



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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May 26, 2011

11-NWP-047

Mr. Scott L. Samuelson, Manager
United States Department of Energy
Office of River Protection
P.O. Box 450, MSIN: H6-60
Richland, Washington 99352

Re: Review of *241-C Tank Farm – Tank Removal Study*, RPP-RPT-47167, Revision 0

Reference: Letter 10-TPD-166, dated December 28, 2010, from T. W. Fletcher, USDOE-ORP, to J. A. Hedges, Ecology, “Submittal of Documentation in Fulfillment of Hanford Federal Facility Agreement and Consent Order (HFFACO) Milestones M-045-80 and M-045-81”

Dear Mr. Samuelson:

The Department of Ecology reviewed the *241-C Tank Farm – Tank Removal Study*. The enclosed Review Comment Record contains our comments. Disposition of these comments and revision of the study can be discussed in the Waste Management Area C Farm Closure meetings.

If there are any questions, contact me at 509-372-7914 or Michelle Hendrickson, PE, at 509-372-7970.

Sincerely,

Jeffery J. Lyon
Tank Waste Storage Project Manager
Nuclear Waste Program

mh/aa

cc w/enc:

Dennis Faulk, EPA
Chris Kemp, USDOE
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Environmental Portal
Hanford Operating Record General File
USDOE-ORP Correspondence Control



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bcc electronic w/enc:

Jane Hedges, Ecology
Michelle Hendrickson, Ecology
Jeff Lyon, Ecology
John Price, Ecology
Hans Qiu, Ecology
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NWP Central File

bcc w/o enc:

NWP Reader File

REVIEW COMMENT RECORD

Date	Review No.
Project No.	Page 1 of 5

Document Number(s)/Title(s) 241 Tank Farm - Tank Removal Study, RPP-RPT-47167, Revision 0	Program/Project/Building Number	Reviewer Brenda Jentzen Doug Hendrickson Nancy Uziemblo Ginger Wireman Michelle Hendrickson	Organization/Group	Location/Phone
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Comment Submittal Approval: Jeff Lyon Organization Manager (Optional)	Agreement with indicated comment disposition(s): Status:
Michelle Hendrickson Reviewer/Point of Contract	Reviewer/Point of Contact
Date	5/12/11 Date
Michelle Hendrickson Author/Originator	Author/Originator

Item	Page #	Comment (s)(Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	Hold Point	Disposition (Provide justification if NOT accepted.)	Status
1.	General Comment	<p>Comment: Clarify how the "Tank Removal Evaluation" will meet the demonstration requirements in WAC 173-303-640 (8)(b) (that such a removal or decontamination cannot be practicably achieved)</p> <p>Modification needed: Include a feasibility evaluation to evaluate the ability to remove the 100-Series tanks in WMA C after retrieval operations per TPA Milestone M-45-00. WRPS/USDOE-ORP has included residual soil contamination and ancillary equipment. Better describe several of the constraints discussed, providing additional information on how these constraints cumulatively make tank, soil, and ancillary equipment removal impracticably achievable. Add the following constraints to this document:</p> <ul style="list-style-type: none"> • How waste exhumed will be processed to meet LDR requirements for disposal. • What disposal locations for High Level Waste (HLW) or what additional regulatory requirements, additions to scheduling are needed to determine if the residual waste is not HLW. • What additional changes to the ERDF Waste Acceptance Criteria would 			

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Item	Page #	Comment (s)(Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	Hold Point	Disposition (Provide justification if NOT accepted.)	Status
		<p>be needed to send TRU/M waste from Tank Closure activities.</p> <ul style="list-style-type: none"> • The study does not present the challenge to excavate down to groundwater and chase the contamination plume(s) past the tank farm fence to remove all contamination and "Clean Close the farm". • The study discusses removal of the top 42-ft within the tank farm fencing and does not address the contamination beyond this arbitrary boundary, add the health and safety, schedule, and financial constraints for removing contamination that has migrated out the fence line boundary. • The study does not discuss the requirements (health and safety, schedule and financial) for placing a landfill cover or cap to close the farm once the top 42-ft have been removed (partial clean closure) to cover the waste remaining in place. <p>Also, to fully assess and discuss in depth the practicality of this remedial action/corrective measure alternative elaborate on the following:</p> <ul style="list-style-type: none"> • ALARA and the exposure received by the various workers to remove the SSTs, ancillary equipment, and contaminated soils in WMA C. List the exposures based on working in other farms with similar process history and the actual doses that workers experience for retrieval/closure activities and operations now. Also list the other health and safety challenges associated with a demolition and construction project of this size. Compare the health and safety requirements of the different exposure scenarios as outlined from the additional alternatives listed above. • Address public exposure/dose of partial clean closure with landfill closure vs. full removal alternatives. 			
2.	Page ii, first bullet	<p>Comment: We are quite good at digging additional cells at ERDF. Clarify this as a project constraint.</p> <p>Modification needed: Remove the statement that "This would occupy approximately 6/10ths the volume of one Environmental Restoration</p>			

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Item	Page #	Comment (s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	Hold Point	Disposition (Provide justification if NOT accepted.)	Status
3.	Page 1-1, first sentence of first paragraph	<p>Disposal Facility disposal cell:</p> <p>Comment: This sentence notes that this document supports the milestone requirements.</p> <p>Modification needed: Re-phrase the sentence indicating that this study meets the TPA requirements of M-45-80(3). State how this engineering and feasibility evaluation meets this TPA requirement and the guidance of the closure demonstration plan as noted in chapter 2.</p>			
4.	Page 1-1, first paragraph	<p>Comment: It is unclear what the basis or method was used for cost and schedule estimating.</p> <p>Modification needed: Discuss the type of cost and schedule estimating guidance used and the general approach for calculating the dose/exposure of each alternative listed above.</p>			
5.	Page 1-1, first paragraph	<p>Comment: The document discusses tank removal in conjunction with removal of contaminated soils and/or ancillary equipment in places. However, a systematic approach addressing each of the three topics is not present in the text.</p> <p>Modification needed: Be consistent with your approach for listing contaminated soils, ancillary equipment and tank removal.</p>			
6.	Page 2-2, bullets	<p>Comment: Assumptions are missing for the removal of contaminated soils around tanks.</p> <p>Modification needed: Add assumptions to the removal of lateral soils between tanks as noted above and add bullets for septic tanks and tile fields and deep vadose zone soils.</p>			
7.	Page 3-2, 2 nd paragraph	<p>Comment: It is unclear how the characterization of the B-BX-BY and T-TX-TY affect the estimates made for WMA C's tank removal.</p> <p>Modification needed: Provide characterization data for C Farm, rather than just referencing the B-BX-BY and T, TX and TY efforts.</p>			

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8.	Page 3-2, 3 rd paragraph	Comment: "technical approach" is the wrong descriptive terminology. Modification needed: Modify the first sentence to read "This soil corrective action alternative would require that a..."			
9.	Page 3-7, last sent of paragraph	Comment: Why would the debris be washed and leached, and not just encapsulated and disposed? Modification needed: Provide a basis.			
10.	Page 3-7, 1 st bullet of second set	Comment: The cumulative dose to workers is approximately twice as high for ancillary equipment as tank removal. Modification needed: Provide a basis.			
11.	Page 4-1, 1 st paragraph	Comment: The 6 th sentence of the paragraph notes that C Farm fence is the assumed boundary of the study. However, the contamination extends beyond the fenceline. Modification needed: In your evaluations of clean closure and partial clean closure alternatives, clarify if there are additional impacts from the contamination from C Farm regardless of location of soil contamination.			
12.	Page 4-1, bullets	Comment: The bulleted list does not include structures and facilities. Modification needed: Add facilities and above ground structures to the bulleted listing.			
13.	Page 4-2, Figure 4-1	Comment: The 2008 Aerial photo is no longer accurate. Modification needed: Update the Aerial photo with a current one.			
14.	Page 4-8, Section 4.8, Page 6-1, Section 6-2	Comment: Again, the UPRs outside of the farm fence line should be included in this feasibility or removal study. Modification needed: Include these in your evaluation.			
15.	Page 5-1, bullets	Comment: HFFACO is not a regulation as the sentence above states, but does support the regulatory process.			

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16.	Page 5-1, bullets	<p>Modification needed: Change this to clarify the purpose of HFFACO.</p> <p>Comment: Under Section 4(b)(1) of the Occupational Safety and Health Act of 1970 and Section 161(f)(3) of the Atomic Energy Act of 1954, employees of DOE government-owned, contractor-operated (GOCO) facilities are exempted from OSHA enforcement activity.</p>			
17.	Page 5-1, Section 5.0	<p>Modification needed: Clarify the applicability of OSHA.</p> <p>Comment: It is not beyond the scope of this report to include a full listing of all potentially applicable laws, regulations, and requirements.</p>			
18.	Page 6-1, Section 6.1, Bullet #1	<p>Modification needed: Modify this section to include a full listing of potentially applicable laws, regulations, and other requirements.</p> <p>Comment: From sampled tank residuals, it is found that the remaining waste is not necessarily 1% of the BBI tank inventory prior to initiating waste retrieval. The waste inventory remaining in the tanks can be accurately determined from samples tank after end of retrieval or contents extrapolated from analyzed residuals from similar tanks.</p>			
19.	Page 6-1, Section 6.2 4 th bullet	<p>Modification needed: Restate to use actual tank residuals sample results for determining remaining tank inventory or extrapolated from residual waste analyses.</p> <p>Comment: The depth of tank farm contamination is presently being determined through, for example, direct push sampling. It cannot be determined at this time if excavation and removal of 5 ft of soil will be sufficient to capture the majority of long-lived immobile contaminants associated with past leaks.</p> <p>Modification needed: Explain that depth of contamination might be able to be approximated at 5 ft for enabling assumption but actual depth is to be determined.</p>			