



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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July 27, 2020

20-NWP-125

Brian A. Harkins, Deputy Assistant Manager  
Tank Farms Division  
Office of River Protection  
United States Department of Energy  
PO Box 450, MSIN: H6-60  
Richland, Washington 99352

Re: Completion of Tri-Party Agreement Milestone M-045-93

Reference: Letter 20-TF-0032, dated June 12, 2020, "Completion of Tri-Party Agreement Milestone M-045-93"

Dear Brian A. Harkins:

The Department of Ecology (Ecology) reviewed the Single-Shell Tank Liquids Retrieval Study, RPP-RPT-62098, Revision 0. This report did not fully meet our expectations and the intent of the Selective Retrieval Tri-Party Agreement Milestone M-045-93. Enclosed are our comments and concerns that we would like to discuss with you to develop a path forward.

Reducing the amount of drainable liquids in the Single-Shell Tanks will reduce the potential risk if future tank leaks occur. Ecology considers selective retrieval an important, cost effective approach to reduce the possibility of future tank leaks and alleviating corrosion potential.

Ecology would like to meet soon with the United States Department of Energy to discuss the Selective Retrieval concept and other contingency planning options.

If you have any questions or concerns, please contact me at [jeff.lyon@ecy.wa.gov](mailto:jeff.lyon@ecy.wa.gov) or (509) 372-7914.

Sincerely,

Menard,  
Nina (ECY)

Digitally signed by  
Menard, Nina (ECY)  
Date: 2020.07.27  
09:02:43 -07'00'

for

Jeffery J. Lyon  
Tank Systems Operation & Closure Project Manager  
Nuclear Waste Program

kr/aa  
Enclosure

cc: See page 2

cc electronic w/enc.:

David Einan, EPA  
Robert Hastings, USDOE-ORP  
Jeremy Johnson, USDOE-ORP  
Rod Lobos, USDOE-ORP  
Dustin Stewart USDOE-ORP  
Jon Perry, MSA  
Paul Rutledge, WRPS  
Eric Van Mason, WRPS  
Mason Murphy, CTUIR  
Jack Bell, NPT  
Rex Buck, Jr., Wanapum  
Laurene Contreras, YN  
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Caroline Cress, AGO  
Jim Alzheimer, Ecology  
Mike Barnes, Ecology  
Jeff Lyon, Ecology  
Nina Menard, Ecology  
Kyle Rucker, Ecology  
Devon Silva, Ecology  
Maria Skorska, Ecology  
Alex Smith, Ecology  
NWP RIM Coordinators, Ecology  
Environmental Portal  
Hanford Administrative Record  
Hanford Facility Operating Record  
MSA Correspondence Control  
USDOE-ORP Correspondence Control  
EPA Region 10 Hanford Field Office Correspondence Control  
WRPS Correspondence Control



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		listed technology method over the other subcomponents. One approach to do this is to list each tank and categorize the tanks into similar waste/tank properties; list the technology subcomponent that would be the primary retrieval method for the tank and then list the secondary retrieval method.			
4.	General Comment	M-045-93 to (3) requests a <u>sequence</u> for removing drainable liquid from the tanks identified in the SST Liquids Report. Selective Retrieval is intended to remove drainable liquids in a separate activity from complete waste retrieval and should be considered for tanks that have significant drainable liquids but are not scheduled for complete waste retrieval for a long time in the future. The sequence should consider the best approach to reduce the overall risk of new tank leaks considering both the volume and composition of the drainable liquids in each tank and the best understanding of when the complete tank retrieval is currently planned. Some of the responses to this request may have been met by the cited references but the key point of these references should be presented in this study. The study identifies 149 SSTs in twelve tank farms that contain radioactive and chemical process waste, and the tank waste can be present in seven combinations of waste forms. Assuming many of the SSTs will have some volume and combination of supernatant and interstitial liquid, variability between the tanks is expected. Different sequencing of retrieval approaches using a			

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		toolbox of the retrieval technology subcomponents and steps would therefore, be expected to vary between SSTs to meet retrieval goals and schedules			
5.	General Comment	Ranking of alternatives did not consider 95% of drainable liquids are not supernatant. Include this consideration and ranking.			
6.	General Comment	Identify a reasonable volume of remaining drainable liquids. This may be on a tank-by-tank basis or as a technology efficiency.			
7.	General Comment	The document should include using selective retrieval as a potential and viable option to respond to a Single Shell Tank with a newly discovered liner leak in a timely manner. Include consideration of an SST leak response, and identifying the necessary equipment and procedures prior to leak detection would expedite a response.			
8.	Section 3.0	Nine technologies were evaluated with two being further evaluated for the ability to remove free liquid and two being further evaluated to remove interstitial liquid. One technology was then chosen as the preferred technology. This assumes all tanks would use the same method and only one method will be used per tank. Include a phased approach and a tank by tank evaluation of appropriate and applicable technologies determined to be effective in liquid removal.			
9.	Section 3.0	The criteria used to evaluate the option were likelihood of success, design maturity, as low as reasonably achievable (ALARA), and reliability and complexity. Definitions of each are provided in the report. These criteria are not sufficient. Some examples of items not considered include cost, short term effectiveness at reducing risk, regulatory compliance, stakeholder acceptance, management of			

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		the wastes generated and schedule. Include these criteria.			
10.	Section 3.0	Much is missing from the discussion of single-pass ventilation. There are both RCRA permitting and air permitting issues associated with single-pass ventilation. Include the scope and implementation of regulatory requirements.			
11.	Section 3.0 and A4.0	List of technologies considered is limited. Single-Pass ventilation with condensate recover which is being used currently for example was not considered. Were international nuclear consortium studies reviewed, were industry technical organizations contacted? Were any of these technologies identified as favorable but when evaluated for applicability at Hanford were not selected? Please include the scope of your review and technologies that were considered in the determination. If the review was restricted or there were constraints that limited a broader review, please identify the gap in identifying the potential technologies. If there are other opportunities that would benefit the removal of liquids include those recommendations.			
12.	Section A5.0 and A6.0	Four ranking measurements are identified with specifics touched on in each of the four category descriptions. Develop and include a detailed appendix table, expanding the ranking system and include the subcomponents in each of the four categories. Include footnotes and descriptions to explain the ranking logic. Some examples include engineering complexity, constructability, regulatory permits, waste streams and disposal locations, estimate effectiveness including retrieval durations, and cost.			