STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Richland Field Office
3100 Port of Benton Blvd., Richland, WA 99354 • 509-372-7950

June 9, 2025 25-NWP-084

Ricky Bang, Acting Assistant Manager
Tank Waste Operations
Hanford Field Office
United States Department of Energy
PO Box 550
Richland, WA 99352

Re: Transmittal of the Department of Ecology's Review Comment Record (RCR) for the B Tank Farm Interim Surface Barrier Design and the *Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program*, RPP-RPT-61684, Revision 5

References: See page 2

Dear Ricky Bang:

The Department of Ecology (Ecology) is transmitting comments for the B Tank Farm Interim Surface Barrier Design and RPP-RPT-61684, Revision 5, *Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program* (Reference 1). Ecology acknowledges that we required an extension to complete our review. Ecology transmitted a letter to ensure the United States Department of Energy was informed appropriately (Reference 2).

Enclosed is the RCR with Ecology's comments.

We appreciate your review of these comments and look forward to resolving them at your earliest convenience.

If you have any questions, please contact Cathrene Glick, Lead Hydrogeologist, at (509) 209-7444 or cathrene.glick@ecy.wa.gov or Luissa Johnston, SST Coordinator, at (509) 975-1285 or luissa.johnston@ecy.wa.gov.

Sincerely,

Elizabeth A. Rochette

Digitally signed by Rochette, Beth (ECY)
Date: 2025.06.09 11:40:47 -07'00'

Elizabeth A. Rochette
Cleanup Section Manager
Nuclear Waste Program

lj/bp
Enclosure

cc: See page 2

References:

1. Letter 25-TWO-0029, dated March 10, 2025, "The U.S. Department of Energy, Hanford Field Office Submittal of the B Tank Farm Interim Surface Barrier Design and RPP-RPT-61684, 'Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program,' Revision 5"
2. Letter 25-NWP-049, dated March 24, 2025, "Extension of the Department of Ecology's Comment Review Period for the *B Tank Farm Interim Surface Barrier Design and Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program*, RPP-RPT-61684, Rev. 5"

cc electronic w/enc:

Dave Einan, EPA
Michelle Mullin, EPA
Scott Anderson, H2C
Deanna Klages, H2C
Mark Knight, H2C
Marc Levitt, H2C
Kliss McNeel, H2C
Ruben Mendoza, H2C
Carly Nelson, H2C
Andrew Purvis, H2C
Katie Roberts, H2C
Frank Sullivan, H2C
Jon Perry, HMIS
Michael Turner, HMIS
Mason Murphy, CTUIR
Anthony Smith, NPT
Alyssa Buck, Wanapum
Laurene Contreras, YN
ERWM Staff, YN
Susan Coleman, HAB
David Reeploeg, Hanford Communities
Max Woods, ODOE
Jackson Davis, Ecology
Cathrene Glick, Ecology
Edward Holbrook, Ecology
Luissa Johnston, Ecology
Marissa Merker, Ecology
Steve Needles, Ecology
Eric Pierce, Ecology
Beth Rochette, Ecology
Jonathan Rogers, Ecology
Stephanie Schleif, Ecology
John Temple, Ecology
Environmental Portal
Hanford Administrative Record
Hanford Facility Operating Record
H2C Correspondence Control
HAB Correspondence Control
HMIS Correspondence Control
USDOE Correspondence Control

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Document Title(s)/Number(s): *241-B Tank Farm Interim Surface Barrier Design and Maintenace and Performance Monitoring Plan for ISB Program* RPP-RPT-61684 Rev. 5

Document Manager	Telephone Number	Project Manager	Telephone Number	Facility Site ID	Cleanup Site ID
Luissa Johnston					

Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	Permittee Response	Ecology Response	Open/Close	Reviewer Initials
1	Attachment 1 25-TWO-0029 Engr. Data. Plan Sheets 13, 14, 19, and 22	Call out on plan sheets indicate “Leak Detection Alarm/Monitoring Station Footing. Station to be removed by ECN-719102”.	Provide information pertaining ECN-719102 for clarification that removal of leak detection system modifications.	Clarification for tank monitoring applications.				
	Attachment 3 25-TWO-0029 RPP-SPEC-66599 Rev.00	Paragraph B describes tapered panels for cold joints, but instead of the EPA recommended 3-meters, document states tapered panels will be 1 to 9 feet. EPA’s innovative technology evaluation report, EPA/540/R-03/505, *Evaluation of Wilder Construction Company's MatCon Cover Technology:* At the TCL site, a crack at a cold joint appeared after a prolonged period of cold weather in January 2000. The edge of the asphalt application is typically more difficult to compact because there is no lateral support for the roller. When the asphalt is hot, the edges weld together properly. However, an edge that is allowed to cool overnight is then very difficult to bond to the next day’s first application of asphalt. In addition, it is especially difficult to increase density in the cold joint area. The result is a zone along the cold joint that may be poorly compacted. Raveling, or separation of aggregate particle fines from the surface or edges of the compacted asphalt, can occur in these zones. Although WCC has determined that poor quality workmanship was the cause, a better design has since been developed to overcome the raveling and reduce dependency on workmanship. A wedge-shaped cold joint panel (3-meters wide) proved to be a good design in terms of bonding and providing a good impermeable mat. The new design includes removal of some material and a heavy tack coating. The crack that appeared at the cold joint at the TCL site was routed and sealed. The zone along the cold joint, about 3 feet wide (0.91	Please read EPA/540/R-03/505, *Evaluation of Wilder Construction Company's MatCon Cover Technology* and incorporate the findings.	Case study				

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		meter), was sealed with mastic to decrease the permeability by filling the surface voids. When this EPA report was previously brought to permittees attention on T-Farm the RCR response stated the report was about asphalt and not Matcon. This is incorrect. I'm concerned that not enough attention is being given to comments or responses.						
2	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05	RPP-RPT-61684 is a Primary Document that requires Ecology approval. The last approved version of RPP-RPT-61684 is Rev 3B dated April 25, 2023. Any inferred conditions/changes incorporated by DOE in Rev 4 (not issued to Ecology) and Rev 4A (submitted with T-Farm ISB design package) which are now incorporated into the current Rev 5 are not approved including the implied termination of subsurface monitoring for T-Farm ISB and the exclusion of subsurface monitoring for B-Farm ISB.	There is no intended/approved suspension or termination of subsurface monitoring for the T-Farm ISB and there is no intended/approved exclusion of subsurface monitoring for the B-Farm ISB and any language or reference to these conditions either carried over from Rev 4 or Rev 4A or newly presented in Rev 5 are to be removed from the document. Ecology proposes to suspend/eliminate the data-intensive time consuming process of the capacitance probes, the thermistors, and the heat dissipation probe monitoring (a cost savings to DOE) and a change in the dry well logging regime that currently focus on one or two tank sites to a more site-wide spatial monitoring array of the tank farm which could provide greater assurance that the ISB is performing. In addition Ecology proposes that the dry well logging could be reduced from quarterly/semi-annual to (1) annually for new ISBs for a period of 2 years – to document initial soil moisture changes and (2) then each existing tank farm could be monitoring on a 5-year cycle (would allow greater resolution of the variations in moisture over time). We could go from only 2-4 wells at a couple sites (currently focused in individual tanks) to more like 6-10 spatially distributed across the tank farms.	RPP-RPT-61684 is a Primary Document that requires Ecology approval. The last approved version of RPP-RPT-61684 is Rev 3B dated April 25, 2023. Ecology has not approved any discontinuance of drywell logging monitoring as suggested in Rev 4 (not provided to ecology) or as stated in Rev 4A or Rev 5.				
3	Attachment 5 25-TWO-0029	Version History includes reference to Rev.4 "Add language to remove subsurface	Since Rev 4 was never submitted to Ecology and was never approved, there is	RPP-RPT-61684 is a Primary Document that				

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	RPP-RPT-61684, Rev. 05 Pages iv-vi	monitoring from T Farm Barrier and remove T Farm subsurface monitoring sections". RPP-RPT-61684 is a Primary Document that requires Ecology approval. The last approved version of RPP-RPT-61684 is Rev 3B dated April 25, 2023 which continues subsurface monitoring for T-Farm ISB.	no approved suspension or termination of subsurface monitoring for the T-Farm ISB and the language included in table is inaccurate and Ecology does not approve the exclusion of drywell logging for B-Farm ISB. Remove any language or reference to suspension or termination of subsurface monitoring for the T-Farm or B-Farm ISB as a factual condition.	requires Ecology approval. The last approved version of RPP-RPT-61684 is Rev 3B dated April 25, 2023.				
4	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05, Pg. 1 Section 1.1 4th paragraph	The text reads "A limitation of ISBs is that the impact of an ISB in mitigating contaminant migration downward through the vadose zone diminishes with depth." This seems to suggest that it is important to monitor the full thickness of the vadose zone beneath the area (footprint) of the ISB.	Recommend subsurface monitoring be included as part of the performance monitoring of the ISB at the B-Farm.					
5	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05, Pg. 2, 1st paragraph	The text reads "ISB systems can slow waste migration but cannot remove, treat, or eliminate the leaked waste or its associated hazards." Because the ISBs do not remove, treat, or eliminate waste or associated contaminants, it seems important to monitor the effectiveness of the ISBs through subsurface vadose zone monitoring over the service-life of the ISB.	Recommend subsurface monitoring be included as part of the performance monitoring of the ISB at the B-Farm.					
6	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05, Pg. 10,	The text reads "During the removal of the T Tank Farm polyurea ISB and installation of the modified asphalt replacement ISB, all the historic monitoring equipment will be removed, and subsurface monitoring will be terminated."	Recommend subsurface monitoring be included as part of the performance monitoring of the ISB at the B-Farm.					

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	Section 4.1, Last Paragraph First Sentence	Recommend subsurface monitoring of the vadose zone beneath the replacement ISB should be performed during the 25-year service life period, in order to continue monitoring performance/assess performance.						
7	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05, Pg. 10, Section 4.1, Last Paragraph First Sentence	Text reads “During the removal of the T Tank Farm polyurea ISB and installation of the modified asphalt replacement ISB, all the historic monitoring equipment will be removed, and subsurface monitoring will be terminated.” The language included is inaccurate.	Recommend continuing subsurface monitoring.	RPP-RPT-61684 is a Primary Document that requires Ecology approval. The last approved version of RPP-RPT-61684 is Rev 3B dated April 25, 2023.				
8	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05, Pg. 10, Section 4.1, Last Paragraph Last Sentence	Text reads “Consistent with Ecology approved ISB designs for TX Tank Farm and U Tank Farm, and previously approved revisions of the Maintenance and Performance Monitoring Plans (this plan), no subsurface monitoring equipment will be installed at the replacement ISB for T Tank Farm, and subsurface monitoring there will not be resumed”. The language included is inaccurate as there has been no conversation or agreement to not have subsurface monitoring for T-Farm ISB.	There is no approved suspension or termination of subsurface monitoring for the T-Farm ISB and the language included is inaccurate. Remove any language or reference to suspension or termination of subsurface monitoring for the T-Farm ISB.	RPP-RPT-61684 is a Primary Document that requires Ecology approval. The last approved version of RPP-RPT-61684 is Rev 3B dated April 25, 2023. Given the historic SST leaks/releases at T-Farm, and the reason for the current Agreed Order for an ISB upgrade at T-Farm, subsurface monitoring at T-Farm is definitely warranted.				
9	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05, Pg. 19, Section 9.1, 1st Paragraph Last Sentence	The text reads “…the B Tank Farm ISB design is not expected to include subsurface performance monitoring.” Recommend subsurface monitoring be included as part of the performance monitoring of the ISB at the B-Farm.	Recommend subsurface monitoring be included as part of the performance monitoring of the ISB at the B-Farm.					

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10	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05, Pg. 19, Section 9.1, 1st Paragraph Last Sentence	Text reads "Based off the TX Tank Farm and U Tank Farm Ecology approved designs and previous revisions of the Maintenance and Performance Monitoring Plan (this plan), the B Tank Farm ISB design is not expected to include subsurface performance monitoring." The language included is inaccurate as there has been no conversation or agreement to not have subsurface monitoring for B-Farm ISB.	The language included is inaccurate as there has been no conversation or agreement to not have subsurface monitoring for B-Farm ISB. Remove any language or reference to omission of subsurface monitoring for the B-Farm ISB.	Given the historic SST leaks/releases at B-Farm, and the reason for the current Agreed Order for an ISB at B-Farm, subsurface monitoring at B-Farm is definitely warranted.				
11	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05 Pg. 20 Section 10 3rd Paragraph	Text reads "Additional materials and technologies for controlling moisture levels in the vadose zone below the ISBs will be considered and reported on in the HFFACO milestone M-045-92 Annual Report as new data and information become available." Text suggests that the ISBs are not capable of controlling moisture beneath the ISBs which is a contradiction to the what the stated purpose of the ISBs is (primary to promote runoff and to reduce percolation/infiltration of surface water into the subsurface soils and that other means and methods are required to achieve this function. This statement further confirms the necessitity for continued and prolonged subsurface vadose zone monitoring to determine variances (positive and negative) in the soil moisture conditions beneath the ISBs	Provide clarification to this statement suggesting and/or indicating that other means and methods are required to reduce percolation/infiltration of surface water into the subsurface soils for controlling moisture levels in the vadose zone below the ISBs.	Clarification on the effectiveness of the ISBs to control subsurface soil moisture conditions.				
12	Attachment 5 25-TWO-0029 RPP-RPT-61684 Rev. 05, Pg. 20,	The text reads "Additional materials and technologies for controlling moisture levels in the vadose zone below the ISBs will be considered…" How will it be determined what additional materials or technologies will be needed to	Suggest monitoring the full thickness of the vadose zone beneath the footprint of the B-Farm ISB.					

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	Section 10.0, 3rd paragraph	further control moisture levels in the vadose zone beneath the ISB, when subsurface vadose zone monitoring is not being performed to collect this data?						
13	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05, Pg. 20, Section 11, 1st Paragraph	Text reads “To continue to assess the ISBs, quarterly visual inspection walkdowns, annual environmental surveillance, and maintenance activities will be completed and reported on within an annual ISB report to meet HFFACO Milestone M-045-92 requirements. The performance monitoring data collected at TY and SX Tank Farms will track the performance of those ISBs.” Text is in error and does not include subsurface monitoring that will occur at T-Farm and B-Farm ISBs.	Revisit text to include performce monitoring/subsurface monitoring that will occur at T-Farm and B-Farm ISBs.	Correction to text.				
14	Attachment 5 25-TWO-0029 RPP-RPT-61684, Rev. 05, Pg. 20, Section 11, 2nd Paragraph 3rd & 4th Bullett	Bulletted text reads : • Results of maintenance performed/scheduled (if applicable) • Performance monitoring results (if applicable) Reporting these findings, observations, and engineering assessment of conditions is required and not “if applicable”.	Revise text to clearly indicate the both bulletted items including the findings, observations, and engineering assessment of observed conditions will be included and are not optional/if applicable.	Correction to text.				
15	Attachment 5 25-TWO-0029 Rpp-RPT, Rev. 05, Pg. 8, Section 3.4, 1st Paragraph, 4th Sentence	The text reads: “Suspect or erroneous data are not reported…” How were suspect or erroneous data determined? Was a statistical method used. What proportion of the data was removed?	Add a brief description.	Adds validity to the data.				
16	Attachment 5 25-TWO-0029 RPP-RPT,	Would you add the dates of functionality?	Add dates to Table 2.	A quick reference to the timeframe that data was collected.				

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	Rev. 05, Pg. 13, Section 5.1, Table 2							
17	Attachment 5 25-TWO-0029 RPP-RPT, Rev. 05, Pg. 15, Section 6.1, Table 3	Would you add the dates of functionality?	Add dates to Table 3.	A quick reference to the timeframe that data was collected.				
18	Attachment 5 25-TWO-0029 RPP-CALC-66601, Rev. 0, Pg. 4, Section 6.1, Last sentence	The text reads: “Santa Barbary Urban Hydrograph.”	Change ‘Barbary to Barbara.”	Typo				