

Tank Waste Evaporator Effluent Transfer Lines &

New Basin 41 for Effluent Storage

Permit Modifications

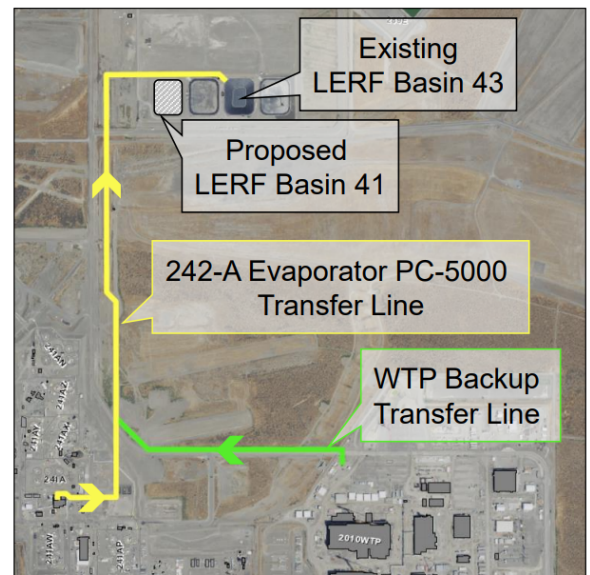


COMMENT DEADLINE: TUES. SEPT 8, 2020

WHAT

The U.S. Department of Energy (DOE) is gathering your comments on two connected proposals. The first is to connect two existing transfer lines from facilities that evaporate tank waste to a new storage basin that holds the evaporated and condensed liquids from the evaporators.

One transfer line, shown in yellow in the image to the right, connects the 242-A Evaporator to Basin 43 at the Liquid Effluent Retention Facility. The 242-A evaporator helps make space in the underground high-level waste tanks by concentrating the liquids from those tanks. The evaporated liquids are condensed and will be transferred to the new Basin 41 via the new connection.



WHAT?

continued from page one

The second transfer line, shown in green in the image on the first page, is a backup transfer line to connect the Waste Treatment Plant's Direct Feed Low Activity Waste evaporator to the transfer line that goes from the 242-A evaporator to the basins. Connecting these existing transfer lines to the new basin is the subject of one comment period.

The second comment period is about building a new basin (Basin 41) to store the evaporated and condensed liquids from the tank waste evaporators. The new basin is intended to increase the storage capacity of the Liquid Effluent Retention Facility (LERF) to make space for the extra effluent that will need storage once tank waste is being treated through the Direct Feed Low Activity Waste Facilities.

Once the evaporated and condensed liquids are sent to the basins at LERF, they are stored there awaiting treatment at the adjacent Effluent Treatment Facility. The treatment has a goal of removing contamination from the liquids, sending the removed contamination to a landfill on the center of the Hanford site and reinjecting the decontaminated liquid into the ground

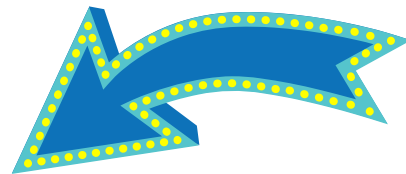
CONTEXT

The process for both storing and treating Hanford's high-level tank waste creates more waste. To deal with that extra waste that results from the addition of liquids, evaporators at Hanford concentrate those liquids by evaporation. The evaporated tank liquids are then condensed and sent to LERF - the Liquid Effluent Retention Facility where they await treatment to remove the contamination at the ETF - Effluent Treatment Facility.

Aging infrastructure, leaks, safety & design issues, quality assurance and other issues pave a challenging path to successfully treating Hanford's high-level tank waste.

Read on to see Hanford Challenge's concerns and sample comments.

HANFORD CHALLENGE CONCERNS



Hanford's high-level tank waste is extremely radioactive and contains a dangerous mix of toxic chemicals and radionuclides. Most of the facilities that store and manage this waste are aging. The need for new transfer lines for the liquid effluents from the evaporated tank waste and the need for a new liquid retention basin both highlight this aging infrastructure.

The biggest problem with these comment periods are the missing context and information as part of educational outreach materials. The permit modifications are dealing with one piece of a larger puzzle. The puzzle of tank waste management and treatment needs elaboration. Most of our comments are questions.

Concerns that have surfaced include:

Leak Inspection Timing: The permit change modifies the frequency for checking leaks from once a shift to once a day. What is the justification for this change? Increasing the frequency of leak detection seems like it would be more protective of the environment.

Expired Design Life of Basins: The existing three LERF basins have a 20 year design life, which expired in 2015. One of the current basins is currently shut down. Why does the permit modification only add one new basin? What is DOE doing to ensure continued availability of storage space for WTP effluents, evaporator process condensate, and other wastewater streams to reduce impacts on ongoing and future site cleanup activities like retrieval of Single Shell Tank wastes and Waste Treatment Plant operations?

The Effluent Treatment Facility experienced significant operating difficulties when it first started in 1995. DOE is proposing extensive changes to the ETF process with some new technologies to accommodate WTP effluents, which have not been generated yet or characterized. What is DOE doing to avoid similar ETF startup issues and ensure safe treatment of liquids onsite?

SUBMIT COMMENTS

242-A and WTP TRANSFER LINES Comment Period

Send comments to WA State Dept. of Ecology through the portal [HERE](#).

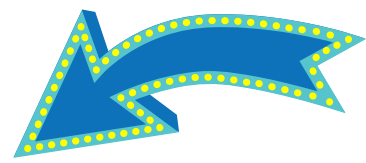
<http://nw.ecology.commentinput.com/?id=cDGs4>

Basin 41 at Liquid Effluent Retention Facility

Send comments to WA State Dept. of Ecology through the portal [HERE](#).

<http://nw.ecology.commentinput.com/?id=cDGs4>

SAMPLE COMMENTS



Require Protective Leak Inspections: Ensure that the timing and rigor of leak detection inspections are not decreased by the permit modification.

Plan for Infrastructure Upgrades: Ensure planning for all necessary infrastructure upgrades, including the three existing LERF basins which have a 20 year design life that expired in 2015.

Include Plans for Avoidable Problems: Ensure that DOE takes action to avoid startup issues at the Effluent Treatment Facility that takes into consideration unknowns such as what the future Waste Treatment Plant effluent may contain. Ensure measures are taken to avoid impacts to ongoing and future site cleanup activities.

Information Before Approval: Ensure that additional information about leak detection, expired design life, infrastructure upgrades, and WTP effluent characterization are answered and this information is shared with the public prior to approving these permit modifications.

Prioritize Safety: Make sure requirements are in place to protect workers and the environment from the radioactive waste and toxic chemical vapors that may be present in the waste that will be moved through the new transfer lines and stored in the basins.

Increase Transparency: Share the details of the proposed actions AND any problems underpinning that action and the timeline for fixing problems.

Share the Big Picture: When you are soliciting input on anything that deals with treating tank waste, share the big picture of where the facility or action fits with immobilizing Hanford's high-level tank waste in glass. For example long-term plans for implementing additional upgrades to fix and replace additional aging infrastructure that is part of tank waste management, storage and treatment.



The Site-Wide RCRA Permit

Washington State's tool for protecting human health and the environment.

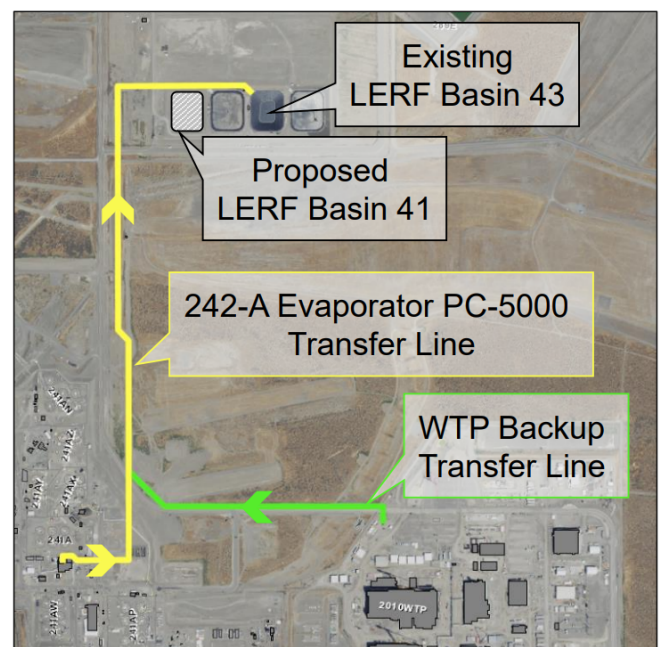
RCRA = Resource Conservation and Recovery Act

Comment Period Lead Regulator Washington State Dept. of Ecology (State/Ecology)

The State uses the authority it has been granted under the Resource Conservation and Recovery Act (RCRA) to make sure the U.S. Department of Energy protects human health and the environment when it is cleaning up Hanford's mixed waste - waste containing radioactive AND chemical contamination.

For these comment periods Ecology is reviewing the draft modifications to the permit to add these transfer lines and build a new effluent storage basin and will also review your comments to decide how to proceed:

- **Accept** the changes,
- **Deny** the permit modification, or
- **Require changes** before finalizing the permit modification.



The images above, courtesy DOE [presentation](#) from the Aug 18th virtual public meeting include: (left) proposed addition of Basin 41 to the Liquid Effluent Retention Facility and (right) liquid effluent transfer lines from 242-A Evaporator and WTP.

REFERENCE LINKS

Tank Waste Evaporator Effluent Transfer Lines & New Basin 41 for Effluent Storage



COMMENT DEADLINE: TUES. SEPT 8, 2020

Department of Energy Documents

- [Fact Sheet for 242-A Evaporator Transfer Line Class Two Permit Modification](#)
- [Fact Sheet for the Basin 41 Class 3 Permit Modification](#)
- [Joint Presentation for both Permit Modifications for the 242-A Transfer Line and LERF Basin 41](#) from the Aug 18 Virtual Public Meeting
- [242-A Evaporator Transfer Line and WTP Backup Transfer Line Permit Modification](#)
- [Basin 41 Permit Modification](#)

Public Interest and Stakeholder Resources

- [Hanford Challenge Sample Comments](#)



More info