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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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September 25, 2017

17-NWP-136

Mr. Doug S. Shoop, Manager  
Richland Operations Office  
United States Department of Energy  
PO Box 550, MSIN: H5-20  
Richland, Washington 99352

Re: Ecology Review of Waste Encapsulation and Storage Facility (WESF) Hot Cell A through F  
Closure Unit Group 6 Initial Closure Phase Status Report

Reference: Letter 17-AMRP-0194, dated June 19, 2017, "Waste Encapsulation and Storage Facility  
(WESF) Hot Cell A through F Closure Unit Group 6 Initial Closure Phase Status Report"

Dear Mr. Shoop:

The Department of Ecology (Ecology) has completed our review of Letter 17-AMRP-0194, received from the United States Department of Energy, Richland Operations Office (USDOE-RL) on June 19, 2017 (reference). Our review of the Initial Closure Phase Status Report for Hot Cells A through F prompted some comments that are enclosed in a Review Comment Record. These comments request clarification only. Ecology does not expect or request modification to the report as part of the resolution for our comments.

We look forward to working with USDOE-RL on resolution of our comments at your convenience.

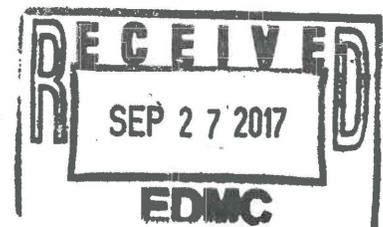
For questions, please contact Stephanie Schleif, Facility Transition Project Manager, at [stephanie.schleif@ecy.wa.gov](mailto:stephanie.schleif@ecy.wa.gov) or (509) 372-7929 or Lilyann Bauder, Unit Lead, at [lilyann.bauder@ecy.wa.gov](mailto:lilyann.bauder@ecy.wa.gov) or (509) 372-7951.

Sincerely,

Suzanne Dahl  
Dangerous Waste Permit Manager  
Nuclear Waste Program

Enclosure

cc: See page 2



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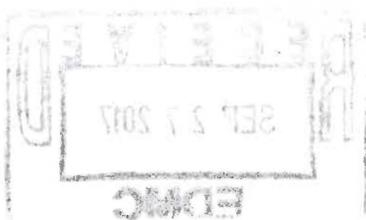
17-NWP-136

cc electronic w/enc:

- Dave Bartus, EPA
- Laura Buelow, EPA
- Duane Carter, USDOE
- Al Farabee, USDOE
- Julie Reddick, USDOE
- Allison Wright, USDOE
- Don Flyckt, CHPRC
- Sarah Horn, CHPRC
- Stephanie Johansen, CHPRC
- Jon Perry, MSA
- Rose Ferri, YN
- Ken Niles, ODOE
- Lilyann Bauder, Ecology
- Jennifer Cantu, Ecology
- Mandy Jones, Ecology
- Stephanie Schleif, Ecology
- Ron Skinnerland, Ecology
- Environmental Portal
- Hanford Facility Operating Record
- CHPRC Correspondence Control
- MSA Correspondence Control
- USDOE-RL Correspondence Control

cc w/enc:

- Matt Johnson, CTUIR
- Jack Bell, NPT
- Rose Longoria, YN
- D. Rowland, YN
- Susan Leckband, HAB
- Administrative Record**
- NWP Central File



# Review Comment Record

## Washington State Department of Ecology Nuclear Waste Program

Date: 9/20/2017

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**Document Title(s)/Number(s)**

Waste Encapsulation and Storage Facility (WESF) Hot Cell A through F Initial Closure Phase Status Report, Doc ID CHPRC-1702118, Rev. 0

**Document Manager**

**Project Manager**

**Facility Site ID**

**Cleanup Site ID**

Lilyann Bauder

(509) 372-7951

Stephanie Schleif

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WA7890008967 - CUG6

Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	U.S.D.O.E. Response	Ecology Response	Open/Close	Reviewer Initials
1.	Pg. 1 Sec. 1 Para. 2 Sent. 2	<i>"Grouting activities began on November 14, 2016, and ended on April 10, 2017."</i>  Grouting activities began on August 23, 2016, per email from DOE sent 2/7/2017.	Clarify the inconsistency in dates between the email sent to Ecology for start of grouting and what is documented in this report. Which date is correct?	Inconsistency.				
2.	Pg. 2 Sec. 3.1 and 3.2	The report does not discuss the pre-closure preparation activities of isolating equipment and utility lines, as stated in Section H5.4 of the Closure Plan.	Clarify what equipment isolations and isolations of utility lines took place as part of the closure activities completed during this initial phase of closure.	Detail needed to supplement closure plan language.				
3.	Pg. 2 Sec. 3.1 Para. 2 Sent. 2 & 3	<i>"Access ports into the hot cells were sealed..."</i> <i>"Pass-throughs were covered..."</i>  What were the access port sealed with and the pass-throughs covered with?	Provide clarification on mediums used to cover access ports and pass throughs. This information is needed to ensure later closure activities are consistent with these interim closure activities.	Detail needed to supplement closure plan language.				
4.	Pg. 2 Sec. 3.1 Para. 3 Sent. 2	Where did this supernatant in Hot Cell A airlock come from?	Provide clarification on the source of the supernatant in the Hot Cell A airlock.	Clarification.				
5.	Pg. 2-3 Sec. 3.2	Section H5.3 of the Closure Plan states <i>"Stabilization activities will be performed with the K3N system operational."</i>  The report does not indicate if the K3N ventilation system was operational when stabilization activities occurred.	Clarify whether the K3N ventilation system was operational when stabilization activities occurred.	Clarification.				
6.	Pg. 3 Sec. 3.3	This Section does not discuss control of contamination during grouting, as required by H5.5.10 of the Closure Plan.	Provide clarification on how contamination was controlled during grouting of the Hot Cells.	Completeness.				
7.	Pg. 3 Sec. 3.3.1	This section does not address all grout design aspects specified in Section H5.5.1 of the Closure Plan, including maximum allowable centerline temperature, minimum flow distance, and capability of entering and filling openings with a minimum dimension.	Provide/clarify grout design specifications and provide any supporting documentation on confirmatory sampling/testing, centerline temperature, flow distance, and opening/void dimension filling capability.	Completeness.				

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		Engineering and laboratory scale testing was to be performed to confirm that the grout formulation met the performance criteria.  Was this testing completed? What was the centerline temperature, flow distance, and opening/void dimension filling capability for the grout used?	Provide the engineering and laboratory scale testing report.																							
8.	Pg. 3 Sec. 3.3.2	Were grout samples collected and tested during construction, as required in Section H5.5.2 of the Closure Plan?	Clarify whether grout samples were collected and tested during construction.	Completeness.																						
9.	Pg. 3 Sec. 3.3.2	Are the plates that were sealed on top of the hot cell cover block seams to prevent movement or escape of grout a permanent fixture? Or were the plates removed after grouting was completed?	Clarify whether the plates mounted on top of the hot cell cover blocks are permanent.	Completeness.																						
10.	Pg. 3-4 Sec. 3.3.3	Why were Hot Cells A, B, and C grout volumes calculated and Hot Cells D/E and F grout volumes estimated? How were these estimations/calculations completed, as it appears a different method was used the estimates in the Closure Plan?  Why are the numbers provided in the report different from the estimated Hot Cell grout volume provided in Table H5 of the Closure Plan?  <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Cell</th> <th>Table H5 (yd<sup>3</sup>)</th> <th>Report (yd<sup>3</sup>)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>47</td> <td>36.1</td> </tr> <tr> <td>B</td> <td>28</td> <td>20.4</td> </tr> <tr> <td>C</td> <td>28</td> <td>31</td> </tr> <tr> <td>D/E</td> <td>62</td> <td>72</td> </tr> <tr> <td>F</td> <td>28</td> <td>22.3</td> </tr> </tbody> </table>	Cell	Table H5 (yd <sup>3</sup> )	Report (yd <sup>3</sup> )	A	47	36.1	B	28	20.4	C	28	31	D/E	62	72	F	28	22.3	Provide clarification on why some grout volumes were estimated versus calculated including how these volumes were determined.  Provide clarification on why the numbers in the report were different than those listed in Table H5 of the closure plan.	Clarification.				
Cell	Table H5 (yd <sup>3</sup> )	Report (yd <sup>3</sup> )																								
A	47	36.1																								
B	28	20.4																								
C	28	31																								
D/E	62	72																								
F	28	22.3																								
11.	Pg. 4 Sec. 4 Para. 1 Sent. 3	How much waste is pending characterization and shipping as of the date of the report?	Provide clarification on whether all waste generated as part of these interim closure activities has been characterized and shipped to an appropriate storage or disposal facility.	Completeness.																						
12.	Pg. 4 Sec. 4.2	Was the grout rinsate determined to be non-dangerous waste? The closure plan anticipated this waste stream would be non-dangerous waste.	Provide clarification on the designation of the grout rinsate.	Completeness.																						

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13.	Pg. 4 Sec. 4.3 Para. 1 Sent. 1	How was water used to cool the drill treated as a newly generated <i>solid</i> waste stream? If the waste is solidified, it is still classified as liquid upon generation.	Provide clarification on the characterization of the cooling waste for the drill (i.e. solid waste vs. liquid waste).	Clarification.				
14.	Pg. 4 Sec. 4.3 Para. 1 Sent 3-4	Was any of the wastewater determined to be dangerous waste? Was the dangerous waste (if any) treated on-site through treatment by generator (TBG) methods, treated at ERDF, or sent off-site for treatment?	Provide clarification on whether the cooling water was characterized as dangerous waste or if the water was all classified as non-dangerous. If the waste was characterized as dangerous, clarify if it was treated on-site (at WESF) as treatment by generator, treated off-site at another facility or treated at the Environmental Restoration and Disposal Facility.	Clarification.				
15.	Pg. 4 Sec. 4	This section does not discuss the waste management of hazardous debris. How was debris generated during stabilization activities, such as PPE, equipment, and construction materials, managed?	Provide clarification on the characterization/management for hazardous debris generated as part of these interim closure activities.	Completeness.				
16.	Appendix B	This Appendix provides the grout compressive strength test results, but not the report from the test.	Provide a copy of the report for the grout compressive strength test.	Completeness.				
17.	Appendix C Table C-1	What type of waste are these shipments? Grout, solidified waste water, debris? Are these shipments all dangerous waste and/or mixed waste, or is LLW also included in this table?	Clarify the characterization of the waste documented in these shipments.	Completeness.				
18.	Appendix C	Was all waste generated as part of the interim closure activities shipped to ERDF?	Clarify the location of shipment for waste generated as part of the interim closure activities.	Clarification.				