Response to Comments Proposed Closure Plan for the PUREX Tanks TK-P4 and TK-40

July 18, 2016 to Sept. 16, 2016

By: Laura Morgan

For the **Nuclear Waste Program**

Washington State Department of Ecology

Richland, Washington

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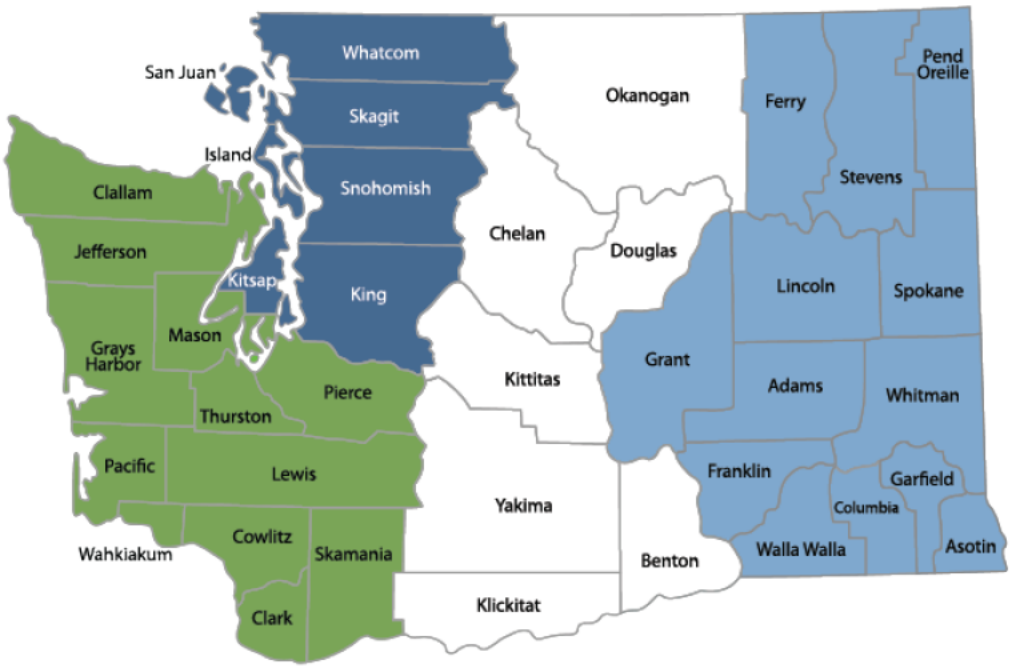

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Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
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Headquarters	Across Washington	PO Box 46700 Olympia, WA 98504	360-407-6000

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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	Proposed Closure Plan for the PUREX Tanks TK-P4 and TK-40, July 18 to September 16, 2016.
Permit	*Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit for the Treatment, Storage, and Disposal of Dangerous Waste*, Plutonium-Uranium Extraction (PUREX) Plant Tanks TK-P4 and TK-40.
Permittees	U.S Department of Energy Richland Operations Office PO Box 550, MSIN: H5-20 Richland, Washington 99352 Central Plateau Cleanup Company LLC PO Box 1464, MSIN: A7-01 Richland, Washington 99352

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

This proposed draft permit modification will add Closure Unit Group (CUG) 33, PUREX Tanks TK-P4 and TK-40 to Part V of the Hanford Site-wide Permit. This draft modification is the second portion of the Class 3 modification. The draft permit modification consists of unit group specific permit conditions and the Closure Plan for the clean closure of PUREX Tanks TK-P4 and TK-40.

Public Involvement Actions

USDOE held a 60-day public comment period on the proposed Class 3 permit modification to the Hanford Facility Dangerous Waste Permit, held July 18 through September 16, 2016.

The following actions were taken to notify the public:

- Mailed a public notice announcing the comment period to about 1500 members of the public.
- Distributed copies of the public notice to members of the public at Hanford Advisory Board meetings.
- Placed a public announcement legal classified advertisement in the Tri-City Herald on July 18, 2016.
- Emailed a notice announcing the start of the comment period to the Hanford-Info email list, which had about 1800 subscribers.

USDOE held a public meeting on August 31, 2016 at 5:30 pm at the Richland Public Library. Zero comments were collected.

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 PUREX Tanks TK-P4 and TK-40 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

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
Mike Conlan	Citizen
Lunell Haught	Citizen
Patricia Herbert	Citizen
Russell Jim	Yakama Nation ERWM

Attachment 1: Comments and Responses

Description of comments:

Ecology accepted comments from July 18 through September 16, 2016. 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.

Comments received from Mike Conlan

1) Remove all nuclear waste,
2) Do not allow anymore nuclear waste into the facility,
3) Replace all the single storage tanks,
4) Stop all the nuclear leakage entering the Columbia River.

Ecology Response

Ecology is working to ensure that long-term storage, treatment and disposal of the waste is protective of human health and the environment. The proposed permit changes are not to allow new waste, but to better manage the waste already at Hanford. Single-shell tanks are not in the scope of this comment period. Ecology does agree the tanks pose a threat. We believe a better approach to addressing it is to remove the waste from the single-shell tanks and put it in the compliant double-shell tanks to prepare for eventual treatment in the Waste Treatment Plant now being built. The permit modification proposes clean closure for PUREX Tanks TK-P4 and TK-40. Clean closure will eliminate the need for future post-closure inspections, monitoring, and maintenance.

Comments received from Lunell Haught

Where do you dispose of this waste – I know the document says in the approved manner – so what's the approved manner? Where does it go?

Many of us who have been watching, commenting on this since the 1980s have bets on whether it will ever be actually cleaned up or just a jobs program. Sorry to be so discouraged – you must be too.

Lunell Haught

Spokane

Ecology Response

The waste will be treated to meet all applicable requirements in WAC 173-303-140, "Land Disposal Restrictions," and, by reference, 40 CFR 268, "Land Disposal Restrictions". Once treated, it will be disposed of at the Hanford Site Environmental Restoration Disposal Facility (ERDF), or an approved RCRA TSD unit. This information is in Section 5.1, Facility Demolition and Disposal.

Comments received from Patricia Herbert

Dear Ms. Schleif:

Following is my short comment on the changes proposed for the PUREX plant. I found it very hard to determine where tanks TK-P4 and TK-40 are situated using Figures 2 and 3. The drawings shown do not seem to match the photograph. The boxes in the two drawings of Figure 3 don't seem to appear on the photograph in figure 2. I find this very disturbing. It's a precursor to questions about truth in the proposal.

Dealing with so many toxic chemicals it seems to me truth is the topic which should be of concern. The government and Department of Energy should give the public adequate and honest information concerning disposal, cleanup, and chemical dispersion and I'm questioning whether this will happen

Sincerely,

Patricia Herbert

Ecology Response

The drawings of Tanks TK-P4 and TK-40 have been updated to better match the photographs and to clearly depict the tank locations. These drawings are in Section 1.2, Figure 2.

Comments received from the Yakama Nation

YN has previously provided our objection to the use of the Comprehensive Land-Use Plan (CLUP) and its provisions. It does not recognize YN Treaty Rights. All assessments and cleanup alternatives should be protective of, and based upon, anticipated Trial subsistence uses.

Ecology Response

Ecology has reminded the U.S Department of Energy (DOE) in numerous correspondence and documents that the scope of the CLUP is limited to 'at least the next 50 years' per the National Environmental Policy Act (NEPA) Record of Decision. The closure Plan does not provide reference in the body text to the CLUP although it does provide the CLUP as one of the cited references at the end of the closure plan. Ecology did not consider the CLUP to establish the closure performance standard.

Yakama Nation comment

For reader ease, Factsheet should also indicate this is a closure plan for a tank system per WAC 173-303-640 rather than just closure under -610.

Ecology Response

The Fact Sheet clearly defines that tanks TK-P4 and TK-40 will be closed in accordance with WAC 173-303-610 and WAC 173-303-640.

Yakama Nation comment

Chapter 1:

Introduction: Lines 6-7 state purpose of closure plan is to describe the closure process for tank PUREX storage tanks identified on the Single-Shell Tank System Part A Form. Clarify the correct Part A Form for these DWMUs. In lines 13-15, please edit to delete *"and represents the baseline for closure"* and rewrite to state: *and contains compliance requirements necessary for conducting closure enforceable under the RCRA Permit.*

Ecology Response

The single-shell tank system Part A has been removed. No Part A form will be referenced in the Closure Plan. The Preclosure Work Plan and other related documents are referenced in Section 13 that contain historical information on the PUREX Tanks TK-P4 and TK-40. The Introduction section of the Closure Plan now states "Closure will be performed in accordance with the schedule provided in Section 8 of this document. This closure plan complies with WAC 173-303-610(2) through (6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure and the enforceable compliance requirements for conducting closure." The Closure Plan describes the clean closure of the PUREX Tanks TK-P4 and TK-40 in detail.

Yakama Nation comment

Section 1.1 Provide reference to documentation (e.g. sampling analysis) regarding the draining of the RCRA tank system and Ecology's determination that these tanks were considered 'empty' under RCRA.

Ecology Response

Internal memo 17530-96-028, "Completion of the PUREX Deactivation End Points Associated with Flushing/Draining of the 203A Vessels" has been referenced in Section 1.1.1. This addresses that all of the tanks in the 203A acid storage area, including tank TK-P4 have been flushed and emptied to a minimum heel, and their associated piping was drained. HNF-SD-CP-HIE-004, PUREX Deactivated End-State Hazard Analysis was referenced in Section 1.2, which explains tank capacity and residual heel for Tank TK-40. Section 5.1.2 explains that a visual inspection will be performed of each tank to determine if there is a heel. If a heel is present in either tank, it will be sampled. If the heel does not designate as dangerous waste, the heel and the tank debris will be managed as Low Level Waste and will be disposed of at ERDF. If the heel designates as dangerous waste, there will be four options for treatment, which are also described in this section.

Yakama Nation comment

Section 1.2: Line 31: Clarify uncertainty of status of TK-P4 tank heel.

Ecology Response

Section 1.2 of the Closure Plan explains that information from PUREX deactivation documents (HNF-SD-CP-HIE-004, PUREX Deactivated End-State Hazard Analysis) showed that all tanks in the 203A acid storage area were emptied or flushed, with only a minimum heel remaining at the

completion of the deactivation. It is not known whether the heel in tank TK-P4 is in solution or solid form.

Yakama Nation comment

Section 1.3: Clarify waste code for tributyl phosphate.

Ecology Response

The waste code for Tributyl phosphate is WT02 and has been included in Table 1 of the closure plan.

Yakama Nation comment

Section 1.4: Please clarify whether the following are found on site or within the general security information for the 200 Areas: posted signs at any access points stating: No trespassing, Security badges required beyond this point. Authorized vehicles only. Public access prohibited. Danger, unauthorized personnel keep out. Clarify that these signs are written in English, legible from a distance of 7.6 meters, and visible from all angles of approach.

Ecology Response

Section 1.4 of the Closure Plan describes security information for the PUREX facility. If there are no individual unit group security addenda, then the unit group would need to follow the Parts 1 and 2 conditions and associated attachments to comply with WAC 173-303-310 requirements.

Yakama Nation comment

Chapter 2:

Edit Lines 17-20 to simply state Additional information on the 200-PO-1 OU is provided in DOE/RL-2009-85, etc. Delete the remaining.

Ecology Response

Tanks TK-P4 and TK-40 will be closed by removal or decontamination. Because of this, the tanks are not subject to any groundwater monitoring requirements.

Yakama Nation comment

Chapter 3:

Edit Lines 4-5, Pg 7, to include the following: *Should there be changes in MTCA prior to closure, there will be no 'back-sliding' to less stringent cleanup levels.* YN requests Ecology ensure enough flexibility within the closure permitting process to allow Ecology to retain its authority to set cleanup levels at more stringent levels and request additional characterization/cleanup to achieve these levels.

Ecology Response

PUREX Tanks TK-P4 and TK-40 will be clean closed. The soil will be sampled and must meet clean closure levels. In accordance with WAC 173-303-610(2)(b)(i), clean closure levels for soil are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to WAC 173-340, "Model Toxics Control Act-Cleanup" (MTCA) regulations (WAC 173-340-700 through WAC 173-340-760, excluding WAC 173-340-745). According to WAC 173-303-

610(2)(b)(i), these numeric cleanup levels, including carcinogens, noncarcinogens, groundwater protection, and ecological indicator values, have been calculated as of the effective date of the permit modification.

Table 3 includes the closure performance standards for the target analytes. A discussion about how the target analytes were selected is included in Section 6.1.1. The closure performance standards considered all risk exposure pathways and are the most conservative values. Groundwater protection is the driver for these closure performance standards. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830.

Yakama Nation comment

YN requests the following closure performance standards for soils be identified:

Direct contact consistent with WAC 173-340-740(3)

Soil concentrations to protect groundwater; derived using WAC 173-340-747(4) (with an exception of modified method B for hexavalent chromium using a Kd value of 0.) or,

Protection of ecological receptors achieved through one of the following methods:

1. Excavation of contaminated soil to a minimum of 15 feet below ground surface, or
2. Excavation of contaminated soil such that residual soil concentration do not exceed ecological levels listed in WAC 173-340-900 (Table 749-3), or
3. A site-specific demonstration that remedial standards eliminate threats to ecological receptors.

Ecology Response

Section 3, Closure Performance Standards, describes the following, "The soil will be sampled and must meet clean-closure levels. In accordance with WAC 173-303-610(2)(b)(i), clean-closure levels for soil are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to WAC 173-340, 'Model Toxics Control Act – Cleanup,' (hereinafter called MTCA), cleanup regulations (WAC 173-340-700, 'Overview of Cleanup Standards,' through WAC 173-340-760, 'Sediment Cleanup Standards,' excluding WAC 173-340-745, 'Soil Cleanup Standards for Industrial Properties'). These numeric cleanup levels have been calculated according to the requirements of WAC 173-303-610(2)(b)(i) as of the effective date of the permit modification. These cleanup levels consider carcinogens, noncarcinogens, groundwater protection, and ecological indicator values. The closure performance standards are provided in Table 3.

Yakama Nation comment

YN has previously provided our objection to the use of the Comprehensive Land-Use Plan (CLUP) and its provisions. It does not recognize YN Treaty Rights. All assessments and cleanup alternatives should be protective of, and based upon, anticipated Tribal subsistence uses.

Ecology Response

Ecology has reminded the U.S. Department of Energy (DOE) in numerous correspondence and documents that the scope of the CLUP is limited to 'at least the next 50 years' per the National

Environmental Policy Act (NEPA) Record of Decision. The closure plan does not provide reference in the body text to the CLUP although it does provide the CLUP as one of the cited references at the end of the closure plan. Ecology did not consider the CLUP to establish the closure performance standard.

Yakama Nation comment

Chapter 4:

YN does not appreciate the over-all inclusion of additional design, process details, and site information.

Section 4.1: Provide reference or footnote information.

Ecology Response

A reference to DOE/RL-95-78, PUREX Facility Preclosure Work Plan, has been added to Section 4.1.

Yakama Nation comment

Section 4.2: Edit lines 32-34 to delete following text: "including up to 1 m (3ft) of soil beneath the structure, which will meet the requirements of WAC 173-303-610(2)(b)(ii)." There is no guarantee that removal of only 3 ft of soil will suffice to meet clean closure requirements. Clarify the observational approach to sampling will be applied and soil removal will continue until cleanup standards are met or it has been demonstrated that all soil cannot be practicably removed or decontaminated. Clarify that permit modification will be submitted in accordance with WAC 173-303-830.

Ecology Response

The following text was added to the end of Section 4.2: "If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-830, 'Permit Changes.' to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 Operable Unit (OU)". The text regarding the removal of up to 1 m (3ft) of soil beneath the structure has been removed, and language on focused sampling has been included in Section 4.2. Focused sampling involves the selective sampling of areas where potential or suspected soil contamination would be expected if a release of hazardous substance had occurred. Focused sampling is distinguished from probability-based sampling in that inferences are based on professional judgement, not statistical scientific theory. Using statistical evaluation for focused data is not possible. Any focused data must be reviewed against closure performance standards as to whether they are above or below the standards. Areas where focused sampling will occur include the soil beneath the containment structure sumps, beneath each tank, and at the perimeter of the respective containment structures for tanks TK-P4 and TK-40. If there is evidence of cracks in the concrete, concrete joints, or degradation of coating within the secondary containment, focused samples may be collected.

Yakama Nation comment

Edit Lines 41-42 to state sampling will be performed where there is evidence of degradation of coating and cracks in the concrete. Edit to clarify there will be visual inspection prior to commencement of closure activities, and that all visible staining (on the concrete) will be noted and samples taken at these locations. The presence of visible staining (on the concrete) will be noted and samples taken at these locations. The presence of visible staining can be used as the basis for additional judgmental samples. The absence of visible staining cannot in general be used as the sole basis for concluding that contamination is absent.

Ecology Response

Visual inspections will be performed once the tanks have been removed. Because the tanks in the basins are positioned on a slightly elevated concreted footing, no visual observation of the concrete surface can be performed under the tanks at this time. The secondary containment structures also consist of other equipment making visual observation challenging prior to tank removal. Language on visual inspections have been added to Section 4.2 and Section 5. Section 4.2 states "Once the tanks have been removed, a visual inspection will be performed of the secondary containment to identify potential additional focused sampling locations. After removal of the secondary containment structures, a visual inspection will be performed to identify stains on the remaining soil."

Yakama Nation comment

Edit Line 3, Pg. 8, to delete statement that a post-closure plan will be prepared, etc. See above comment on use of the observational approach to sampling and edit the closure plan to reflect continued soil removals as necessary to achieve unrestricted use standards. Clarify the only need for a post-closure plan is to remediate impacts to groundwater.

Ecology Response

The following statement was removed: "A post-closure plan will be prepared in accordance with WAC 173-303-610". Section 4.2 of the Closure Plan states "If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830, 'Permit Changes.' to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 Operable Unit(OU). The waste site will be added to the list of 200-CP-1 waste sites. The remedial decision will decide if additional closure actions will be performed and may include clean closure by removal of soil, or development of a post-closure plan for closure as a landfill."

Yakama Nation comment

Table 3:

YN notes that the table lists only direct contact soil values for the closure performance standards. Performance standards identified in WAC 173-303-610(2)(b)(i) includes cleanup levels in soil to protect groundwater. While unexpected, YN requests cleanup levels to protect groundwater to be fully discussed with Ecology for inclusion within this closure plan.

Ecology Response

Table 3 has been edited to include MTCA (WAC 173-340-747) Deriving Soil Concentrations for Groundwater Protection.

Yakama Nation comment

YN disagrees this use of 24mg/kg and requests no higher value than the Hanford site background (~6.5mg/kg) be used as the performance standard. YN notes values for Total Chromium is actually values for Chromium III.YN requests 2mg/kg as the closure performance standard. (WAC 173-303-610(2)(b)(i) allows use of Method A unrestricted land use values).

Ecology Response

Table 3, Performance Standards for Target Analytes, has been updated for consistency with other Hanford Site-wide Permit Closure Plans. The Hanford Site closure performance standard for arsenic is 20 mg/kg based on Ecology letter (Ecology, 2013, "Issues Associated with Establishing Soil Cleanup Levels for Arsenic") indicating that the MTCA Method A soil performance standard of 20 mg/kg can be used to define natural background levels when developing Method B soil closure performance standards for the Hanford Site.

Yakama Nation comment

Edit table to include ecological protection values. YN expects the U.S. Dept. of Energy to use WAC 173-340-900 (Table 749-3) values, or other methods approved by Ecology, as relevant and appropriate indicators that closure activities protect the environment.

Ecology Response

Table 3 has been edited to include MTCA (WAC 173-340-7493) Site-Specific Terrestrial Ecological Evaluation Procedures. Values used were taken from WAC 173-340-900, Table 749-3, including plants, biota, and wildlife.

Yakama Nation comment

Chapter 5:

Clarify and include, in the appropriate section(s):

40 CFR 280.12 (technical standards and corrective action requirements for owners and operators of underground storage tanks) defines ancillary equipment as means any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from an UST. RCRA defines a tank system as a dangerous waste storage or treatment tank and its associated ancillary equipment and containment system. RCRA defines ancillary equipment as any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of dangerous waste from its point of generation to a storage or treatment tank(s), between dangerous waste storage and treatment tanks to a point of disposal on-site or to a point of shipment for disposal off-site. Edit text in Lines 16-24 to reflect compliance with WAC 173-303.

Ecology Response

Section 4 of the Closure Plan states that Tanks TK-P4 and TK-40 are candidates for clean closure under WAC 173-303. Specifically, the standards for closure of Tanks TK-P4 and TK-40 will be in accordance with the requirements of WAC 173-303-610 and WAC-173-303-640.

Yakama Nation comment

Edit section to state: *Closure activities, including those performed in conjunction with CERCLA activities will be approved by Ecology.* Include within the Closure Plan the details of the CERCLA actions necessary to complete all RCRA closure activities in compliance with WAC 173-303-610 requirements. Clarify that the Washington State Department of Ecology will maintain regulatory oversight and approval of all closure related activities, while the U.S Environmental Protection Agency maintains lead regulator authority for the scope of CERCLA remedial actions. Ecology must oversee closure activities in order to approve the closure certification that actions are conducted in accordance with the approved closure plan. This responsibility is not deferrable to CERCLA.

Ecology Response

In accordance with Permit Condition V.33.B.1 The Permittees will comply with all requirements set forth in the Addendum H, Closure Plan for PUREX Tanks TK-P4 and TK-40, and close Tanks TK-P4 and TK-40 in accordance with the Addendum H, Closure Plan [WAC 173-303-610(3)(a)]. Section 4.2 of the Closure Plan also states "If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830, 'Permit Changes.' to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 Operable Unit (OU).".

Yakama Nation comment

Clarify that removal and disposal of closure area components not under the RCRA closure plan will be performed under CERCLA authority consistent with RCRA corrective action requirements (e.g., all work packages).

Ecology Response

Section 5.1 states: "Field activities regarding the removal of the two tanks, the demolition of the secondary containment structures, and the sampling of the underlying soil will be coordinated with the CERCLA removal action that will address the entirety of the 203A acid storage area and the 211A chemical storage area".

Yakama Nation comment

Delete all text which states only 3ft of soils will be removed and rewrite to state that observational approach will be followed. Clarify that RCRA closure cannot be 'considered complete' until all CERCLA activities which support RCRA closure activities (e.g. continued soil removals below 3ft) are completed.

Ecology Response

All text stating only 3ft of soils will be removed has been deleted throughout the closure plan. Text has been added in Section 4.2 to state a visual inspection will be performed once tanks have been removed, and again after the removal of secondary containment structures. If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830 to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 OU.

Yakama Nation comment

Clarify statement regarding storage of dangerous wastes at Hanford TSD units permitted to operate as container storage areas until disposal. The scheduled closure of a RCRA TSD includes its waste disposal. This must be within the 180 days unless an extension is granted. Clarify if there is any intent or possibility that closure activities include waste storage at a RCRA container storage area beyond 180 days. Furthermore, clarify that LDR storage provisions state allowance of storage for only the time necessary for treatment.

Ecology Response

Figure 6 contained in the Closure Plan describes PUREX Tanks TK-P4 and TK-40 Closure Plan Schedule. Section 5.1, Facility Demolition and Disposal, discusses Land Disposal Restrictions for waste treatment.

Yakama Nation comment

Edit to provide additional detail descriptions regarding all waste management and disposal activities to clarify compliance with WAC 173-303-170 thru WAC 173-303-230 requirements. It is unclear how these regulations are being met.

Ecology Response

Information on waste management and disposal during tank removal has been added to Section 5.1.2. Four options have been listed out if the heel in either tanks designates as dangerous waste. Three methods have also been added on how to characterize the tank debris. Disposal location is dependent upon what method was used for characterization of tank debris. More detail has also been added to Section 5.1.3 explaining the steps that will be taken to manage secondary containment demolition waste. Section 5.1.4 also talks about how contaminated equipment will be decontaminated. If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830 to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 OU.

Yakama Nation comment

Provide additional details as to the disposal facility, where and how treatment for LDRs will be performed and storage locations prior to disposal. Identify anticipated waste treatment types.

Ecology Response

Additional details regarding the disposal facility, treatment for Land Disposal Restrictions (LDRs), and storage locations prior to disposal have been added to Section 5 of the Closure Plan. Waste generated from this closure activity will be disposed at ERDF or an approved RCRA TSD unit in accordance with DOE/RL-2010-102, Action Memorandum for Decontamination, Deactivation, Decommissioning, and Demolition (D4) Activities for 200 East Tier 2 Buildings/Structures and TPA-CN-722. Three methods have also been included in Section 5.1.2 that determine how the waste will be treated.

Yakama Nation comment

Clarify and include following: All non-compliances or deviations from actions specified in the Closure Plan are to be reported to Ecology. Clarify that all current maintenance activities are likewise subject to RCRA oversight.

Ecology Response

In accordance with Permit Condition V.33.A, the Permittees shall comply with all requirements set forth in the Hanford Facility Resource Conservation and Recovery Act Permit (Permit) as specified in Permit Attachment 9, Permit Applicability Matrix, including all approved modifications. All addenda, subsections, figures, tables, and appendices included in the Unit-Group Permit Conditions are enforceable in their entirety. In the event that the Part V, Unit-Group Conditions for Closure Unit 33, PUREX Tanks TK-P4 and TK-40 conflict with the Part I Standard Conditions and/or Part II General Facility Conditions of the Permit, the Unit-Group Conditions will prevail for Closure Unit 33, PUREX Tanks TK-P4 and TK-40. The Closure Plan also states "If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830 to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 OU." During deactivation, all of the tanks in the 203A acid storage area, including tank TK-P4, were flushed and emptied to a minimum heel and their associated piping was drained, as stated in 17530-96-028, "Completion of the PUREX Deactivation End Points Associated with Flushing/Draining of the 203A Vessels". Since that time, the 203A acid storage area has been part of an ongoing surveillance and maintenance (S&M) program for the PUREX facility and therefore isolated from utilities and other structures (DOE/RL-98-35, Surveillance and Maintenance Plan for the Plutonium-Uranium Extraction (PUREX) Facility).

Yakama Nation comment

Edit to include following text: *Decisions to leave at or below-grade structures in place must be done consistent for RCRA permitting requirements and with Ecology concurrence.*

Ecology Response

Section 4.2 of the Closure Plan states "Tanks TK-P4 and TK-40 are abovegrade and will be clean closed by removing the storage tanks and the concrete secondary containment structures which will meet the requirements of WAC 173-303-610(2)(b)(ii). In accordance with WAC 173-303-610(2)(b)(i), the clean closure levels for soil will be the numeric cleanup levels calculated using

unrestricted use exposure assumptions in accordance with MTCA." If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830 to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 OU.

Yakama Nation comment

Provide WAC 173-303 references within appropriate sections, e.g., WAC 173-303-630-Containers.

Ecology Response

WAC references have been added throughout Section 5 of the Closure Plan.

Yakama Nation comment

Provide footnote references for decontamination operations conducted on the TK-P4 and TK-40 tanks.

Ecology Response

DOE/RL-2010-102, Action Memorandum for Decontamination, Deactivation, Decommissioning, and Demolition (D4) Activities for 200 East Tier 2 Buildings/Structures and TPA-CN-722 has been referenced at the end of Section 5.1.

Yakama Nation comment

Clarify how the waste profile maybe adjusted. Any new waste codes cannot be assigned without a modification to the Part A form.

Ecology Response

This unit chapter does not include a Part A form. Waste codes are explained in Section 1.3, Waste Inventory and Characteristics. If the waste profile is adjusted, a permit modification will need to be submitted to Ecology in accordance with WAC 173-303-830.

Yakama Nation comment

Clarify specific treatments to be used for each anticipated form of demolition wastes. Provide details as to how and where treatment activities will be conducted.

Ecology Response

Facility demolition and disposal is described in Section 5.1 of the Closure Plan. Section 5.1.3 contains information on the secondary containment structure demolition and soil removal. Treatment for disposal (if required) will be performed at ERDF and is described in Section 5.2.4.

Yakama Nation comment

Clarify maximum wind speeds for application of dust fixatives.

Ecology Response

Requirements for fugitive dust control are located in WAC 173-400 and have been incorporated into the Air Operating Permit for the entire Hanford Site.

Yakama Nation comment

Include training matrix tables for personnel. Include the minimum training requirements for all samplers. See Attachment #2 for additional details.

Ecology Response

Section 5.4 describes health and safety requirements. Section 5.5 contains Table 4 (Personnel Training Matrix for PUREX Tanks TK-P4 and TK-40). This training matrix describes training requirements for all samplers.

Yakama Nation comment

Edit recordkeeping to clarify compliance with WAC 173-303-380 requirement and include that these records will be placed in the Administrative Record for the unit. Include statement that sampling logbooks, sampling data, and training records will also be retained in the unit's Administrative Record. Clarify which information regarding newly generated wastes, etc will be recorded in the Hanford Site Waste Information Tracking system, and recorded unit-specific facility operating record.

Ecology Response

The permittees will keep records in the Operating Record according to the Part II.I Permit Condition of the Hanford Site-wide Permit. Specifically, within the PUREX Tanks TK-P4 and TK-40 Closure Plan, Section 6.2.6 describes documents and records associated with the Closure Plan. Section 9, Certification of Closure, also describes the documentation that will be included in the Administrative Record including documents related to sampling. Specifically, Section 9 states that the documentation of removal and final disposition of all dangerous wastes and waste residues, including contaminated environmental media, and debris (as applicable) will be observed and recorded by the Independent Qualified Registered Professional Engineer (IQRPE) in a written report. This report will be retained in the operating record. Training information is described in Section 5.4. Training records are maintained for each employee in an electronic training record database. The permittee training organization maintains the training records system and training records for personnel will be kept until Ecology approves certification of closure for PUREX Tanks TK-P4 and TK-40.

Yakama Nation comment

Chapter 6:

Confirm that the observational approach will be applied to the vertical and lateral extent of contamination above clean closure levels.

Ecology Response

Section 6.2 describes the sampling design and section 6.2.1 describes the sampling methods and handling. Grab samples will be collected and placed into containers at the chosen node sample locations.

Yakama Nation comment

Develop a unit-specific QA/QC plan (see Attachment #3) to ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented which includes data verification criteria such that it can determined whether each individual data element is acceptable for its intended decision-making purpose. Ensure the QA/QC plan contains a Data Quality Assurance Plan. Data that do not meet the acceptance criteria must be rejected, even if the Ecology notification and discussion takes place as described. The Quality Assurance Project Plan should also address the circumstance when the quantity of acceptable data fails to meet the completeness criterion established as part of the date acceptance tests, and what corrective action is to be taken when the completeness criterion is not met.

Ecology Response

Ecology believes that the Closure Plan has unit specific QA/QC information. The following sections provide this in detail. Section 6.1 describes the closure sampling and analysis plan. Sampling and analysis activities will meet applicable requirements of the most current versions of SW-846, ASTM standards, EPA-approved methods, and DOE/RL-96-68, Hanford Analytical Services Quality Assurance Requirements Document (HASQARD). This SAP was also developed using Section 7.0 in Ecology Publication 94-111 (Guidance for Clean Closure of Dangerous Waste Facilities) and EPA/240/R-02/005 (Guidance on Choosing a Sampling Design for Environmental Data Collection for use in Developing a Quality Assurance Project Plan). In addition, Section 6.2.2 describes analytical methods, Section 6.2.3 describes quality control, Section 6.2.4 describes data verification, Section 6.2.5 describes data validation, and Section 6.2.6 describes documents and records. If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to this SAP will be submitted no later than 30 days after the unexpected event as a RCRA permit modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830. In addition, the components of the USEPA Data Quality Objective Seven-Step DQO process were incorporated into the Closure Plan and reviewed by Ecology. Publication EPA QA/G-4 is the Guidance on Systematic Planning Using the Data Quality Objectives Process. The Guidance can be found at the following link: https://www.epa.gov/sites/production/files/documents/guidance_systematic_planning dqo process.pdf

Yakama Nation comment

Clarify that should a target analyte be detected at or above clean closure levels but less than the PQL or the analytical method, the lab will be asked to evaluate and lower the PQL.

Ecology Response

Section 6.2.2 states "The approved laboratory must achieve the lowest practical quantitation limit consistent with the selected analytical method for each constituent to confirm clean closure levels. If a target analyte is detected at or above clean closure level but less than the PQL of the analytical method, Ecology will be notified, and alternatives will be discussed to demonstrate clean closure level."

Yakama Nation comment

Edit Table 1-Target Analyte List to include Tributyl phosphate.

Ecology Response

Tributyl phosphate has been added as a target analyte to Table 1 and throughout the closure plan.

Yakama Nation comment

More details are needed for clarification that the information will be documented in the Hanford Facility Operating Records and maintained until final closure of the facility including completion of any required post closure care or corrective action.

Ecology Response

The permittees will keep records in the Operating Record according to the Part II.I Permit Condition of the Hanford Site-wide Permit. Section 9 describes the certification of closure for PUREX Tanks TK-P4 and TK-40 and Section 11 describes the post-closure plan. The closure strategy is to attain clean closure of PUREX Tanks TK-P4 and TK-40. If clean closure is not achieved, then a revised closure plan will be provided within 180 days after the permittee has demonstrated that not all contaminated soils can be practicably removed or decontaminated.

Yakama Nation comment

Include results of data reviews as part of the minimum information to be placed in the Administrative record to support closure certification and Ecology determinations.

Ecology Response

Section 9, Closure Certification, includes the review of sampling procedures and results by an IQRPE for certification of closure. The permittees will keep records in the Operating Record according to the Part II.I Permit Condition of the Hanford Site-wide Permit.

Yakama Nation comment

Clarify which field changes made during sampling are considered unexpected events and how they are to be dealt with.

Ecology Response

Section 6.2.7 states, "If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to this SAP will be submitted no later than 30 days after the unexpected event as a RCRA permit modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830."

Yakama Nation comment

Clarify that all data-not just the listed analytes-will be entered into HEIS.

Ecology Response

Section 6.2.4 describe data verification and explains that analytical results will be received from the laboratory, loaded into a database (Hanford Environmental Information System (HEIS)) and verified.

Yakama Nation comment

Clarify the following are included (edit as necessary) as information to be retained:

- Confirmation records.
- Waste information (e.g. manifest numbers).
- Waste sampling records and associated documentation.
- Laboratory records and associated documentation.
- Documentation regarding waste re-evaluation frequencies.
- Special waste analysis requirement documentation.

Ecology Response

Section 6.2.6 describes documents and records related to the closure plan. Records may be stored in either electronic or hard copy format. Documentation and records, regardless of medium or format are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records will be kept for five years after Ecology approves clean closure certification.

Yakama Nation comment

Edit to include immediate (or within 7 days) notification to Ecology of corrective actions applied to field activities.

Ecology Response

The permittees will keep records in the Operating Record according to the Part II.I Permit Condition of the Hanford Site-wide Permit.

Yakama Nation comment

Clarify if the following are evaluated: The parameters for which each environmental media sample will be analyzed and the rationale for selecting these parameters and the frequency with which analysis of a waste will be reviewed, or repeated, to ensure that the analysis is accurate and current. [WAC 173-303-300(5)(a)]

Ecology Response

Section 6 states: "The sampling design includes input parameters used to determine the number and location of samples. Sampling for both tanks will be coordinated with the CERCLA removal action work plan (DOE/RL-2016-47, Removal Action Work Plan for the PUREX Complex Tier 2 Buildings/Structures). The data quality objectives are included within this closure plan and follow the systematic process outlined in EPA/240/B-06/001, Guidance on Systematic Planning Using the Data Quality Objectives Process (EPA QA/G-4)".

Yakama Nation comment

Ensure unfiltered sampling occurs.

Ecology Response

Unfiltered sampling only applies to groundwater samples. Groundwater samples will not be taken, so unfiltered sampling will not be performed.

Yakama Nation comment

Edit to state compliance with WAC 173-303-610(2) (a) and (b). As stated, requirements are incomplete.

Ecology Response

WAC 173-303-610(2)(a)(ii) has been referenced in Section 6.1. WAC 173-303-610(2)(b)(i) through(ii) has been referenced in Section 3, and Section 4.2.

Yakama Nation comment

Sampling schedule based on Table 5 is inadequate. See comments on Chapter 8 and Table 5.

Ecology Response

The schedule (Figure 6) has been updated with more detail and interim steps.

Yakama Nation comment

Chapter 7:

Rewrite to clarify that a contingent post-closure plan be will only be required should it be demonstrated that all contaminated soils cannot be practicably removed, at which the tank system is considered to be a landfill and subject to closure requirements for landfills (WAC 173-303-640(8)(b)) and that this demonstration is subject to Ecology review and concurrence.

Ecology Response

The following text has been added to Section 7, Contingent Closure Plan: "If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830 to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 OU".

Yakama Nation comment

Chapter 8:

Delete text; and replace *with following: In accordance with WAC 173-303-610(4)(b) closure activities will be completed no more than 180 days after the start of closure. Should unexpected circumstances arise and an extension to the 180 day closure activity expiration date be deemed necessary, a Class 1 Prime permit modification will be submitted to Ecology for approval at least 30 days prior to the 180 day expiration date, in accordance with WAC 173-303-610(4)(c) and WAC 173-303-830, Appendix I. Section D. 1.b The extension request would also demonstrate that all steps to prevent threats to HHE, including compliance with all applicable permit requirements and criteria, have been and will continue to be taken.*

Ecology Response

Section 8 states, "Should unexpected circumstances arise and an extension to the 180-day closure activity expiration date be deemed necessary, a Class 1 prime Permit modification request will be submitted to Ecology for approval at least 30 days prior to the 180-day expiration date in accordance with WAC 173-303-610(4)(c) and WAC 173-303-830, Appendix I, 'Modifications.' The extension request would also demonstrate that all steps to prevent threats to HHE, including compliance with all applicable Permit requirements and criteria in WAC 173-303-610(4)(b)(i) or (ii) have and will be taken."

Yakama Nation comment

Table 5:

The schedule presented lacks the necessary information (dates, actions, etc) to comply with WAC 173-303-610 requirements. Provide these details. The regulations require description of the steps needed to remove structures and confirmation of compliance with WAC 173-303-610. Provide more details regarding closure actions to be performed in each phase (e.g., potential types of removal equipment and its installation, removal of structures and soils, safety procedures, waste handling, storage, and packaging, sampling, etc).

Ecology Response

The schedule (Figure 6) has been updated with more detail and interim steps.

Yakama Nation comment

Provide additional detail descriptions regarding all waste management and disposal activities to clarify compliance with WAC 173-303-170 thru WAC 173-303-230 requirements. It is unclear how these regulations are being met.

Ecology Response

Additional information has been added to section 5.1.2. This section now includes treatment options if a heel is found, and designates as dangerous waste. Three methods have also been listed for characterizing tank debris. Section 5.1.3 now includes steps that will be taken to manage secondary containment demolition waste. More detail has also been added to Section 5.1.4 on decontamination of equipment. If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830 to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 OU. The waste site will be added to the list of 200-CP-1 waste sites. The remedial decision will decide if additional closure actions will be performed and may include clean closure by removal of soil, or development of a post closure plan for closure as a landfill.

Yakama Nation comment

Chapter 9:

RCRA closure activities will be completed when the Performance Standards have been achieved. RCRA closure requires attainment of performance standards which will not be attained until completion of the CERCLA remediation (WAC 173-303-610(2)(a)(ii).

Ecology Response

Section 3, Closure Performance Standards, states "The standards for closure of PUREX tanks TK-P4 and TK-40 will be in accordance with the requirements of WAC 173-303-610 and WAC 173-303-640". WAC 173-303-610(2)(a)(i) through(iii) has also been referenced in this section.

Yakama Nation comment

Clarify that the IQRPE's report will be retained in the unit specific operating record and the Administrative Record. Include following bullet as review documents for IQRPE: *Unit(s) inspection records and documentation of remedial actions taken in response spills and releases*.

Ecology Response

The permittees will keep records in the Operating Record according to the Part II.I Permit Condition of the Hanford Site-wide Permit. Section 9, Certification of Closure, states, "The IQRPE will record the observations and reviews in a written report that will be retained in the operating record. The resulting report will be used to develop the clean closure certification, which will then be provided to Ecology."

Yakama Nation comment

Chapter 10:

Delete statement that a post-closure plan will be prepared, etc. See above comment on use of observational approach to sampling and edit closure plan to reflect continued soil removals as necessary to achieve unrestricted use standards. Clarify the only need for a post-closure plan is to remediate impacts to groundwater.

Ecology Response

The statement that a post-closure plan will be provided has been removed. A new statement has been added stating "If sampling and analysis of the soil underlying tanks TK-P4 and TK-40 show that the closure performance standards cannot be achieved, a permit modification will be prepared in accordance with WAC 173-303-610(3)(b) and WAC 173-303-830 to modify the closure plan so that RCRA closure is coordinated with the 200-CP-1 OU."

Yakama Nation comment

Attachment 3 (See Attachment 3)

Ecology Response

The components of the USEPA Data Quality Objective Seven-Step DQO process were incorporated into the Closure Plan and reviewed by Ecology. Publication EPA QA/G-4 is the Guidance on Systematic Planning Using the Data Quality Objectives Process. The Guidance can be found at the following link:
https://www.epa.gov/sites/production/files/documents/guidance_systematic_planning dqo process.pdf

Attachment 2: Training Matrix Table

Attachment # 2:

Training Category*							
Permit Attachment 5 Training Category	General Hanford Facility training	Contingency Plan training	Emergency Coordinator Training	Operations & Closure Training			
PUREX	Orientation Program	Emergency Response (contingency plan)	Emergency Coordinator Training	General Waste Manage-ment	Container Manage-ment	Landfill	Ground Water Monitoring
Job title/position							
Regulatory Compliance Staff	X	X		X	X	X	X
Nuclear Chemical Operator	X	X		X	X	X	
Environmental Compliance Officer	X			X			
Operations Supervisor	X	X	X	X	X	X	
Non-Resident Waste Service Provider	X			X	X		
Non-Resident Sampler	X			X			
Field Groundwater Sampler	X	X		X			X
Groundwater well security & maintenance.		X					X
Equipment type [e.g., pumps, monitoring & sampling equipment], operational procedures and equipment maintenance.		X					X
Collecting, packaging & shipping of samples to field & off-site labs (including special requirements for collecting and packaging samples containing volatile organic materials that require acid preservatives or special filtering).		X					X
Chain of custody							X
Surveillance Personnel	X	X		X	X	X	X
Security inspections		X					
Surface inspections		X					
Benchmark inspections		X					
Groundwater Well inspections		X					X
Inspection of erosion damage & vegetative		X					X

cover.							
Replacement procedures for emergency & monitoring equipment		X					X
Well installation activities	X	X		X		X	X

Attachment 3: QA/QC Plan

Attachment #3:
YN requests review and inclusion of the following (or equivalent) text in the development of a QA/QC Plan:

A quality assurance/quality control (QA/QC) plan, or equivalent, to document all monitoring procedures to ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented. Each QA/QC plan shall include, or contain a reference to another document, which will be used and includes, the elements as defined.

Each QA/QC plan shall contain a Data Quality Assurance Plan that includes the following:

- Data Collection Strategy section including, but not limited to, the following:
- A description of the intended uses for the data, and the necessary level of precision and accuracy for those intended uses; and,
- A description of methods and procedures to be used to assess the precision, accuracy, and completeness of the measurement data;
- Sampling section that shall include or describe, and reference or cite:
- Criteria for selecting appropriate sampling locations, depths, etc., or identification and justification of sample collection;
- Sampling methods including the identification of sampling equipment and a description of decontamination procedures to be used;
- Criteria for providing a statistically sufficient number of samples as defined in EPA guidance, or criteria for determining a technically sufficient number of measurements to meet the needs of the project as determined through the Data Quality Objective (DQO) planning process;
- Methods for, or specification of, measuring all necessary ancillary data;
- Criteria for establishing, or specification of, which parameters are to be measured at each sample collection point, and the frequency that each parameter is to be measured;
- Criteria for, or specification of, identifying the type of sampling (e.g., discrete), and number of samples to be collected;
- Criteria for, or specification of, measures to be taken to prevent contamination of the sampling equipment and cross contamination between sampling points;
- Methods and documentation of field sampling operations and procedure descriptions, as appropriate, including:
- Procedure descriptions and forms for recording the exact location, sampling conditions, sampling equipment, and visual condition of samples;
- Calibration of field devices (as applicable);
- Collection of replicate samples;
- Submission of field-biased blanks, where appropriate;
- Potential interferences present at the facility;
- Field equipment listing and sample containers;
- Sampling order; and,
- Descriptions of decontamination procedures.
- Selection of appropriate sample containers, as applicable;
- Sample preservation methods, as applicable; and,
- Chain-of-custody procedure descriptions as applicable, including:
- Standardized field tracking reporting forms to establish sample custody in the field prior to, and during shipment; and,
- Pre-prepared sample labels containing all information necessary for effective sample tracking, except where such information is generated in the field, in which case, blank spaces shall be provided on the pre-prepared sampling label.

- Certification that all samples obtained for analysis will be delivered to a responsible person, at the recipient laboratory, who is authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;
- Provision for a laboratory sample custody log; and,
- Specification of chain-of-custody procedures for sample handling, storage, and disbursement for analysis.
- Sample storage procedure descriptions and storage times;
- Sample preparation methods;
- Descriptions of analytical procedures, including:
- Scope and application of the procedure;
- Sample matrix;
- Potential interferences;
- Precision and accuracy of the methodology; and,
- Method detection limits.
- Descriptions of calibration procedures and frequency;
- Data reduction, validation, and reporting;
- Internal laboratory quality control checks, laboratory performance, and systems audits and frequency, include:
  - Method blank(s);
  - Laboratory control sample(s);
  - Calibration check sample(s);
  - Replicate sample(s);
  - Matrix-spiked sample(s);
  - "Blind" quality control;
  - Control charts;
  - Surrogate samples;
- Each QA/QC plan shall include a Data Management Plan, or equivalent, to document and track data and results.[WAC 173-303-380(1)(f)]. This plan shall identify and establish data documentation materials and procedures, project or unit file requirements, and project-related progress reporting procedures and documents. The storage location for the raw data shall be identified. The plan shall also provide the format to be used to record and, for projects, present the validated and invalidated data and conclusions.
- The Data Management Plan shall include the following as applicable:
- A data record including the following:
- Unique sample or field measurement code;
- Sampling or field measurement location including surveyed horizontal coordinates and elevation of the sample location, and sample or measurement type;
- Sampling or field measurement raw data;
- Laboratory analysis identification (ID) number;
- Result of analysis (e.g., concentration);
- Tabular displays, as appropriate, illustrating:
- Unsorted validated and invalidated data;
- Results for each medium and each constituent monitored;
- Data reduction for statistical analysis;
- Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and,
- Summary data.
- Graphical displays (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.), as appropriate, presenting the following:

- Displays of sampling location and sampling grid;
- Identification of boundaries of sampling area and areas where more data is required;
- Displays of concentrations of contamination at each sampling location;
- Displays of geographical extent of contamination;
- Aerial and vertical displays of contamination concentrations, concentration averages, and concentration maxima, including isoconcentration maps for contaminants found in environmental media at the Facility;
- Illustrations of changes in concentration in relation to distance from the source, time, depth, or other parameters;
- Identification of features affecting intramedia transport and identification of potential receptors.

QA personnel and technical experts evaluate the laboratory through onsite observations and/or reviews of the following documentation: copies of the QA/QC documents; records of surveillances/inspections; audits; non-conformances, and corrective actions. The 276-BA Organic Storage Area TK-ISO East operating organization ensures independent organizations; QA personnel and technical experts are qualified to perform these evaluations.

The overriding goal of the analytical program is to support the accurate designation of waste and/or demonstrate compliance to LDR standards. The certified laboratory QA/QC programs will be designed to meet the following objectives:
Minimize errors. Errors may be introduced during preparative, analytical, and/or reporting phases of work. QC program elements include analyses of samples in accordance with procedures.

The designation of waste relies on a combination of Knowledge, historical data, and additional analytical data. Laboratory QA/QC programs ensure accurate, precise, reliable, and reproducible data.

Key QA program elements are designed to provide objective evidence that waste analysis methods meet the performance specifications. QA activities and implementation responsibilities are as follows:

- Activity based laboratory inspections. Inspections will be performed by trained operating unit operating personnel. Inspections verify that specific guidelines, specifications, and procedures for the activities are completed successfully.
- Laboratory analyses. Analyses will be performed by onsite or offsite laboratories on samples of waste using procedures identified in Table 3.
- Development of inspection checklists. Checklists are required for laboratory inspections and are designed to ensure that the inspected activity is consistently addressed. Checklists will be completed during the inspection to document results.
- Instrument calibration and calibration verification. These activities are performed by the laboratory and are required for ensuring data of known accuracy and precision. Calibration data will be maintained and stored to ensure traceability to reported results.
- Laboratory QA/QC inspection results and instrumental calibrations will be documented in the unit-specific Administrative Record files.

Laboratory Quality Assurance/Quality Control
All analytical work will be defined and controlled by a statement of work or work order. These authorization documents will include QA/QC performance requirements. Samples will be handled according to controlled laboratory procedures. The accuracy, precision, and limitations of the analytical data are evaluated through QC performance parameters.

The unit group's operating organization will conduct review analyses to determine completeness of information and whether waste meets the acceptance criteria for treatment, storage, or disposal at one of the Hanford Facility TSD units or those of a chosen offsite TSD facility.

Data Assessment

Data used for decision making will be scientifically sound, of known quality, and thoroughly documented. Data will be assessed to determine compliance with the following:

Precision – The overall precision will be the agreement among the collected samples (duplicates) for the same parameters, at the same location, subjected to the same preparative and analytical techniques. Analytical precision will be the agreement among individual test portions taken from the same sample, for the same parameters, subjected to the same preparative and analytical techniques.

Accuracy – Accuracy of the measurement system will be evaluated by using QA samples, including certified standards, in-house standards, and proficiency testing samples.

Representativeness – Representativeness addresses the degree to which the data accurately and precisely represent a real characterization of the waste stream, parameter variation at a sampling point, sampling conditions and the environmental conditions at the time of sampling. The issue of representativeness is addressed for the following points:

- Based on the generating process, the waste stream, and its volume, there is an adequate number of sampling locations selected;
- The representativeness of selected media has been defined accurately;
- The sampling and analytical methodologies as defined in Table 3;
- The environmental conditions at the time of sampling will be documented in accordance with
- recordkeeping requirements.

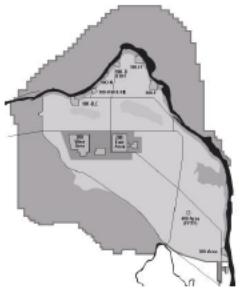
Completeness – Completeness is the amount of usable data obtained from a measurement system compared to the total amount of data requested. The degree of completeness required for decision making must be defined in the statement of work or work order.

Comparability – Comparability is the confidence with which one data set can be compared to another. When comparability of data sets is a defined basis for decision making, the confidence level requirement must be specified in the statement of work or work order.

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



Fact Sheet

Proposed Permit Changes to Hanford's Dangerous Waste Management Area at the Plutonium-Uranium Extraction Plant (PUREX)

The U.S. Department of Energy Richland Operations Office (DOE-RL) is holding a 60-day comment period on a proposed change to the Hanford Facility's Dangerous Waste Permit. This change proposes that two storage tanks located near the PUREX Plant, be closed by removing the tanks, associated ancillary equipment, and secondary containment structures and up to one meter of soil beneath the structures. This closure plan will be a Class 3 modification to the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit. Class 3 permit changes call for a 60-day comment period led by the permittee (DOE) and a public meeting, followed by a 45-day comment period led by the Washington Department of Ecology.

July 2016 **U.S. Department of Energy**

Background

The Plutonium-Uranium Extraction Plant (PUREX) is located in the 200 East Area of the Hanford Site, as shown in Figure 1. PUREX was the fifth and final processing canyon built at Hanford and was used to recover plutonium from irradiated fuel rods. PUREX began operations in 1956 and ran until 1972, and again from 1983 until 1988.

The PUREX facility is comprised of the PUREX canyon building (202A), two storage tunnels, several support structures including chemical storage areas, cribs, and retention basins. Two of the PUREX support areas, the 203A acid storage area and the 211A chemical storage area, housed chemical storage tank systems, including tanks TK-P4 and TK-40 and associated ancillary equipment.

The PUREX Plant tank systems were used to treat liquids generated during the PUREX process, for acceptance to the double-shell tank system.

The 203A acid storage area and the 211A chemical storage area are located north of the PUREX canyon building (202A). Tank TK-P4 is a 106,000 gallon tank located in the southeast corner of the 203A acid storage area. Tank TK-40 is a 65,000 gallon tank located in the northeast corner of the 211A chemical storage area (see Figure 2). Both contain reinforced-concrete, diked secondary containment structures (see Figure 3).

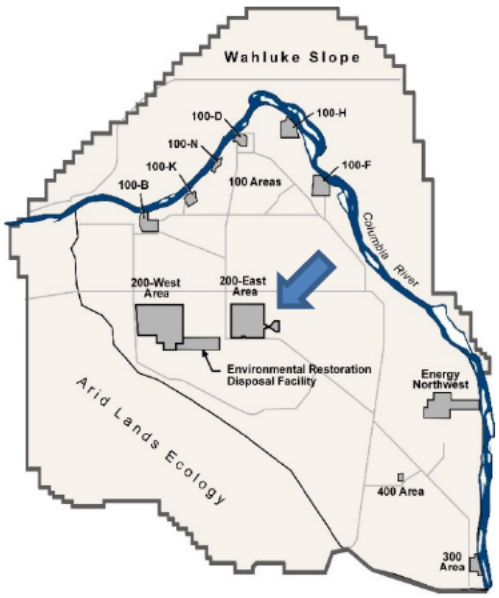
Tank TK-P4, located in the 203A acid storage area, was used to store recovered uranyl nitrate hexahydrate resulting from PUREX fuel reprocessing operations. Tank TK-40, in the 211A north tank area, was used to store slightly contaminated tributyl phosphate organic solvent.

Class 3 Modifications:

Class 3 permit modifications address changes that substantially alter a facility or its operations.

Class 3 modifications require two public participation opportunities:

- A minimum 60-day public comment period on the permit modification request, including a public meeting.
- A minimum 45-day public comment period on the permitting decision.



During the 1990s the PUREX Plant transitioned from operations to a deactivation mission. During deactivation, tanks TK-P4 and TK-40 were flushed and emptied to the lowest achievable volume, with minimal residual waste left in the tanks. Since 1998 both of the tanks have been under the Surveillance and Maintenance activities described in *DOE/RL-98-35, Surveillance and Maintenance Plan for PUREX*, while awaiting final disposition.

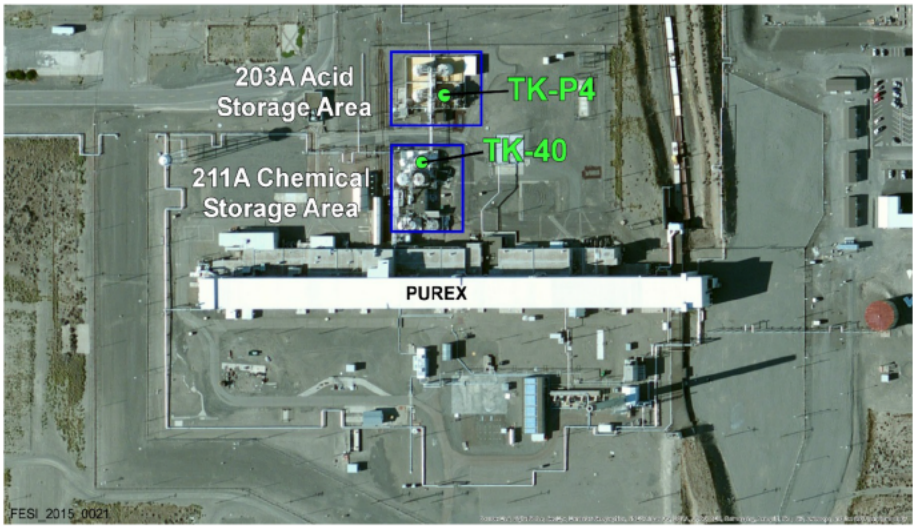
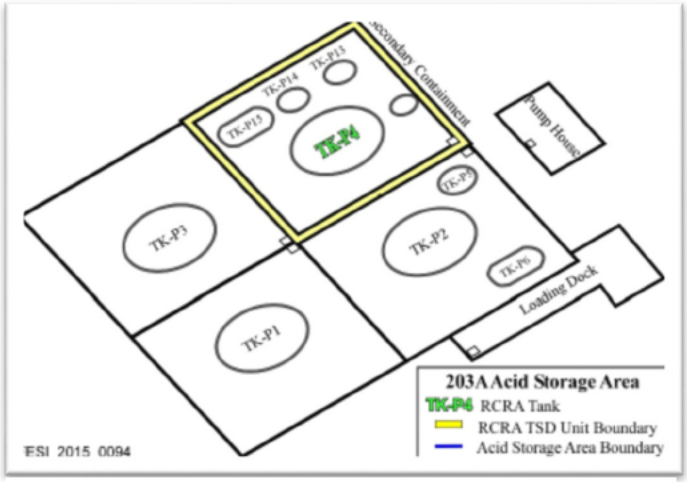


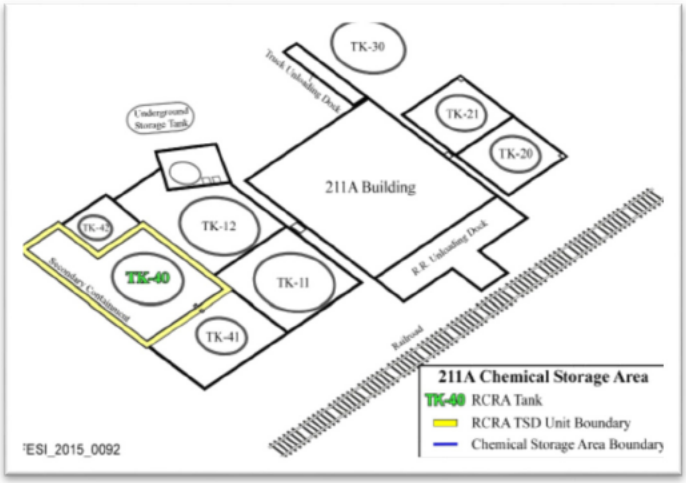
Figure 2: Tanks TK-P4 and TK-40, located in the 203A and 211A storage areas at the PUREX Plant

Proposed Closure Strategy

Under the proposed closure plan the tanks, associated ancillary equipment, the secondary containment structures, and the soil beneath the containment structures will be "clean closed". As required by Section 6.3.1 of the Tri-Party Agreement Action Plan, soil sampling must demonstrate that the soil was not adversely affected by operations. Additionally, the closure performance standards of Washington Administrative Code (WAC) 173-303-610(2)(a)(i) through (iii) require that closure will accomplish the following objectives:

- Minimize the need for future maintenance
- Control, minimize, or eliminate post-closure escape of dangerous waste/dangerous waste constituents to the ground, surface water, groundwater, or the atmosphere to the extent necessary to protect human health and the environment
- Return the land to the appearance and use of surrounding land areas





Tanks TK-P4 and TK-40 are above grade and will be clean closed by first removing the insulation on the outside of the tanks, which contains suspected asbestos, using current asbestos removal procedures that will be performed in accordance with methods approved by the regulators. After the asbestos is safely removed, the tanks will be opened and contents verified, and absorbents added to stabilize any remaining liquids in the tanks. Following that, the tanks will be cut into pieces at their current location using appropriate containment measures and protective controls, such as barriers or additional temporary containment structures. After the size reduction, the storage tanks, concrete secondary containment structures and the soil beneath the

containment structure to a depth of up to 3 ft (1 m) will be removed and disposed of, to meet the requirements of WAC 173-303-610(2)(b)(ii). After removal, sampling of the area beneath the Resource Conservation and Recovery Act (RCRA) tank containment area will be sampled as detailed in the closure plan to confirm clean closure standards in WAC 173-303-610(2)(b)(i) have been met.

Waste will be treated and disposed of to meet all applicable requirements in WAC 173-303-140, "Land Disposal Restrictions," and, by reference, 40 CFR 268, "Land Disposal Restrictions," prior to disposal at the Hanford Site Environmental Restoration Disposal Facility (ERDF), in accordance with ERDF waste acceptance criteria, or an approved RCRA treatment, storage and disposal unit.

The DOE-RL contact person for this permit modification request is Rich Buel, (509) 376-3375. The Washington Department of Ecology (Ecology) contact person is Stephanie Schleif, (509) 372-7929.

The permittees' compliance history during the life of the permit being modified is available from Ecology.

Copies of the permit modification request and supporting documentation are available at the Administrative Record, 2440 Stevens Drive, Richland, WA.

Alternatively, the proposed permit modifications and supporting documents can be accessed online: http://bit.ly/29CAHQs

How you can get involved

Comment period – July 18 through September 16, 2016
Public meeting – August 31, 5:30 pm, Richland Library (955 Northgate Drive)
Please submit comments by *September 16, 2016* to:

Stephanie Schleif
Washington State Department of Ecology
3100 Port of Benton Blvd
Richland, WA 99354
Email: Hanford@ecy.wa.gov
Phone: 509-372-7929

U.S. Department of Energy
Richland Operations Office
P.O. Box 550, A7-75
Richland, WA 99352

The documents are available for review at the Public Information Repositories listed below

HANFORD PUBLIC INFORMATION REPOSITORY LOCATIONS

Portland
Portland State University Library
Government Information
Branford Price Millar Library – LIBW
PO Box 1151
Portland, OR 97207-1151
Attn: Claudia Irla (503) 725-4542
Map: http://bit.ly/1K7BfuK

Richland
U.S. Department of Energy Public Reading Room
Washington State University, Tri-Cities
Consolidated Information Center, Room 101-L
2770 University Drive
Richland, WA 99352
Attn: Janice Scarano (509) 375-7443
Map: http://bit.ly/1LpZKUa

Seattle
University of Washington
Suzzallo Library
Box 352900
Seattle, WA 98195-2900
Attn: Hilary Reinert c/o ARCS
(206) 543-5597
Map: http://bit.ly/1QMtUog

Spokane
Gonzaga University
Foley Center Library
East 502 Boone Avenue
Spokane, WA 99258
Attn: John Spencer (509) 313-6110
Map: http://bit.ly/1Cp0mRT

Administrative Record and Public Information Repository
2440 Stevens Center Place, Room 1101, Richland, WA
509-376-2530
http://pdw.hanford.gov/arpir/

Washington invalidates common mortgage provision

Ruling found that provisions standard in mortgage documents around U.S. conflict with state law

Provisions allow for lenders to change locks, winterize homes, take other steps to preserve value of properties

State first in nation to invalidate provisions

Associated Press

Consumer groups say a recent ruling from the Washington Supreme Court could have a broad effect on how mortgage companies respond when homeowners miss payments.

Associated Press

SEATTLE

Laura Jordan came home from work one day to find herself locked out. She had missed two mortgage payments, and the company servicing her loan had changed the locks without warning.

In a ruling this month, the Washington Supreme Court found that action illegal — a decision that clears the way for a federal class-action case that Jordan brought on behalf of at least 3,600 borrowers in the state, and one that could have broad ramifications on how some lenders respond when homeowners miss payments.

"This is criminal trespass and theft, and it should be treated as such," said Sheila O'Sullivan, executive director of the Northwest Consumer Law Center. "There's no basis for them to walk in and change the locks on a person's home until they have foreclosed. It's an important ruling."

The mortgage industry is wrestling with the significance of the 6-3 ruling, which found that provisions standard in mortgage documents around the country conflict with state law. The provisions allow for lenders to change locks, winterize homes or take other steps to preserve the value of properties that are in default or abandoned.

> "THERE'S NO BASIS FOR THEM TO WALK IN AND CHANGE THE LOCKS ON A PERSON'S HOME UNTIL THEY HAVE FORECLOSED. IT'S AN IMPORTANT RULING.
>
> *Sheila O'Sullivan, executive director of the Northwest Consumer Law Center*

In a friend-of-the-court brief, the Federal Home Loan Mortgage Corporation — better known as Freddie Mac — highlighted the importance of such provisions in maintaining its collateral and avoiding blight that might harm property values in a neighborhood.

But the court held that they violate state law, which prohibits lenders from taking possession of property before foreclosure. The court addressed the question at the request of a federal judge in Spokane, who is overseeing the class action.

Washington appears to be the first state in the nation that has invalidated the provisions, the plaintiffs' lawyers say, and consumer advocates say other states could follow suit or that the ruling could inspire additional class-action lawsuits.

In Jordan's case, Dallas-based Nationstar Mortgage hired a vendor to inspect her Wenatchee property in 2011 after she missed a couple of mortgage payments in 2011. The vendor posted a notice on the door saying the property was "unsecure or vacant," prompting the company to have the locks changed. Jordan, a dental hygienist, argues that she was still living there, and that when she got home from work, she found herself locked out. The new key to the house was in a lock-box, and she had to call Nationstar to get the combination to retrieve it.

Nationstar said it was evaluating whether to ask the court to reconsider to narrow the impact of the decision.

Associated Press

Baton Rouge police block a highway on Sunday after officers were shot in Baton Rouge, La.

BATON ROUGE, LA.

3 officers killed in shooting

3 other officers also wounded

Shooting came amid tensions across country between blacks, police

Suspect killed at scene

Associated Press

BATON ROUGE, LA.

Three Baton Rouge law enforcement officers investigating a report of a man with an assault rifle were killed Sunday, less than two weeks after a black man was fatally shot by police in a confrontation that sparked nightly protests that reverberated nationwide.

Three other officers were wounded, one critically. Police said the gunman was killed at the scene. Although he was believed to be the only person who fired at officers, authorities said they were unsure whether he had some kind of help.

"We are not ready to say he acted alone," state police spokesman Major Doug Cain said. Two "persons of interest" were detained in the nearby town of Addis.

A law enforcement official familiar with the investigation identified the shooter as Gavin Long, a 29-year-old Kansas City, Mo., man. The official spoke on condition of anonymity because the official was not authorized to discuss an ongoing investigation.

Kansas City police, some with guns drawn, converged on a house listed as Long's.

The University of Alabama issued a statement saying that Long attended classes for one semester in spring 2012. School spokesman Chris Bryant said university police had no interactions with him.

One witness described a gunman who was wearing all black and carrying extra clips of ammunition. The races of the suspect and the officers were not immediately known.

The shooting — which took place just before 9 a.m., less than a mile from police headquarters — came amid escalating tensions across the country between the black community and police. Just days earlier, one of the slain officers posted an emotional Facebook message about the challenges of police work in the current environment.

It was the fourth high-profile deadly encounter in the United States involving police during the past two weeks. In all, the violence has cost the lives of eight officers, including those in Baton Rouge, and two civilians, and sparked a national debate over race and policing.

Authorities initially believed that other assailants might be at large, but hours later said that no other active shooters were on the loose. They did not discuss the gunman's motive or any relationship to the wider police conflicts.

SHERIFF: 3 DEAD, 1 WOUNDED IN STATE SHOOTINGS

WOODLAND

The Clark County Sheriff's Office said a 35-year-old man suspected of killing three people in a home near Woodland is in custody.

Authorities said Brent Luyster was arrested without incident Saturday afternoon in the deaths of two men and a woman the night before. A second woman is hospitalized with a gunshot wound.

The Columbian newspaper reported that Luyster was scheduled for trial today in Cowlitz County Superior Court on allegations that he pistol-whipped his ex-girlfriend at his Longview home. He pleaded innocent in May to charges of assault, harassment and illegal firearm possession.

The Anti-Defamation League, which fights anti-Semitism and other bigotry, has identified Luyster and his brother as white supremacists.

SHOSHONE-BANNOCK TRIBE OPPOSED IDAHO'S LEGAL REACH

BOISE

Leaders with the Shoshone-Bannock Tribe say they no longer want Idaho to extend its legal reach onto their reservation land.

Nearly a half century ago, U.S. Congress passed a law known as "Public Law 280," which allowed Idaho to have jurisdiction over the Shoshone-Bannocks in seven areas previously held by the federal government — these included road management, juvenile justice and mental health services.

However, tribal members say the law has failed, citing that the state has never provided those resources directly on the reservation. Members also argue that the law prohibits the tribe from pursuing federal funding to build up its own resources because the state is supposed to be in charge of overseeing it.

Leaders are now calling for an abandonment of the policy, and some state lawmakers are interested. The state's auditing agency is studying the effects of a retrocession.

POOP-SNIFFING DOG FINDS HUMAN WASTE IN WATERWAYS

BELLINGHAM

A dog trained to sniff out water pollution has detected human waste in many of the water samples taken from Whatcom County waterways.

A Whatcom County official, Erika Douglas, says the dog Crush found the presence of fecal coliform bacteria from people in about two-thirds of 58 sites. A lab confirmed the contamination.

The Bellingham Herald reported that officials are using the information to pinpoint the pollution source and to prioritize cleanup.

Douglas says that using poop-sniffing dogs is one of many tools used to clean up waterways, and has some limitations. The dogs can't detect waste from wildlife or livestock, or determine how much bacteria is in the water.

— TRI-CITY HERALD AND NEWS SERVICES

Subject:	Notice of Upcoming Public Comment Period on Proposed Closure Plan for the PUREX Tanks TK-P4 and TK-40
From:	"^TPA" <TPA@RL.GOV>
Reply To:	DOE1@RL.GOV
Date:	Thu, 16 Jun 2016 20:22:59 +0000
Content-Type:	multipart/alternative
Parts/Attachments:	text/plain (2572 bytes) , text/html (5 kB)

This is a notice from the U.S. Department of Energy

Notice of Upcoming Public Comment Period on Proposed Closure Plan for the PUREX Tanks TK-P4 and TK-40

The U.S. Department of Energy (DOE) Richland Operations Office (RL) plans to propose a change to the Hanford Facility Dangerous Waste Permit to close two chemical storage tanks located near the Plutonium Uranium Extraction (PUREX) Plant.

The PUREX Plant is located in the 200 East Area of the Hanford Site in Washington state. PUREX was one of five large chemical processing facilities and was used to recover plutonium from irradiated fuel rods. PUREX is comprised of the PUREX canyon building, two storage tunnels, and several outside support structures including chemical storage areas, cribs and retention basins. Two of the PUREX support areas, the 203A acid storage area and the 211A chemical storage area, housed systems of chemical storage tanks, including tanks TK-P4 and TK-40, and associated ancillary equipment. The tanks supplied chemicals to PUREX.

Tank TK-P4 is a stainless-steel tank located in the 203A acid storage area. As a part of deactivation, all tanks in the 203A acid storage area were flushed and emptied to a minimum level and their associated piping was drained. Since it was emptied, the 203A acid storage area has been part of an ongoing surveillance and maintenance program for the PUREX Plant.

Tank TK-40 is a carbon-steel tank located in the 211A chemical storage area. In 1996, the tank was flushed and emptied to a minimum level.

DOE is proposing closure of both tanks by complete removal. After the tanks and the surrounding structures are removed and disposed of in Hanford's Environmental Restoration Disposal Facility (ERDF), the existing slab will be removed and sampling performed to demonstrate that clean-closure requirements have been met.

DOE is releasing the PUREX tanks TK-P4 and TK-40 closure plan for public comment. This closure plan will be processed as a Class 3 modification to the dangerous waste permit. Class 3 permit changes call for a 60-day comment period on the proposal led by the permittee (DOE), and a public meeting. This will be followed at a later date by an Ecology-led 45-day comment period on the draft permit change.

The DOE contact person for this permit change is Rich Buel, (509)376-3375. The Washington State Department of Ecology contact person is Stephanie Schleif, (509)372-7929.

Subject:	NOTICE: Public comment starts today regarding the proposed closure plan for PUREX tanks TK-P4 and TK-40
From:	"^TPA" <TPA@RL.GOV>
Reply To:	DOE1@RL.GOV
Date:	Mon, 18 Jul 2016 22:04:38 +0000
Content-Type:	multipart/mixed
Parts/Attachments:	text/plain (2165 bytes) , text/html (7 kB) , PUREX Tank Closure Fact Sheet.pdf (1004 kB)

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

Notice of Public Comment Period on Proposed Closure Plan for the PUREX Tanks TK-P4 and TK-40

The U.S. Department of Energy Richland Operations Office (DOE-RL) is holding a 60-day comment period on proposed Class 3 modifications to the Hanford Facility Dangerous Waste Permit. These changes are to close the Plutonium-Uranium Extraction (PUREX) Plant tanks TK-P4 and TK-40. Tanks TK-P4 and TK-40 are located on the North side of the PUREX complex, outside of the main PUREX Plant building (202A).

This closure plan will be processed as a Class 3 modification to the dangerous waste permit. Class 3 permit changes call for a 60-day comment period on the proposal led by the permittee (DOE), and a public meeting. This will be followed at a later date by an Ecology-led, 45-day comment period on the draft permit change.

The public comment period will run from **July 18, 2016 through September 16, 2016**. A public meeting will be held on August 31, 2016, at 5:30 pm at the Richland Public Library.

DOE-RL and the Washington State Department of Ecology want your input to help make the final cleanup decision! Submit comments by September 16, 2016, in writing, by mail, or electronically (preferred) to:

Stephanie Schleif
Washington State Department of Ecology
3100 Port of Benton Blvd
Richland, WA 99354
Email: Hanford@ecy.wa.gov
Phone: 509-372-7950

The DOE contact person for this permit change is Rich Buel, 509-376-3375. The Washington State Department of Ecology contact person is Stephanie Schleif, 509-372-7929.

The permittees' compliance history during the life of the permit being modified is available from the Washington State Department of Ecology contact person. Copies of the permit modification request and supporting documentation are available at the Administrative Record, 2440 Stevens Drive, Richland, WA. Alternatively, the proposed permit modifications and supporting documents can be accessed online: http://bit.ly/29CAHQs

For more information, please see the fact sheet attached or at this link:
http://www.hanford.gov/files.cfm/PUREX_Tank_Closure_Fact_Sheet.pdf

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