl.gov](mailto:Jennifer.M.Colborn@rl.gov) or (509) 528-6687, at least 10 working days prior to the event to request disability accommodation. DOE makes every effort to honor disability accommodation requests.*



Jennifer Colborn  
P.O. Box 450, H6-60  
Richland, WA 99352

Daina McFadden, Ecology  
3100 Port of Benton Boulevard  
Richland, WA 99354



## Public Involvement Opportunity

We want to hear from you!

### Comment Period:

Oct. 26 – Dec. 27, 2021

Public Meeting: Nov. 30, 5:30 p.m. (see page 3 for details)



# First of 4 area Jersey Mike's sandwich shops opens this week

BY TRI-CITY HERALD STAFF

The first of four Jersey Mike's Subs restaurants coming to the Tri-Cities is opening Wednesday in Kennewick.

The national franchise that features subs with fresh sliced meats and cheeses and grilled cheesesteaks opens Oct. 27 at 1659 Columbia Center Blvd. It's sandwiched between a Starbucks and a Mod Pizza.

Franchise owner Tim Klinefelter plans a grand opening and fundraiser from Oct. 27 to Sunday, Oct. 31 to support three local high school athletic programs at Kennewick, Southridge and Kamiakin

high schools.

Customers with a special fundraising coupon found at area businesses can get a regular sub with a minimum \$2 contribution during that time. All proceeds will go to the sports programs.

"Sports have always been a big part of my life and I'm happy we can give back to the athletics at these schools," said Klinefelter, a Walla Walla native, with a niece and nephew attending high school in Kennewick.

Klinefelter was a 20-year Comcast executive living in Western Washington when he realized there were no Jersey Mike's in Eastern Washington except in Spokane.

Now, he has immediate plans for at least two in the Tri-Cities, with the second one in Pasco.

"I was initially attracted to Jersey Mike's because of the product and the culture of the brand," Klinefelter said in a news release. "The first time I ever tried Jersey Mike's was at the Bonney Lake location, and I've been hooked ever since. My favorite sub is the #8 Club Sub."

By the end of the year, another Jersey Mike's outlet is expected to open in Vintner Square in the Queensgate area of Richland under different franchise owners, Derek Tonn, former CEO of the Roasters Coffee chain,

and his son, Dylan Tonn.

The Tonns also intend to open another shop in the Columbia Point area of Richland near Winco by the end of 2022.

The Jersey Mike's franchises offer takeout orders in-store or for pickup through the website or through the Jersey Mike's app. Delivery is available in most areas through the Jersey Mike's app or other delivery services. Curbside pickup is also available.

Hours are the Columbia Center restaurant are 10 a.m. to 9 p.m., seven days a week. Phone: 509-873-3387.

Jersey Mike's Subs has more than 2,000 locations nationwide.



Jersey Mike's

The owner of the forthcoming Jersey Mike's in Kennewick, Tim Klinefelter, plans on opening another store in Pasco. The stores are joined by two in Richland the father-son duo Derek and Dylann Tonn will be operating.

## ROAD RULES

# What is Washington state's Slow Down, Move Over law

BY DOUG DAHL

ddahl@wtscwa.com

Courtesy to The Bellingham Herald



**Question:** I know there's a law about slowing down and moving over for emergency vehicles, but can you explain what that means? Do I slow down and move over, or is it one or the other? And what constitutes an emergency vehicle? Is it just the ones that come when you call 911 or anything with flashing lights on top? Help me out here.

**Answer:** The "Slow Down, Move Over" law is one of those rules that seems clear just from the name, but when you actually think about it, you realize it's not as obvious as you first thought. The law in the Revised Code of Washington is titled (in part) "Emergency or work zones," so let's start by defining that. An emergency or work zone is the area 200 feet before and after an emergency or work vehicle. Easy enough.

But what is an emergency or work vehicle? The law includes any of these vehicles when their warning lights are activated: stationary authorized emergency vehicles (we'll come back to that one),

tow trucks, other vehicles providing roadside assistance, police vehicles, highway maintenance and service equipment, snow removal equipment, and stationary or slow moving highway construction vehicles, highway maintenance vehicles, solid waste vehicles and utility service vehicles.

If that list isn't extensive enough for you, let's define authorized emergency vehicles. It includes any vehicle of a fire department, police department, sheriff's office, coroner, prosecuting attorney, Washington State Patrol, and public or private ambulance service. Rather than memorize the list just figure that, like you suggested, if it's got

flashing lights on top it's a good bet that it's included.

When you approach an emergency or work zone, the required action depends on the size of the road. On highways with four or more lanes (two in each direction), move to the lane away from the emergency or work vehicle unless it's unsafe to do so. On roads with less than four lanes slow down, and if you can, move left (which might not be possible due to oncoming traffic.) In both situations the law states that if changing lanes would be unsafe, drivers shall reduce vehicle speed by at least 10 mph below

the speed limit and proceed with caution. (Caution should be the default mode for driving, so it's a good reminder.)

That's what's required by law, but as I've mentioned before, the law provides the bare minimum requirements. It's a good starting point but we can do better. In the context of this law, consider the 200-foot requirement. If my math is right, it takes two seconds to cover 200 feet at freeway speeds. That's not a lot of time. If you're scanning the road 10-15 seconds ahead like your driving instructor taught you, you can start taking appropriate action well before the required 200 feet. Plus, how many of us are actually any good at estimating 200 feet?

While not required by law, consider doing the same for disabled vehicles too. Someone who's just had a tire blow out likely

does not have the same situational awareness as professional roadside responders doing high-risk work. They might be focused on their immediate dilemma and forget to check for traffic as they're getting out of their car to find their spare.

As a general driving principle, it's a good idea to create as much space as you can between you and anything or anyone you could hit, and that's what the move over law does. I hope I've helped you out, and let's all pay it forward by helping out our roadside responders with slower speeds and extra room.

*Ask Road Rules a question using our form. Target Zero is Washington's vision to reduce traffic fatalities and serious injuries to zero by 2030. For more traffic safety information visit [TheWiseDrive.com](http://TheWiseDrive.com).*

# Amid climate woes, aviation industry banks on tech solutions

BY DOMINIC GATES

The Seattle Times

As aviation struggles to emerge from the historic, pandemic-driven downturn, another longer-term challenge already looms. Concern about air travel's contribution to climate change threatens to curtail growth of an industry that has expanded steadily for decades, shrinking the world for travelers and connecting the global economy.

The airline industry, contending with growing political pressure in Europe and recently even in Seattle for new restrictions on flying, this month formally committed to a target of "net zero" carbon emissions by 2050.

To achieve that, governments and industry will have to invest billions of dollars in infrastructure in the coming decade. Further out, Boeing and Airbus will have to develop dramatically new airplane designs.

For the flying public, all outcomes in the years ahead point to an increase in the cost of flying.

Yet that distant net-zero emissions target is so radical, and the proposed technology solutions so uncertain, that aviation risks falling far short.

Airbus CEO Guillaume Faury recently warned that if the industry's new push for climate sustainability fails, governments could force a reduction in air travel by banning some of the flying that is routine today – a major step back after more than 100 years of passenger flights.

"Aviation has a very important role on the planet to connect people and to contribute to prosperity," he said at a two-day aviation sustainability summit convened by Airbus in France last month. "We are at a point where this is in danger if we don't manage to transition and succeed in the decarbonization of the sector."

This is "the number one matter of discussion in the industry, even more than COVID now," he added.

Under pressure, the world's major airlines have firmly committed to one key technology that will dominate aviation's environmental push in the coming decade: Sustainable Aviation Fuel, or SAF.

For the plane manufacturers, the major costs and big risks will come later. In the coming decade, Airbus and Boeing will make money from the airlines' push for sustainability by promoting the sale of new, more efficient jets to replace older planes that burn more gas and produce more carbon emissions. But further out, the plane builders will need to develop dramatically new technologies.

Airbus is already aggressively pursuing research to develop by 2035 a zero-emission, short-haul airliner powered with hydrogen. That research is largely funded by European governments.

Boeing contends that hydrogen-powered aircraft won't be realistic until as late as 2050. But as Mike Sinnott, Boeing vice president of product development, recently said,

"whatever the next airplane is, we recognize sustainability is going to be a driving factor."

After the world's airlines announced the new "net zero by 2050" goal at this month's annual conference of the International Air Transport Association, IATA Director General Willie Walsh demanded a big technology leap from Airbus and Boeing.

"It's not good enough that we get incremental change in efficiency with the aircraft," Walsh said. "To get to net zero we're going to need a fundamental change."

Climate campaigns The latest definitive scientific study estimates that aviation contributes a net 3.5% of total human-induced climate impact. Cleaning it up has become a focus of those who see an existential crisis in climate change.


"There is a limited time for a life-altering change for my generation and my children's generation," said Sarah Shifley, a lawyer who volunteers on the aviation team of climate activist group 350 Seattle.

This summer, 350 Seattle mounted a campaign opposing a planned expansion of flights at Boeing Field, where corporate jets and cargo aircraft, as well as Boeing delivery and test flights, fly in and out.

Locally, the Puget Sound Regional Council that makes long-term decisions about transportation needs – and is weighing the need for one or more new airports – projects takeoffs and landings in the region will double by 2050 to over 800,000. In similar fashion, Boeing projects the world's fleet of airliners doubling by 2040, driven by growth in emerging economies.

## THE HANFORD SITE

**Class 2 Permit Modification to the Hanford Dangerous Waste Permit**



PUBLIC COMMENT PERIOD: October 26 – December 27, 2021

The U.S. Department of Energy (DOE) is holding a 60-day public comment period on a proposed Class 2 permit modification to the Hanford Dangerous Waste Permit, "Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility" chapter. This proposed permit modification is required to implement new procedures for decontamination of the Liquid Effluent Retention Facility (LERF) basins and the 200 Area Effluent Treatment Facility (ETF) tank systems.

The DOE and contractor Washington River Protection Solutions are requesting a Class 2 modification to the LERF and 200 Area ETF operating unit group of the Hanford Dangerous Waste Permit. The LERF and 200 Area ETF are mixed-waste treatment and storage units for treating liquid effluents from Hanford cleanup facilities. These facilities include the 242-A Evaporator and the Waste Treatment and Immobilization Plant's Effluent Management Facility (when it becomes operational) to support treating tank waste through the Direct-Feed Low-Activity Waste Program.

**The comment period runs October 26 through December 27.** A virtual public meeting will be held November 30 at 5:30 p.m. PT. Please follow the instructions below to participate via Microsoft Teams:

**Join on your computer or mobile app**

<https://bit.ly/3AZjWJJ>

**Join with a video conferencing device**

[197920091@teams.bjn.vc](mailto:197920091@teams.bjn.vc)

Video Conference ID: 115 769 227 1

**Or call in (audio only)**

+1 509-931-1284 United States, Spokane

(833) 633-0875 United States (Toll-free)

Phone Conference ID: 228 614 076#

Please submit any comments by Dec. 27 to:  
<https://nw.ecology.commentinput.com/?id=B6ikH>

Copies of the proposed permit modification and supporting documentation will be available online during the public comment period on the Hanford public involvement website at <https://go.usa.gov/xVmeW>, in the Administrative Record at <https://go.usa.gov/xMGfx>, and in the Hanford Public Information Repositories at <https://go.usa.gov/xVDTS>.

Questions? Please contact Jennifer Colborn at [jennifer\\_m\\_colborn@rl.gov](mailto:jennifer_m_colborn@rl.gov), or Daina McFadden, Washington State Department of Ecology, at [Hanford@ecy.wa.gov](mailto:Hanford@ecy.wa.gov).

The permittee's compliance history during the application of the relevant permit, is available from the Washington State Department of Ecology contact person.

To request disability accommodation, contact Jennifer Colborn, [jennifer\\_m\\_colborn@rl.gov](mailto:jennifer_m_colborn@rl.gov), at least 10 working days prior to the event.

Questions? Contact Jennifer Colborn at [Jennifer\\_M\\_Colborn@rl.gov](mailto:Jennifer_M_Colborn@rl.gov)

**From:** [^TPA](#)  
**To:** [HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV](mailto:HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV)  
**Subject:** Notice of Upcoming Public Comment Period on Proposed Changes to the Hanford Dangerous Waste Permit  
**Date:** Wednesday, September 15, 2021 11:28:02 AM  
**Attachments:** [image001.png](#)

---

## THE HANFORD SITE

---

*This is a message from the U.S. Department of Energy*

### **Notice of Upcoming Public Comment Period on Proposed Changes to the Hanford Dangerous Waste Permit**

The U.S. Department of Energy is holding a 60-day public comment period on a proposed Class 2 permit modification to the Hanford Dangerous Waste Permit. This proposed permit modification is required to implement new procedures for decontamination of the Liquid Effluent Retention Facility basins and the 200 Area Effluent Treatment Facility tank systems.

**The comment period is expected to begin in October, with a public meeting in November.**

The proposed modification and supporting documentation will be available online during the public comment period on the Hanford [events calendar](#), the Hanford [Administrative Record](#), and at the Hanford [Public Information Repositories](#).

A summary fact sheet and details of the public meeting will be provided when the comment period begins.

Questions? Please contact Jennifer Colborn, Hanford Mission Integration Solutions, at [Jennifer\\_M\\_Colborn@rl.gov](mailto:Jennifer_M_Colborn@rl.gov), or Daina McFadden, Washington State Department of Ecology, at [Hanford@ecy.wa.gov](mailto:Hanford@ecy.wa.gov).

---

Ecology logo



Visit us on the [web](#) and follow our [news and social media](#).

[Subscribe](#) or [Unsubscribe](#)

**From:** [^TPA](#)  
**To:** [HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV](mailto:HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV)  
**Subject:** Public Comment Period Begins Today on Class 2 Permit Modification to the Hanford Dangerous  
**Date:** Tuesday, October 26, 2021 9:12:28 AM  
**Attachments:** [image001.png](#)  
[Fact Sheet\\_LERF ETF Decon Process\\_FINAL.pdf](#)

---

## THE HANFORD SITE

---

*This is a message from the U.S. Department of Energy*

### **Public Comment Period on Proposed Changes to the Hanford Dangerous Waste Permit**

The U.S. Department of Energy (DOE) is holding a 60-day public comment period on a proposed Class 2 permit modification to the Hanford Dangerous Waste Permit, “Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility” chapter. This proposed permit modification is required to implement new procedures for decontamination of the Liquid Effluent Retention Facility (LERF) basins and the 200 Area Effluent Treatment Facility (ETF) tank systems.

The DOE and contractor Washington River Protection Solutions are requesting a Class 2 modification to the LERF and 200 Area ETF operating unit group of the Hanford Dangerous Waste Permit. The LERF and 200 Area ETF are mixed-waste treatment and storage units for treating liquid effluents from Hanford cleanup facilities. These facilities include the 242-A Evaporator and the Waste Treatment and Immobilization Plant’s Effluent Management Facility (when it becomes operational) to support treating tank waste through the Direct-Feed Low-Activity Waste Program.

**The comment period runs from Oct. 26 through Dec. 27, 2021.** A virtual public meeting will be held Nov. 30 at 5:30 p.m. PT. To participate via Microsoft Teams, please follow the instructions below:

**Join on your computer or mobile app**

[Click here to join the meeting](#) or  
<https://bit.ly/3AZjWJI>

**Join with a video conferencing device**

[197920091@teams.bjn.vc](mailto:197920091@teams.bjn.vc)  
Video Conference ID: 115 769 227 1  
[Alternate VTC instructions](#)

**Or call in (audio only)**

[+1 509-931-1284](tel:+15099311284) United States, Spokane  
[\(833\) 633-0875](tel:+18336330875) United States (Toll-free)  
Phone Conference ID: 228 614 076#  
[Find a local number](#)

Please submit any comments by **Dec. 27**, [electronically](#) (preferred) or by mail to:

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

The proposed permit modification and supporting documentation is available online during the public comment period on the Hanford [events calendar](#), the Hanford [Administrative Record](#), and at the Hanford [Public Information Repositories](#). Please see the attached summary fact sheet.



Questions? Please contact Jennifer Colborn, Hanford Mission Integration Solutions, at [Jennifer\\_M\\_Colborn@rl.gov](mailto:Jennifer_M_Colborn@rl.gov), or Daina McFadden, Washington State Department of Ecology, at [Hanford@ecy.wa.gov](mailto:Hanford@ecy.wa.gov).

*To request disability accommodation, please contact Jennifer Colborn, [Jennifer\\_M\\_Colborn@rl.gov](mailto:Jennifer_M_Colborn@rl.gov) or (509) 376-5840 at least 10 working days prior to the event. DOE makes every effort to honor disability accommodation requests.*

---

Ecology logo



Visit us on the [web](#) and follow our [news and social media](#).

[Subscribe](#) or [Unsubscribe](#)

**Washington Department of Ecology - Hanford**  
 Published by Ecology Ryan · October 26 at 10:22 AM · 🌐

Heads up! A new U.S. Department of Energy public comment period involving the the Liquid Effluent Retention Facility and Effluent Treatment Facility at Hanford begins today. Check it out and get comments in by Dec. 27: <https://ecology.wa.gov/.../Nuclear.../Public-comment-periods>

Hanford Site U.S. Department of Energy, Office of River Protection U.S. EPA, Region 10 Washington Department of Ecology

See Insights Boost Post

👍 3

👍 Like    💬 Comment    ➦ Share

Write a comment... 🗨️ 📷 🎬 🔄

**Ecology - Hanford** 🗨️ 🌐 @ecyHanford · Oct 26

Heads up! A new [@HanfordSite/](#)[@RiverProtection](#) public comment period involving the the Liquid Effluent Retention Facility and Effluent Treatment Facility at Hanford begins today. Check it out and get comments in by Dec. 27: [ecology.wa.gov/Waste-Toxics/N...](https://ecology.wa.gov/Waste-Toxics/N...) [@EcologyWA](#) [@EPAnorthwest](#)

🗨️    ↺ 6    ❤️ 6    ⬆️    ⏸️

## Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility Class 2 permit modification

Oct. 26, 2021 – Dec. 27, 2021

The U.S. Department of Energy is holding a 60-day public comment period on a proposed Class 2 permit modification to the Hanford Dangerous Waste Permit, "Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility" chapter. This proposed permit modification is required to implement new procedures for decontamination of the Liquid Effluent Retention Facility (LERF) basins and the 200 Area Effluent Treatment Facility (ETF) tank systems.

### Proposed changes

Energy and contractor Washington River Protection Solutions are requesting a Class 2 modification to the LERF and 200 Area ETF operating unit group of the Hanford Dangerous Waste Permit. The LERF and 200 Area ETF are mixed-waste treatment and storage units for treating liquid effluents from Hanford cleanup facilities. These facilities include the 242-A Evaporator and the Waste Treatment and Immobilization Plant's Effluent Management Facility (when it becomes operational) to support treating tank waste through the Direct-Feed Low-Activity Waste Program.

### Review and comment

For more information on the public comment period and supporting documents, visit [Energy's website](#).

Please submit comments by **Dec. 27**, [electronically](#) (preferred), or by mail to:

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

### Public meeting

Energy is holding a virtual public meeting **5:30 p.m. Nov. 30**. To participate via Microsoft Teams, please follow the instructions below:

#### Join on your computer or mobile app

- [Click here to join the meeting](#) or <https://bit.ly/3AZjWJl>

#### Join with a video conferencing device

- 197920091@teams.bjn.vc
- Video Conference ID: 115 769 227 1
- [Alternate VTC instructions](#)

#### Or call in (audio only)

- +1 509-931-1284 United States, Spokane
- 833-633-0875 United States (Toll-free)
- Phone Conference ID: 228 614 076#
- [Find a local number](#)

Questions? Please contact [Jennifer Colborn](#), Hanford Mission Integration Solutions, or [Daina McFadden](#), Ecology.