



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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November 2, 2020

20-NWP-160

Michael W. Cline, Director
Soil and Groundwater Division
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: H5-30
Richland, Washington 99352

Re: Acceptance of Final Comment Resolutions on Comment Response and Plan for Document
Update: *Remedial Design/Remedial Action Work Plan for the 100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2, and 100-HR-3 Operable Units, DOE/RL-2017-13, Draft A*

Dear Michael W. Cline:

The Department of Ecology completed our comment resolution process and accepts the latest redline version of the *Remedial Design/Remedial Action Work Plan for the 100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2, and 100-HR-3 Operable Units, DOE/RL-2017-13, Draft A*.

Enclosed is the final Review Comment Record.

If you have any questions, please contact me at kim.welsch@ecy.wa.gov or (509) 372-7882, or Alicia Boyd, Environmental Specialist, at alicia.boyd@ecy.wa.gov or (509) 372-7934.

Sincerely,

Digitally signed by
Welsch, Kim (ECY)
Date: 2020.11.02
12:32:06 -08'00'

Kim Welsch
Interim Environmental Restoration Project Manager
Nuclear Waste Program

bj/aa
Enclosure

cc: See page 2

Michael W. Cline
November 2, 2020
Page 2 of 2

20-NWP-160

cc electronic w/enc:

Craig Cameron, USEPA
Dave Einan, USEPA
Steve Balone, USDOE-RL
Mark French, USDOE-RL
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Brian Johnson, Ecology
Nina Menard, Ecology
Kim Welsch, Ecology
NWP RIM Coordinators, Ecology
Environmental Portal
Hanford Administrative Record
Hanford Facility Operating Record
CHPRC Correspondence Control
MSA Correspondence Control
USDOE-RL Correspondence Control

Tracking_ID	Ecology Comment	Ecology Modification Needed	Chapter	Pg/Line	DOE-RL Disposition	DOE-RL Response to Comment	Ecology Concurrence
DHRDRAWP-001	The format of the RD/RAWP makes it very difficult to find information because sections and subsections contain both remedial action information for soils and groundwater. There are instances where information is duplicated in several subsections. There are also instances of information being omitted. When someone references the RD/RAWP for "Basis for Remedial Action", "Remedial Action Design" and "Remedial Action Management" they will nearly always be focused on either soil or groundwater. The USDOE designated leads are separate for soil or groundwater.	Ecology strongly recommends reformatting the RD/RAWP in a manner that keeps soil remedial requirements and sections separate from groundwater remedial requirements and sections. This format could mirror the 100-F RD/RAWP with separate appendixes for soil and groundwater. The format could also split Chapters 2-4 into strictly soils or groundwater and add another 3 chapters to focus on the other media.	Global comment	Global comment	Accept with Modification	Chapters reorganized to better separate groundwater and waste site remediation activities.	Yes - 6/18/2019
DHRDRAWP-002	Throughout the document text switches between using the term "Lead Regulatory Agency" and "Ecology". This is confusing.	Pick one phrase for consistency and use throughout the document. Ensure that authorities that are retained by EPA (such as granting offsite determinations) are specifically called to be approved by EPA, not Ecology or the LRA.	Global comment	Global comment	Accept with Modification	The term LRA was used almost exclusively in the document. This was edited to "Ecology" to avoid confusion unless it is specified in the ROD. Text was added where referring to monitoring changes (i.e. changes to a SAP), which require EPA approval.	Yes - 6/18/2019
DHRDRAWP-003	There are many cases of an unfocused "cut and paste" throughout the document, where present tense is used when addressing required future activities. Some examples of this approach are included in detailed comments below.	Change present tense to future tense when addressing required future activities.	Global comment	Global comment	Accept with Modification	Please see response to specific comments (64, 65, 74, 75, & 76).	Yes - 6/18/2019
DHRDRAWP-004	The work plan makes reference to DOE/RL-2013-31, 100-HR-3 Groundwater Operable Unit Remedial Design/Remedial Action Work Plan, but it is not clear whether this plan will still be in effect.	Recommend text change to Clarify that this document will supersede DOE/RL-2013-31 upon approval.	1	1-6/26-27	Accept	Edited text to clarify that this document will supersede DOE/RL-2013-31 upon signature.	Yes - 5/9/2019
DHRDRAWP-005	The RUM aquifer thickness is provided, but the thickness of the unconfined aquifer is not provided.	Provide the thickness of the aquifer contained in the sands and gravels beneath 100-D and 100-H. Suggest this from DOE/RL-2013-31: "Thickness of the unconfined aquifer ranges from near 0 to 12 m (39 ft) across the area."	1	1-8/31-40	Accept	Edited text and added the requested information.	Yes - 5/9/2019
DHRDRAWP-006	This sentence on line 37, pg. 1-8, states that RUM is an aquitard. This contradicts statements in other places throughout the document that identify uppermost RUM as an aquifer (for example, see lines 38-39 on page 1-18, also lines 32-33 on page 1-21).	Clarify and check the document for consistency.	1	1-8/37	Accept with Modification	The RUM material separating the unconfined aquifer from the water bearing units within the mud is considered an aquitard. The first water bearing unit within the RUM material is currently considered an aquifer. Text has been edited to clarify in several locations. No text change in this location.	Yes - 5/9/2019
DHRDRAWP-007	Figure 1-3 identifies an aquitard directly under the unconfined aquifer, and seems to imply that the aquitard consists of less transmissive sediments. Figure 1-11 defines that area as "Ringold confined aquifer & aquitard undifferentiated"	Reconcile and clarify the apparent inconsistencies.	1	1-9, and 1-20/--	Accept	Figure has been edited.	Yes - 5/9/2019
DHRDRAWP-008	The value in inches is provided here to three significant figures (0.059 in/yr), but the value on the previous page is provided to two significant figures (0.06 in/yr).	Correct one or the other values given so they are consistent in the number of significant figures used.	1	1-9/1	Accept	Edited to be consistent	Yes - 5/9/2019
DHRDRAWP-009	The wording in this sentence does not state this is an area of riverbank storage, and the figure does not indicate clearly the bank storage zone or the zone where riverbank seepage would occur. Figure 3-28 of the RI/FS Report (DOE/RL-2010-95) indicates these zones.	Clarify in the sentence that this is the area of bank storage caused by the seasonally large range of the Columbia River stage. Clarify on the figure where the bank storage and riverbank seepage zones are generally located.	1	1-9/6-8	Accept	Edited to clarify the different zones and areas of interactions.	Yes - 5/9/2019
DHRDRAWP-010	Text states, "Most of the 100-D/H contaminated vadose zone materials have been removed." No specific information is provided on the depth of the contaminated vadose zone materials that have been removed.	Provide some clarification on the depth of contaminated vadose zone materials that have been removed (less than 15 ft?).	1	1-10/33-34	Accept with Modification	Sentence deleted.	Yes - 5/9/2019
DHRDRAWP-011	It is apparent, after reviewing later sections of the report, that these figures show the hexavalent chromium plumes in the uppermost aquifer, but that is not stated anywhere.	Provide clarification what aquifer these plumes are in.	1	1-10/38-39	Accept	Added clarification on which aquifer is being discussed.	Yes - 5/9/2019
DHRDRAWP-012	I cannot understand what year the average concentrations represent.	Provide what year the "annual maximum" concentrations represent.	1	1-18/5-6	Accept	Added "(for 2016)" to the sentence. Note that the year is included in the figure legend as well as the title.	Yes - 5/9/2019

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DHRDRAWP-013	The relationship between the Ringold Upper mud in this hydrostratigraphic section and Unit 6 (Middle Fines) in the generalized Hanford hydrostratigraphy (figure in many reports) is unclear. If the RUM is coincident with Unit 6, then Ringold Unit C on Figure 1-11 may be misplaced.	Review and verify.	1	1-20/--	Accept	Figure has been edited.	Yes - 5/9/2019
DHRDRAWP-014	The bullets do not include one very significant result: the hydraulic connectivity between the uppermost RUM and the Columbia River. This relationship seems to be downplayed in this section, as well as the previous and following sections. These very important hydrologic relationships will require further investigation, and it is not clear this will be addressed under this Plan.	Provide an additional bullet that identifies the hydraulic connectivity between the uppermost RUM aquifer and the Columbia River. Provide the plan to further investigate this relationship and its impacts to the Columbia River and receptors.	1	1-21/28-31	Accept with Modification	Added a bullet to explain that the connection remains unclear and additional investigation is planned.	Yes - 5/9/2019
DHRDRAWP-015	The paragraph does not accurately describe all the effects that are a result of the river stage changes. In some situations the contaminant concentrations increased with an increase in the river stage, due to secondary sources. This should discuss all the effects that occur as the river stage changes. The last sentence is an overly simplistic summary of the effects of river stage changes.	Provide all the mechanisms of contaminant concentration changes that occur as the river stage changes.	1	1-22/9-19	Accept with Modification	This document is not intended to provide the in depth analysis of changes with river stage. Some text changes have been incorporated to clarify that this is not all encompassing, and the RI/FS will be referenced. In addition, text has been added to better describe the contaminant concentration response during low and high river.	Yes - 5/9/2019
DHRDRAWP-016	This paragraph does not indicate the specific mechanism by which contamination may have migrated into the RUM aquifer. Vertical downward hydraulic gradients must have been present to cause this.	Clarify that a vertical, downward hydraulic gradient resulted from the elevated hydraulic head caused by mounding.	1	1-23/1-6	Accept	Edited text to clarify that a vertical, downward hydraulic gradient resulted from the elevated hydraulic head caused by mounding.	Yes - 5/9/2019
DHRDRAWP-017	Text presumes that chromium will meet final cleanup levels. Text should be more open ended.	Modify text to be more open. Possible text: "Activities at these two waste sites will include collection and evaluation of Cr(VI) data to determine if the site meets final cleanup levels. Any further action will be based on that data collected."	2	2-1/36	Accept with Modification	Text revised to "Activities at these two waste sites will include collection and evaluation of Cr(VI) data to determine if further remediation is required to meet cleanup levels for Cr(VI)."	Yes - 5/20/2019
DHRDRAWP-018	Typically this lifting of restrictions would be by the lead regulatory agency, rather than either Ecology or EPA.	Change "EPA or Ecology authorizes the removal of restrictions" to "the lead regulatory agency authorizes the removal of restrictions" or to "Ecology authorizes the removal of restrictions" in accordance with comment #2.	2	2-5/20	Need Discussion	This is the language from the ROD	Yes - 6/18/2019
DHRDRAWP-019	More details of the Institutional Controls should be included. See Sections 2.1.2.1 and 2.1.2.2 in the Integrated Remedial Design Report/Remedial Action Work Plan for 100-F/IU, DOE/RL-2014-44 Rev. 0 for an example.	Include specific requirements from "Institutional Controls" in Section 9.2 of the ROD for waste sites. If additional information is included in section 4.3.1.5, it may not need to be duplicated here.	2	2-5/--	Accept with Modification	Added descriptions from Section 9.2 in the ROD. Details for waste sites and groundwater added to later sections (4.3.6, 5.2.5, 5.2.6, 5.2.7).	Yes - 6/18/2019
DHRDRAWP-020	Include figures of where ICs are applied.	Include figures (Figures A1-1 and A1-2 from Rev. 9 of DOE/RL-2001-41, sitewide IC Plan would be appropriate).	2	2-5/--	Not Accepted	The IC boundaries are transitory, and maintaining them across multiple documents creates additional administrative burden.	Yes - 6/18/2019

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DHRDRAWP-021	This paragraph contains information pertinent to the nitrate and strontium-90 plumes. It should be moved to section 2.1.2.2 MNA for 100-HR-3 OU Groundwater. Also, the text should emphasize that this action is not part of the chosen remedy of MNA for nitrate and Sr-90.	Move text to section 2.1.2.2 and include as a second paragraph. Modify text similar to "The P&T system for Cr(VI) remediation also co-extracts nitrate and strontium-90. While the treatment process does not remove nitrate or strontium-90, water from many wells is blended together during the treatment process. The result is that water coming out of the treatment process is below the drinking water standards for all contaminants, including nitrate and strontium-90." Also consider including the final paragraph from Section 4.2 of DOE/RL-2013-49 that refers to the SAP including sampling for these co-contaminants. Alternatively, summarize or refer directly to Table 3.4 in the SAP, which describes the treatment process water monitoring, including for nitrate and strontium-90.	2	2-5/38-41	Accept with Modification	Text regarding nitrate and strontium-90 was moved to the MNA section of the report. The paragraph was edited to refer to the SAP and clarify how the process.	Yes - 5/9/2019
DHRDRAWP-022	This long discussion omitted the pertinent information that the interim remedy of the in-situ chemical treatment barrier proved ineffective and has been discontinued.	Revise this paragraph to clarify that the interim action of in-situ treatment by the redox manipulation barrier proved ineffective and has been discontinued.	2	2-6/1-20	Accept with Modification	Edited to clarify the sequence of events and that the barrier was not effective and is not part of the final remedy.	Yes - 5/9/2019
DHRDRAWP-023	These 2 sentences are awkward. If optimization is to thank for the increase from 600 to 775 gal/min, then what happened to increase all the way up to 900 gal/min?	Reword to better explain all the increases. Specifically discussing the switch to single treatment train would probably be good here.	2	2-6/22-24	Accept with Modification	Added text to discuss treatment train reconfiguration.	Yes - 5/9/2019
DHRDRAWP-024	The plan states "This section describes planned remedial process optimization (RPO) activities and P&T system expansion for the RA as required in the selected remedy of the 100-D/H ROD (DOE et al., 2018)." The section does not describe any RPO activities.	Provide the specific process optimization activities. The next short section, Remedial Process Optimization, only discusses some past actions identified as planned activities. See comment on Section 6.3.2.1, Page 6-4, Lines 15-17.	2	2-6/37-39	Accept with Modification	Edited the text. Added a better description of RPO and what it includes. Reorganized this section.	Yes - 5/9/2019
DHRDRAWP-025	The Remedial Process Optimization paragraph refers to activities that had been planned for 2017-2018.	Revise this paragraph to clarify if these activities have been completed as scheduled.	2	2-6 through 2-7/42-46 on page 2-6 and lines 1-3 on page 2-7	Accept with Modification	Edited the text. Added a better description of RPO and what it includes. Reorganized this section. Removed the 2017-2018 planned activities to avoid confusion.	Yes - 5/9/2019
DHRDRAWP-026	This paragraph does not read smoothly, "MNA will be used..."	Substitute text from section 2.1.3 of DOE/RL-2014-44 Rev. 0 (pp 2-1 to 2-6) after having adjusted for COCs.	2	2-7/12-17	Accept with Modification	Paragraph was edited. See response to comment #-021	Yes - 5/9/2019
DHRDRAWP-027	Include figures of where ICs are applied.	Include figures (Figure A1-3 from Rev. 9 of DOE/RL-2001-41, sitewide IC Plan would be appropriate).	2	2-7/	Not Accepted	The IC boundaries are transitory, and maintaining them across multiple documents creates additional administrative burden.	Yes - 6/18/2019
DHRDRAWP-028	Update the risk numbers 10-4 and 10-5 to superscript 1×10^{-4} and 1×10^{-5} .		2	2-11/Notes	Accept	Edited as requested	Yes - 5/9/2019
DHRDRAWP-029	Include language describing the error in the ROD concerning the Arsenic cleanup values for soil to protect groundwater/surface water for 100-D. The number included in the ROD should have been a value that is scaled by waste site width in the direction of groundwater flow, down to a lower limit of 20 mg/kg.	Update table 2-4 footnotes and elsewhere in the document the soil to protect groundwater and surface water values for arsenic in 100-D. Section A4.8.4 seems like a reasonable place to include discussion as well.	2	2-13/arsenic footnote	Accept with Modification	Revised text in Table 2-4 and Section A4.8.4	Yes - 7/15/2019

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DHRDRAWP-030	Between section 2.4 and Appendix C, this is not enough discussion or description of ARARs. ARARs are listed in the ROD and intended to be described in greater detail in the RDR/RAWP. Section 2.4 contains no useful information and Appendix C is simply the tables from the ROD reprinted.	Include details on ARARs similar to those in Section 2.4 of DOE/RL-2014-44 ADD1, Rev. 0.	2		Accept with Modification	Text was added to provide additional information on how ARARs will be met.	Yes - 6/27/2019
DHRDRAWP-031	More explanation is needed here to distinguish between the many waste sites that had RTD selected and the 4 that we expect still need RTD to be performed. Several sections in this document are restating the exact same concept. Section 2.1.1.2 (Remedy Components) contains all the preliminary information needed, Section 3.1.1 (Design Basis) doesn't contain anything of value, and Section 3.2.1 (Conceptual Design Summary) again contains good information, which is then detailed in 3.3.1 (Design Approach), 4.3.1 (Remedial Action Work Tasks).	Pick one section to contain detailed information. Delete or minimize other locations. This level of section and subsection is not needed and adds confusion to the document. See Chapter 3 in DOE/RL-2014-44 for an example of a document containing the same sections and subsections that has minimized repeated information.	3	3-1/11-13	Accept with Modification	Section deleted. Additional initial description added to Section 2.1.1.2.	Yes - 6/20/2019
DHRDRAWP-032	The text states, Remedial activity recommendations that are incorporated into RPO include the following:" but does not include the uppermost RUM aquifer Cr(IV) investigation. The RUM investigation is included later, under the "Tasks for groundwater remedial design." It is not clear if the RPO activities include the items identified in lines 21-25.	Clarify if the "Tasks for groundwater remedial design" are an element of the RPO.	3	3-2/3-11 and 20-25	Accept with Modification	Text was edited to clarify	Yes - 5/9/2019
DHRDRAWP-033	This states, "Section 2.4.2 in DOE/RL-2013-31 provides additional details for RPO." Section 2.4.2 in DOE/RL-2013-31 is titled "Remedy Performance Monitoring." It is not clear if that plan will still apply.	If this document will supersede DOE/RL-2013-31, then all applicable information should be included in this document.	3	3-2/17-18	Accept with Modification	Deleted the part of the sentence referencing DOE/RL-2013-31. Added reference to Section 2.1.2.1 of this document and SGW-58690 (Remedial Process Optimization Work Plan for 100-HR-3 and 100-KR-4 Groundwater Operable Units Interim Action) for additional information on RPO.	Yes - 5/9/2019
DHRDRAWP-034	It is not clear how the subheadings and their content relate to the list of items in Figure 3-1.	Suggest revising the section so the discussion in the text may be directly associated with the items in Figure 3-1.	3	3-2 to 3-11/-	Accept with Modification	Edited the text in the introduction paragraph to clarify that the phases are discussed later in the chapter. Added some "grouping" boxes in the figure to help separate what phase goes with which tasks.	Yes - 6/5/2019
DHRDRAWP-035	The plan states, "Figure 3-4 shows initial modifications to this well network underway as part of RPO efforts under the interim remedy." Figure 3-4 identifies uppermost RUM aquifer wells, but the tie between the RPO and RUM investigation is not clear.	Clarify whether the RUM investigation is a part of the RPO.	3	3-4/22-23	Accept	Added text in response to DHRDRAWP-033 that states that RPO is applied to both the unconfined and RUM aquifer. Added a bullet in the RPO discussion that clarifies that understanding the CSM is part of RPO. Deleted reference to the "interim remedy". Edited text (at location of the comment) to clarify the the figure shows modifications to the RUM well network as part of RPO efforts to understand the CSM and plume extents.	Yes - 5/9/2019
DHRDRAWP-036	The text makes reference to the exit strategy that "will identify plume conditions at the end of P&T operations that will meet the aquifer RAO and the river protection RAO. The exit strategy will also define how monitoring and rebound testing will be used for verification that the RAOs are met and maintained over time." It is not clear how this exit strategy is documented and implemented.	Clarify how the objectives of the exit strategy will be documented. Provide if this is a separate document and if so, when it would be written and implemented. If it is in this plan, more information should be provided that describes the objectives, approach, and schedule for specific activities.	3	3-4/35-40	Accept with Modification	Added reference to section 7.2.2 for P&T remedial steps, including the end of compliance monitoring.	Yes - 6/5/2019
DHRDRAWP-037	This paragraph is largely a reiteration of the previous paragraph.	Combine the second sentence with the previous paragraph.	3	3-9/1-6	Accept	Deleted redundant text and moved the rest to previous paragraph.	Yes - 5/9/2019
DHRDRAWP-038	The plan states, "The secondary source investigation will be identified through development of a test plan for a rebound study or a well installation SAP (addendum to DOE/RL-2013-35, 100-HR-3 Groundwater Operable Unit Well Installation Sampling and Analysis Plan). This task will be implemented early in the remedial design to provide time necessary to address secondary sources during operations." It is not clear whether the "test plan..." is a separate document. It seems the RD/RAWP should contain such plans to investigate the secondary sources.	Clarify if the test plan referred to here is a separate document. The secondary source investigation should be identified in this RD/RAWP, and the test plan or well installation SAP are very specific to discrete activities to implement the source investigation plan.	3	3-9/12-15	Accept with Modification	Text states that Secondary source investigation is included in implementing the remedial design. Potential source locations are identified in Section 3.2.2.1. (now 4.2.2.1). Test plans for rebound studies are needed to confirm locations and are separate documents. Drilling required to confirm locations are addressed through drilling SAP addenda, on an as-needed basis. Text was updated to clarify.	Yes - 5/9/2019

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DHRDRAWP-039	This sentence reads that "existing and proposed" wells are listed in Table 3-1.	Change to reflect the actual table.	3	3-9/18-19	Accept	Edited the text to clarify that existing and proposed wells are in the figure, but only proposed wells are in the table.	Yes - 5/9/2019
DHRDRAWP-040	This reflects in part work that was completed in FY 2018. The completed wells should be included in these numbers to bring the plan current.	Provide the wells drilled in FY2018 as a separate bullet. Update the current bullet to reflect FY2019 to FY2020 planned wells.	3	3-9/25-26	Need Discussion	Discussion updated to remove specific installation date information	Yes - 6/14/2019
DHRDRAWP-041	The table is not current and does not indicate the year the wells were or are planned to be installed.	Update the table to provide missing information for completed wells. It may be helpful to provide the year that the wells were installed and are planned to be installed.	3	3-9 to 3-10/-	Need Discussion	Discussion updated to remove specific installation date information	Yes - 6/14/2019
DHRDRAWP-042	The sentence, "Separating the plume from the river enables studies that can maintain river protection while evaluating rebound effects" is a direct repeat of the sentence at lines 17-18..	Remove the redundant sentence.	3	3-11/24-25	Accept	Deleted the redundant sentence	Yes - 5/9/2019
DHRDRAWP-043	Section titled Conceptual Design is incomplete and confusing. It does not summarize the conceptual design approach to remediation of the solid waste sites.	Section titled Conceptual Design should identify the waste sites including their OU designation (i.e., for RTD: 100-DR-OU site 118-DR-2:2; 100-DR-1 OU site 100-D-52; 100-HR-1 OU site D-52; 100-HR-1 OU site 100-H-5; 100-HR-2 OU site 100-H-58; 100-DR-1 OU site 100-D-50:2; also include all waste sites identified in Table 2-1 that require ICs). Describe each of the waste sites. Identify sites' locations including maps, figures, and/or photographs to illustrate locations and physical configurations of the sites. Describe physical characteristics of each site including its size, and horizontal and vertical extent of contamination.	3	3-12/--	Accept with Modification	Section deleted as part of reorganization to better separate waste site and groundwater components. (Additional preamble distinction of 118-DR-2:2, 100-D-52, 100-H-5, and 100-H-58 added to Section 2.1.1 in response to DHRDRAWP-031. Table 2-1 contains OU information. Introductory description added to new Chapter 5 to clarify the conceptual scope of the RD/RA approach.)	Yes - 5/14/2019
DHRDRAWP-044	The bullets are confusing.	The bullets should list all the waste sites identified by bold in Table 2-1 along with their OUs, and include a short description of each site.	3	3-12/25-33	Accept with Modification	Bullet deleted per response to DHRDRAWP-043.	Yes - 5/23/2019
DHRDRAWP-045	Description of site 118-DR-2:2 and the final remedial action required is incomplete and confusing.	The size and location of the "small decision unit" should be clearly identified on a map or figure. The nature and extent of the "final action remediation" should be specified. For example, will excavation of soils be required, over how large area and how deep?	3	3-12/25-27	Not Accepted	Bullet deleted per response to DHRDRAWP-043. Design elements will be addressed as described in Section 5.1.	Yes - 5/23/2019
DHRDRAWP-046	Description of RTD activities is confusing and incomplete.	Description of RTD activities should be site specific. For example, structures that may require removal should be identified for each site. The size and depth of soils excavation should be identified for each waste site.	3	3-12/34-36	Accept with Modification	Text deleted per response to DHRDRAWP-043. Introductory description added to Chapter 5 to clarify the conceptual scope of the RD/RA approach. Design elements will be addressed as described in Chapter 5.	Yes - 7/9/2019
DHRDRAWP-047	The description of the remedial activities for site 100-H-58 in the last sentence of this paragraph is incomplete and confusing.	Description of the remedial activities for site 100-H-58 should include information about the number of the contaminated power poles, the location of these poles on the site, and the type of remedial activities that will be required. For example, will the poles be cleaned and left in place or will they be removed? Will there be any excavation/backfilling of contaminated soils? What other activities may be required? Provide a summary of remedial activities required.	3	3-12/36-37	Accept with Modification	Text deleted per response to DHRDRAWP-043. Introductory description added to Chapter 5 to clarify the conceptual scope of the RD/RA approach. Design elements will be addressed as described in Chapter 5.	Yes - 7/9/2019
DHRDRAWP-048	The word "strontium-90" is misspelled.	Correct the spelling from strontium-90 to strontium-90.	3	3-13/7	Accept	Fixed spelling	Yes - 5/9/2019
DHRDRAWP-049	The cited reference ECF-100HR3-17-0125 is not available.	Provide the document ECF-100HR3-17-0125 to Ecology.	3	3-13/38	Accept with Modification	Document will be provided - currently listed as "pending"	Yes - 5/9/2019

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DHRDRAWP-050	Merely citing a reference without a summary discussion of the results of that work does not provide adequate information here. It is important to discuss how the trend test calculations were applied and how the results were used specifically for the secondary source investigation at 100-HR-3 OU. The ECF states, in section 7.2, that the trend tests assessment emphasized three main results: "the approximate extent of hydraulic containment provided by each of the 100-D, 100-H, and 100-K P&T systems; the approximate extent of contamination in each OU, as reflected on the interpolated Cr(VI) distribution under low river stage conditions; and the location of sampled wells in which concentrations exceed standards (Standard Test) and/or exhibit an upward trend (Trend Test)." It is not clear how this work supports the secondary source investigation.	Provide a summary discussion on the trend tests and how the results of the trend tests support the secondary source investigation.	3	3-13/35-38	Accept with Modification	Additional discussion will be provided.	Yes - 6/5/2019
DHRDRAWP-051	The text introduces "Layer 4" but there is no additional information what this layer represents in the model.	Provide a discussion on what "Layer 4" represents.	3	3-16/8-10	Accept	Additional explanation will be provided.	Yes - 6/20/2019
DHRDRAWP-052	This states, "This variation between simulated and measured data can be attributed to an overestimated Cr(VI) distribution in the initial conditions used in the model, or presence of additional Cr(VI) mass in the aquifer in areas where some additional characterization may be required." This statements seems to be counter-intuitive. The simulated conditions identify areas of higher concentration, and the measured conditions indicate "additional Cr(VI) mass in the aquifer." This seems to imply the same thing.	Clarify what this statement is stating.	3	3-16/22-24	Accept with Modification	Additional discussion and explanation will be provided.	Yes - 6/5/2019
DHRDRAWP-053	The text states, "In addition, the spatial extents and, especially, vertical layering of the hydrogeological units in the aquifer also impact Cr(VI) migration patterns with depth in some areas, with concentrations exhibiting different rates of change in zones with different hydraulic properties, as Figure 3-13 also illustrates." The relationship between zones with vertical layering and different hydraulic properties and Cr(VI) is unclear. It is also unclear how Figure 3-13 illustrates these relationships. This could benefit from a more complete discussion on these relationships and how the cited figure illustrates such.	Provide a more complete discussion on the relationship between zones with vertical layering and different hydraulic properties and Cr(VI).	3	3-29/6-9	Accept with Modification	Additional discussion will be provided.	Yes - 6/5/2019
DHRDRAWP-054	Annual concentration fluctuations apparently due to the influence of the Columbia River essentially stop at about year 2020. The reason for this change in the concentrations is not discussed, or is not obvious to this reviewer. The reason for this change in the trend should be discussed.	Discuss the reason for the changes in the concentration trend variability of Cr(VI) prior to 2020.	3	3-29 and 3-30/--	Accept with Modification	Additional discussion will be provided.	Yes - 6/5/2019
DHRDRAWP-055	Ecology is concerned about the modeling implication that, after the implementation of the final remedy, Cr (VI) will continue to be discharged to Columbia River before dropping below the remedial action objectives in 2040.	Please add a decision specifying when the actions described on lines 7-10 will be implemented, how the results will be communicated to Ecology, and what other actions may be required to prevent Cr(VI) discharges to the river over the next 20 years.	3	3-30/7-10	Accept with Modification	Revised text	Yes - 6/5/2019
DHRDRAWP-056	The last part of this sentence states, "...to determine ...or if the plume is smaller than assumed for the simulations and no action would be needed to prevent discharges to the river." It is premature to state that no action would be needed "...if the plume is smaller than assumed..." This needs to be reworded so this assumption is not implied.	Revise the sentence to remove the implication that just because the plume may be smaller that no action would be needed.	3	3-30/7-10	Accept	Revised text	Yes - 6/5/2019

Tracking_ID	Ecology Comment	Ecology Modification Needed	Chapter	Pg/Line	DOE-RL Disposition	DOE-RL Response to Comment	Ecology Concurrence
DHRDRAWP-057	The text states, "...and EPA or Ecology approves termination of the monitoring." Ecology is the lead regulatory agency, so EPA should not approved termination of the monitoring.	Remove reference to EPA providing any approvals in the sentence.	3	3-31/38	Not Accepted	EPA is required to approve SAPs, and a change in monitoring will require a change to the SAP and therefore EPA approval.	Yes - 6/18/2019
DHRDRAWP-058	The word "technetium" is misspelled.	Correct the spelling of technetium.	3	3-32/40	Accept	Fixed spelling	Yes - 5/9/2019
DHRDRAWP-059	There are very few waste site remedial design packages expected under this ROD and Work Plan. Ecology expects to review all of the design packages.	Remove "if requested" from the end of the sentence.	3	3-33/9-10	Accept	Modified as requested.	Yes - 5/9/2019
DHRDRAWP-060	There are very few waste site remedial design packages expected under this ROD and Work Plan. Ecology expects to review all of the design packages.	Remove the phrase "When requested, " from the 1st bullet in 3.3.1.	3	3-33/15-16	Accept	Modified as requested.	Yes - 5/9/2019
DHRDRAWP-061	Ecology requires submittal of all remedial action designs for review and approval. Bullets 2 & 3 seem to conflict with one another. Why would 3-5 day approval period be considered a timely manner if the review period is generally 2 weeks? Also, bullet 2 seems to be covered by the final bullet. Bullet 2 originates in DOE/RL-96-17 Rev 6 Section 3.4.5, however "usually within 3 to 5 days" has been added with no justification.	Explain this discrepancy, remove the 2nd bullet, or remove the phrase "usually within 3 to 5 days".	3	3-33/17-122	Accept	Second bullet removed.	Yes - 5/9/2019
DHRDRAWP-062	The three bullets reflecting the three-level priority are not consistent with those listed in the referenced document, SGW-54542. The referenced document is out of date, and cannot be used to reflect the current strategy. The referenced document identifies an incorrect remedial action objective of 20 ug/L, rather than 10 ug/L. The referenced document does not identify "Separation of the Plume from the river" as a priority. Therefore, citing this document is inappropriate and provides for conflicting information.	Remove any reference to SGW-54542 and provide a reference that accurately identifies the priorities.	3	3-34/25-31	Accept with Modification	Deleted the reference to SGW-54542 and related bullets. Moved the statement regarding evaluation of the OU to the paragraph above.	Yes - 5/9/2019
DHRDRAWP-063	The last bullet is redundant.	Remove this bullet.	3	3-33/28-29	Accept	Bullet deleted.	Yes - 5/9/2019
DHRDRAWP-064	This paragraph is an example of unfocused "cut and paste".	This paragraph should be revised to be site specific and written in the future tense.	3	3-33/30-38	Accept with Modification	Text was general information and has been deleted.	Yes - 5/9/2019
DHRDRAWP-065	This sentence is an example of unfocused "cut and paste". The whole document should be examined and the present tense changed to future tense in analogous situations.	Change present tense to future tense.	3	3-34/4-6	Accept with Modification	Text was general information and has been deleted.	Yes - 5/9/2019
DHRDRAWP-066	The sentence "Figures 3-16 and 3-17 dimensions are approximate" is a repeat of information provided just above.	Remove the redundant sentence.	3	3-34/36-37	Accept	Deleted the redundant sentence	Yes - 5/9/2019
DHRDRAWP-067	The general well construction shown here has at least two potential technical problems: 1) The filter pack will extend 7 feet into the Ringold upper mud and creates a possibility of providing a hydrologic conduit between the unconfined aquifer and confined aquifer. 2) Possible silting from materials of the Ringold upper mud entering the filter pack and well screen. The cost of installing all stainless steel well screens and casing must be extreme. Consideration should be given to other well materials such as PVC, since there would be no effect on the COCs with PVC. Also, a six-inch diameter well screen and casing may not be necessary in all cases, depending on the extraction or injection rate.	Review the well construction as discussed in the comment, and consider changes to the design.	3	3-35/--	Need Discussion	During drilling activities, care is taken to ensure that the RUM is not penetrated, and the construction would be modified if needed. The noted concern has not occurred due to the care taken during drilling. This is a representative figure and is to be used as a conceptual drawing, not an as-built. Each well construction is designed based on the geology of the borehole itself. Added note stating "Well construction materials and depths shown are typical. Actual construction will vary based on geology encountered"	Yes - 6/5/2019

Tracking_ID	Ecology Comment	Ecology Modification Needed	Chapter	Pg/Line	DOE-RL Disposition	DOE-RL Response to Comment	Ecology Concurrence
DHRDRAWP-068	The title of this figure indicates the design is for monitoring only. Verify this is not a design for injection or extraction also. The cost of installing all stainless steel well screens and casing must be extreme. Consideration should be given to other well materials such as PVC, since there would be no effect on the COCs with PVC. Also, a six-inch diameter well screen and casing may not be necessary in all cases, depending on the extraction or injection rate.	Review, and correct the title if necessary. Review the well construction comments and consider design changes.	3	3-36/--	Need Discussion	Edited title to include extraction and injection wells. Added note stating "Well construction materials and depths shown are typical. Actual construction will vary based on geology encountered"	Yes - 6/5/2019
DHRDRAWP-069	The referenced report, SGW-42305, identifies a number of constraints, assumptions, and considerations that must be addressed when using the technique.	This RD/RAWP should discuss how these are met.	3	3-37/4-7	Accept with Modification	Added text to clarify that these are provided in the method references and discussed in the annual reports	Yes - 6/5/2019
DHRDRAWP-070	The text states, "Status of river protection is evaluated annually based on assessing the hydraulic effects of remedial action systems operations, changes in the discharge boundary head conditions associated with the Columbia River, and the inferred distribution of Cr(VI) in groundwater." The specific measures associated with "assessing the hydraulic effects of remedial action systems operations" and "changes in the discharge boundary head conditions associated with the Columbia River" are not described. The text also states, "Details on the technical approach used for evaluating progress toward river protection are provided in SGW-54209, Systematic Method for Evaluating the Length of the Hanford Reach of the Columbia River Shoreline that is Protected from Further Discharges of Chromium from the 100 Area Operable Units (OUs)."	State the specific objectives for "evaluating progress toward river protection" in this Plan.	3	3-37/9-15	Accept	Added text	Yes - 6/5/2019
DHRDRAWP-071	"Realize cost increase or decrease (>+50% or <-30%) looks like the definition of a significant change.	Remove or reword the cost increase line in Table 4-1 to accurately reflect insignificant cost changes (that are within the original +50% or -30% estimate).	4	4-3/--	Accept with Modification	Moved the costs line to the "Significant Change" group. The error was a table formatting issue.	Yes - 6/5/2019
DHRDRAWP-072		Add the appropriate line for a significant change due to cost increase or decrease.	4	4-4/--	Accept with Modification	Moved to the "Significant Change" group. The error was a table formatting issue.	Yes - 6/5/2019
DHRDRAWP-073	All Section 4.3.1 information (with the exception of 4.3.1.3) has been duplicated from the 100-F RD/RAWP, and to a certain extent the 300 Area RD/RAWP, to provide consistency. It provides almost no D/H specificity.	Include language in the introduction of 4.3.1 acknowledging that this is generic language that has been applied to the 100 Areas. It provides almost no D/H waste site specificity.	4	--/--	Accept with Modification	Acknowledgement included in the introduction for the Chapter.	Yes - 5/20/2019
DHRDRAWP-074	The introductory paragraph above this sub-section states that the objective is to identify work tasks specific to remediation of the solid waste sites. Yet the text on lines 10-27 is an example of an unfocused "cut and paste", and of no value added to this RD/RAWP.	This section should be specific to each of the solid waste sites. <i>In particular, remove text of no value added to this RD/RAWP.</i> For example, which (if any) of the solid waste sites would require removing slabs and foundations of demolished buildings as stated on lines 26-27? Which sites exactly would require site utility services and what kind? Which would require constructing roads or any of the facilities identified on lines 13-16?	4	4-4/9-27	Not Accepted	Detail is intentionally general to allow for the potential for additional RTD at any of the waste sites in the scope of the remedy. Added additional detail on specific sites to Chapter 5.	Yes - 7/9/2019
DHRDRAWP-075	This text is another example of the unfocused "cut and paste" approach, and of no value added to this RD/RAWP.	Revise the text to be specific to each of the solid waste sites. For example, identify the expected depth of remediation, identify pipelines that may be left in place and methods used to demonstrate that the residual contamination is acceptable under RAOs. Identify the sites, if any (?), that contain nonfriable asbestos.	4	4-5/7-20	Not Accepted	Detail is intentionally general to allow for the potential for additional RTD at any of the waste sites in the scope of the remedy. Added additional detail on specific sites to Chapter 5.	Yes - 7/9/2019

Tracking_ID	Ecology Comment	Ecology Modification Needed	Chapter	Pg/Line	DOE-RL Disposition	DOE-RL Response to Comment	Ecology Concurrence
DHRDRAWP-076	This text is another example of the unfocused "cut and paste" approach, and of no value added to this RD/RAWP.	Revise the text to be specific to each of the solid waste sites. For example, which of the solid wastes sites addressed by this RD/RAWP do you classify as "dump sites" or burial grounds, where the methods described on lines 22-28 are applicable?	4	4-5/21-43	Not Accepted	Detail is intentionally general to allow for the potential for additional RTD at any of the waste sites in the scope of the remedy. Added additional detail on specific sites to Chapter 5.	Yes - 7/9/2019
DHRDRAWP-077	Include paragraph from DOE/RL-2014-44, ADD1 (Section 4.3.2.1, 1st paragraph on page 4-3) regarding sluicing. Sluicing would not be considered an acceptable excavation method.	Add "Sluicing (use of water) is not an acceptable excavation method."	4	4-5/29	Accept	Text added.	Yes - 5/20/2019
DHRDRAWP-078	Add in paragraphs concerning surveying/decon of ERDF shipping containers and releasing containers to a clean CTA from page 3-5 of DOE/RL-96-17 Rev 6.	Include relevant information or explain why it is not needed.	4	4-7/--	Accept with Modification	The cited text is redundant to text already included earlier in the subsection (first bullet item).	Yes - 6/5/2019
DHRDRAWP-079	Change the present tense to the future tense.	Change present tense to future tense.	4	4-7/15-39	Accept	Text revised.	Yes - 6/5/2019
DHRDRAWP-080	Include reference to DOE/RL-2001-36 <i>Hanford Sitewide Transportation Safety Document</i> or explain why the reference is not needed.	Include reference.	4	4-7/37-39	Accept with Modification	Added the reference in the first paragraph where on-site transportation is being discussed.	Yes - 5/9/2019
DHRDRAWP-081		Include an explanation that the purpose of end-capping is to prevent human and ecological exposure to the contaminants within the pipes.	4	4-9/14-29	Accept with Modification	Included additional explanation under the discussion of basis for remedial action (Section 2.1.1.3). Ecological exposure was not identified as part of the basis for end-capping in the RI/FS or ROD.	Yes - 5/9/2019
DHRDRAWP-082	More details of the Institutional Controls should be included. See Sections 2.1.2.1 and 2.1.2.2 in the Integrated Remedial Design Report/Remedial Action Work Plan for 100-F/IU, DOE/RL-2014-44 for an example.	Include specific requirements from "Institutional Controls" in Section 9.2 of the ROD for waste sites. If additional information is included here, Section 2.1.1.4 may not need as much detail.	4	4-10/3-14	Accept with Modification	see response to Comment #018	Yes - 6/18/2019
DHRDRAWP-083	The sentence is written, "Water level data are used to monitor the extraction and injection rates, assess plume capture, and assess the need to rebalance flow rates to optimize capture zone boundaries." Water level data don't monitor the extraction and injection rates, rather they monitor the "effects of extraction and injection."	Revise the sentence to accurately reflect the purpose of the water level data.	4	4-11/20-21	Accept	Edited as suggested.	Yes - 5/9/2019
DHRDRAWP-084	The reference list in section 8 identifies SGW-38815, Rev 0; however Rev 1 has been released.	Correct the document reference for SGW-38815 to Rev 1 in the Reference section.	4	4-11/22-23	Accept	Corrected the reference.	Yes - 5/9/2019
DHRDRAWP-085	The text states that "Table 4-2 summarizes ongoing work tasks by activity for the P&T systems, the minimum frequency, and where the information is documented." The purpose and content of the table is not clear. This needs further discussion to make it clear how each of the work tasks fits with "specific to procurement and construction, operational approach, and data use and interpretation for the groundwater P&T and MNA remedies included in this section."	Provide the discussion and description requested in the comment.	4	4-11/27-28	Accept with Modification	Text revised. Table 4-2 revised. Section 4.4.1 describes procurement and construction, Section 4.4.2 describes operation. Section 4.4.3 describes data use and interpretation. .	Yes - 6/5/2019
DHRDRAWP-086	The text states, "Effluent sampling results will be used to track plume boundaries and monitor radiological conditions." It is unclear how effluent contaminant chemistry data can be used to track plume boundaries and monitor radiological conditions. The 183-HR-3 SAP includes effluent sampling to answer the study question "Is the remedy effectively reducing the groundwater Cr(VI) plume?" The O&M Plan states that "Effluent tank samples provide characterization of Cr(VI) concentrations at the completion of treatment prior to reinjection at the injection wells." Tracking plume boundaries does not appear to be a use for these results. Please clarify this or remove the statement.	Provide clarification how effluent sampling results can be used to track plume boundaries and monitor radiological conditions. Or remove this sentence.	4	4-11/40-41	Accept	Deleted statement that effluent monitoring would be used to track plume conditions. Added text to clarify the purpose of effluent samples.	Yes - 5/9/2019
DHRDRAWP-087	The text states, "Table 4-2 lists the groundwater RA reporting tasks." It seems Table 4-2 not only lists the RA reporting tasks but other documentation associated with the work tasks.	Clarify the documentation that Table 4-2 identifies.	4	4-12/25-26	Accept with Modification	Deleted sentence at this location; moved to lead in under Section 4.5, revised text and table title to Table 4 2 summarizes remedial action work activities for groundwater cleanup.	Yes - 6/5/2019

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DHRDRAWP-088	The heading "Requirement (Location)" does not provide the source of the requirements. In many cases the "Requirements" box describes activities, rather than requirements, for the work task. Some of these are called out specifically below.	Provide the source of the "Requirement (Location)" column. Review and revise the "Requirements" for work tasks where they identify activities rather than requirements.	4	4-13 to 4-16/--	Accept with Modification	Revised table. Added reference to ROD location generating requirement.	Yes - 6/5/2019
DHRDRAWP-089	The elements under "Remedial Design/Remedial Action Work Plan (this RD/RAWP)" do not include RUM characterization. It is not clear if this is intentional or was inadvertently left off. In addition, evaluating secondary sources is not included in this list.	Review and add RUM characterization, if appropriate. Review secondary sources evaluation and include if appropriate.	4	4-13 to 4-16/--	Accept with Modification	Added RUM characterization activity to updated table	Yes - 6/5/2019
DHRDRAWP-090	The references under "Activity" to the sections in this plan are in some cases incorrect. For example, Section 6.3.3.3 is identified, but that section does not exist in the plan because the headings are identified only to 6.3.3. This occurs in a few other cases also where a sub-heading is identified but it does not exist.	Review the Section references cited where an activity is discussed, and correct them as necessary.	4	4-13 to 4-16/--	Accept	Revised to identify appropriate section, table revised	Yes - 6/5/2019
DHRDRAWP-091	The second row of the table, "Evaluate Completion of Active P&T Remediation" includes the requirement to "Develop and implement the necessary analysis to initiate the rebound study" and to "Prepare rebound study plan." Developing the analysis and preparing the rebound study plan would seem to be a discrete and separate effort than to "determine with active remediation can be suspended."	Suggest that the analysis and study plan for the rebound study be identified as a separate work task. Note that the "Rebound Study Plan and SAP" is in the row for the "Perform Rebound Study" row.	4	4-13/--	Accept with Modification	Deleted "Prepare rebound study plan" , as this activity is in a separate row. These activities are linked, level of detail is not necessary in this table to call out separately. Chapter 7 provides details. Added references to appropriate sections.	Yes - 6/5/2019
DHRDRAWP-092	The first row on the table in this page is to "Evaluate Uncertainty Sampling" in order to "Calculate "uncertainty" analyte concentrations and compare with action levels." I did not see this activity even touched upon in this plan. Perhaps this row does not belong in the table.	Review the Work Activity row to "Evaluate Uncertainty Sampling" and remove it if appropriate. Otherwise, include this activity in the plan.	4	4-15/--	Accept with Modification	This is a task that was agreed to with Ecology during RI/FS comment resolution; The analysis will be conducted during the revision to the Groundwater monitoring SAP (DOE/RL-2013-30) and the SAP will be modified based on those results.	Yes - 6/20/2019
DHRDRAWP-093	The second row on this page "Evaluate Potential Source Areas" is identical to the second row on page 4-14. Review and verify if this is correct.	Review and verify.	4	4-15/--	Accept	Deleted - redundant.	Yes - 6/5/2019
DHRDRAWP-094	The first row on this page is to "Evaluate Effects of Source Removal/Remediation Schedule" The relation of the "remediation schedule" with "determining potential monitoring and treatment system effects" is not at all clear. Evaluation of the source remediation <u>schedule</u> would not seem to be a driver on potential system effects. But rather evaluation of source remediation activities would be such a driver.	Review this and correct or clarify it if appropriate.	4	4-16/--	Accept with Modification	Clarified that this activity is tied into RPO. Planning is required to install/sample wells downgradient of source areas prior to initiating any source removal action to monitor and evaluate effects, also to capture any contaminants that may be released (e.g., during source flushing).	Yes - 6/5/2019
DHRDRAWP-095	The "Requirements" for the second row, "Maintain Remedial Systems" are currently written as an activity. This should be revised to reflect the actual requirement associated with the work task. The "Requirements" for the fourth row, "System Calibration" are currently written as an activity. This should be revised to reflect the actual requirement associated with system calibration.	Review these and revise to reflect the actual Requirement for each work task.	4	4-16/--	Accept	Revised table and added in reference to ROD requirement section.	Yes - 6/5/2019
DHRDRAWP-096	The "Requirements" for the fifth row, "Well Maintenance" are currently written as an activity. This should be revised to reflect the actual requirement associated with the well maintenance work task.	Review these and revise to reflect the actual Requirement for each work task.	4	4-16/--	Accept	Revised table and added in reference to ROD requirement section.	Yes - 6/5/2019
DHRDRAWP-097	The table states that "Assess System Performance" will be done "As needed." No criteria are provided that would provide the basis for determining when this would be needed.	Provide criteria to determine when this work task activity will be performed.	4	4-17/--	Accept with Modification	The O&M plan section referenced has the frequencies, which vary for different parameters.	Yes - 6/5/2019

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DHRDRAWP-098	This document contains no information on radiological air emissions monitoring. This (or another) section should include air monitoring requirements. See Sections 2.4.2 "WAC 173-480 and WAC 246-247" on page 2-7 of DOE/RL-2014-44 ADD1 Rev. 0 and Section 3.3.5 on page 3-4 of DOE/RL-2014-44 ADD1 Rev. 0. This work plan include waste sites with radiological contaminants.	Include sections on Radiological Air Monitoring.	5	5-1/8-12	Accept	Added statement linking to (future) air monitoring plans.	Yes - 6/18/2019
DHRDRAWP-099	The text states "The Hanford Site has comprehensive policies and procedures in place to report nonroutine releases to the environment." The specific program under which the policies and procedures fall should be identified.	Provide the specific program under which the "comprehensive policies and procedures" fall.	5	5-2/9-11	Not Accepted	Added text referencing the DOE/RL-94-02, Hanford Emergency Management Plan. Current text is the same as for other OU RDRAWPs.	Yes - 5/20/2019
DHRDRAWP-100	This section needs more information on minimizing disturbance during construction and performing cultural reviews.. See Section 5.4 of DOE/RL-2013-31 and Section 2.4.3 Location-Specific ARARs of DOE/RL-2014-44 ADD1 Rev. 0.	Include additional information on both minimizing disturbance during construction and performing cultural reviews.	5	5-2/19-27	Accept	Text revised/expanded.	Yes - 6/5/2019
DHRDRAWP-101	The text states that "Surveys are conducted, as appropriate..." It may be important to identify the general qualifications of those who would conduct the surveys, and under what conditions.	Provide who would conduct the surveys, and under what conditions.	5	5-2/25-26	Accept with Modification	Added "by qualified personnel".	Yes - 5/20/2019
DHRDRAWP-102	The text states, "The responsible design agency will maintain control of the design documents through acceptance of the documents." The specific "design agency" for this Plan should be identified specifically. I believe this should be DOE.	Provide the specific responsible design agency.	5	5-5/5.7.3	Accept with Modification	added reference to Remediation Contractor (Section 3.1)	Yes - 6/5/2019
DHRDRAWP-103	All Ch. 6 information pertinent to soils has been duplicated from the 100-F RD/RAWP, and to a certain extent the 300 Area RD/RAWP, to provide consistency.	Include language in the introduction of Ch. 6 acknowledging that this is generic language that has been applied to the 100 Areas.	6	--/--	Accept with Modification	Added language to the beginning of Section 7.1.	Yes - 6/5/2019
DHRDRAWP-104	The section heading "Site Verification and Closeout" should be a subheading under 6.1 Verification of Waste Site Cleanup. The heading should be 6.1.1, and the following subsections should be below that. This clarifies that "Site Verification and Closeout" is a component of "Verification of Waste Site Cleanup."	Review and correct the heading numbers if necessary.	6	6-1/25	Accept with Modification	Combined the "Verification of Waste Site Cleanup" and "Site Verification and Closeout" sections into one. Other waste site elements arranged as subsections under this.	Yes - 6/5/2019
DHRDRAWP-105	Include more information about the operable unit in this section, including references. 100-OL-1 is currently in the process of Remedial Investigation.	Include more information about the operable unit in this section, including references.	6	6-2/--	Accept	Text added.	Yes - 6/5/2019
DHRDRAWP-106	Groundwater Cleanup is one of the major actions under "Remedial Action Completion" and should be renumbered to 6.2 - if the section number changes suggested above are made.	Renumber Section 6.3 to Section 6.2 if other numbering changes are made as suggested above.	6	6-3/8	Accept with Modification	Document was reorganized in response to comment -001.	Yes - 6/5/2019
DHRDRAWP-107	This sentence indicates that "Total chromium in groundwater is primarily present as Cr(VI), so the treatment of Cr(VI) groundwater contamination will result in attaining cleanup levels for total chromium, since the total chromium cleanup levels are greater than the Cr(VI) cleanup levels." This is an unsupported conclusion. This statement will need to be supported with the basis. The total chromium RAO will always need to be achieved.	Provide the information that will support this conclusion or remove the sentence.	6	6-3/15-17	Not Accepted	Language consistent with the ROD. No change needed.	Yes - 6/5/2019
DHRDRAWP-108	" Implemented" is confusing as it implies that some action has been completed.	Replace "implemented" with "initiated".	6	6-3/29	Accept	Edited as requested	Yes - 5/21/2019

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DHRDRAWP-109	The text states, "Because of this disruption, attainment monitoring cannot be completed until Step 3 (End Remediation with Rebound Study) of the P&T RA." The word "attainment" is used here as a monitoring approach, but is not used in this context elsewhere in this section. Elsewhere it is used to describe when cleanup levels are achieved (e.g., "to demonstrate attainment of cleanup levels in groundwater"). Maintain consistency in the terminology, e.g., compliance monitoring (as used in text and the figure). Further, in this context it is more accurate to state that compliance monitoring <u>cannot be started</u> until Step 3 is completed.	Revise the sentence to replace "attainment" with "compliance" to the sentence reads, "Because of this disruption, compliance monitoring cannot be completed until Step 3 (End Remediation with Rebound Study) of the P&T RA." Or revise to state that "attainment of the RAOs cannot be demonstrated until Step 5.	6	6-4/5-7	Accept	Edited to read that compliance monitoring cannot be started until Step 3 (End Remediation with Rebound Study) is completed.	Yes - 5/20/2019
DHRDRAWP-110	This section introduces the steps and general activities to conduct and evaluate the remediation progress. Specific plans for each step are not provided. Provide the specific plans or discuss that these specific plans will be prepared and how they will be provided to Ecology. Discuss whether specific plans will require Ecology review.	See comment. Provide the specific plans or that specific plans will be prepared and provided to Ecology prior to conducting the work for each step.	6	6-4 to 6-9/Entire section	Not Accepted	This was discussed extensively during interim action RD/RAWP preparation, most of the text comes directly from that.	Yes - 6/5/2019
DHRDRAWP-111	Expand text on RPO to describe the process used here at Hanford. It is relatively unusual in CERCLA to go through an RPO process annually.	Describe Hanford RPO process.	6	6-4/15-17	Accept with Modification	Added reference to section 4.1.2 where RPO is described.	Yes - 5/20/2019
DHRDRAWP-112	The information in Figure 6-2 applies to all the steps in the Pump and Treat Remediation. The figure should be presented under the major heading 6.3.2 Pump and Treat Remediation Steps.	Provide the first reference to Figure 6-2 under major heading 6.3.2 Pump and Treat Remediation Steps.	6	6-5/3	Accept	Added a sentence under the major heading referencing the figure.	Yes - 5/20/2019
DHRDRAWP-113	The text states, "Another element will be to verify that the concentrations or plume/source conditions for other COCs are still within the expectations set for use of MNA as the remedy." This sentence, which is specific to MNA appears to be out of place for the active remediation performance monitoring subsection. As such, it does not belong here.	Move this sentence to the MNA section.	6	6-5/10-12	Not Accepted	This sentence is consistent with the discussion on how the remedy is likely to conclude. Because the P&T is for inland areas and hydraulic protection, when modeling and performance monitoring demonstrate that achieving the surface water standard can be achieved without active remediation, MNA may be used to reach the CUL.	Yes - 5/20/2019
DHRDRAWP-114	Text states, "The performance assessment may be performed on groups of wells that identify sub-areas within the OU where concentrations indicate that cleanup has been achieved." The sentence does not clearly communicate the intent, that sub-areas within the OU can achieve cleanup based on performance assessment of groups of wells within those sub-areas.	Suggest revising the sentence to be more clear.	6	6-5/14-15	Accept	Text edited to clarify that cleanup may be achieved within sub-areas of the OU based on performance assessment of that group of wells.	Yes - 5/20/2019
DHRDRAWP-115	These two sentences are repeated in lines 28-30. The sentences in lines 28-30 introduce some of the tools discussed. Remove these sentences from lines 15-18.	Remove the redundant sentences from lines 15-18.	6	6-5/15-18	Accept	Deleted the redundant sentence	Yes - 5/20/2019
DHRDRAWP-116	The sentence here is not clear that the diamonds in Figure 6-2 indicate decision points.	Make it clear that the diamonds in Figure 6-2 indicate decisions associated with the criteria listed.	6	6-5/19-20	Accept	Edited sentence to indicate that the diamonds are decision points.	Yes - 5/20/2019
DHRDRAWP-117	The analytical tools introduced here are discussed in detail in Section 6.3.4.3. Reference to that section should be provided here.	Provide a reference to Section 6.3.4.3, where these tools are discussed in detail.	6	6-5/28-31	Accept	Added a reference to the correct section.	Yes - 5/20/2019
DHRDRAWP-118	The bullets indicate sources of information with which to make decisions to stop treatment. EPA 240-R-92-014 does not make this statement, rather it states, "The statistical techniques presented in this chapter can be used to (1) determine whether contaminant concentrations are decreasing over time, and/or (2) predict future concentrations if present trends continue. Other factors must be used in combination with these statistical results to decide whether the remedial effort has been successful, and when treatment should be terminated." Revise the sentence to reflect the EPA statement.	Revise the sentence to accurately reflect the EPA statement how regression analyses may be used, and that other factors must be used in combination with the statistical results.	6	6-5/33-36	Accept with Modification	The introductory sentence in Chapter 6 of EPA 230-R-92-014 is quoted verbatim, after adding the word "statistical" before "results". See attached copy of that page. The text quoted in the comment is from section 6.3, Combining Statistical Information with Other Inputs to the Decision Process. The text currently in the document is accurate as written.	Yes - 5/20/2019

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DHRDRAWP-119	The figure does not provide a decision diamond after the "Compliance Monitoring" box to reflect the end of compliance monitoring. Another decision diamond with a box below it titled "End Compliance Monitoring" will make the figure complete in relation to all the steps.	Provide another decision diamond on Figure 6-2 titled "Compliance Monitoring Indicates Attainment of Remediation Goals" with a box below it titled "End Compliance Monitoring."	6	6-6/--	Accept	Figure has been edited.	Yes - 6/5/2019
DHRDRAWP-120	Text states that "The set of wells may be divided by proximity to the river." This statement reads like an exclusive statement that the subarea would be defined only by proximity to the river. Wells within subareas may also be divided by other criteria.	Clarify the statement.	6	6-7/5	Accept	Edited to clarify.	Yes - 5/20/2019
DHRDRAWP-121	The text states, "Each P&T system will have a sample set composed of wells used to monitor performance." It is not clear where this information is documented. The wells associated with each pump and treat system to monitor performance should be provided in a work plan.	Provide the where this information is documented. Assumedly this is the SAP.	6	6-7/2-3	Accept	Added a reference to the SAP (DOE/RL-2013-30).	Yes - 5/20/2019
DHRDRAWP-122	The location of work plan(s) that provide or will provide the data collection is not provided. It will be necessary to provide documented plans for this work.	Provide where the data collection frequency and timeframe are or will be documented.	6	6-7/10-12	Accept	Added reference to DOE/RL-2013-30, the 100-HR-3 OU SAP.	Yes - 5/20/2019
DHRDRAWP-123	Remediation monitoring may be appropriate to reevaluate as cleanup levels are approached on an individual COC basis. Consider that Cr(VI) is expected to be remediated decades before strontium-90 is expected to reach cleanup through MNA.	Remove the phrase "for all COCs".	6	6-7/14	Accept	Edited to clarify.	Yes - 5/20/2019
DHRDRAWP-124	Text states, "OSWER 9283.1-44 identifies nonstatistical or visual review that may be appropriate when groundwater data are all nondetect (ND) or data are a combination of ND and detected COC concentrations less than the cleanup level." This statement is not clear when these nonstatistical methods may be used. The approach provided in OSWER 9283.1-44 for a non-statistical review is "If the groundwater COC concentrations are all "non-detect" (the PQL or RL is below the cleanup level) or a combination of "non-detect" sampling results and all detected COC concentrations is below the cleanup level, a statistical analysis may not be needed to accurately conclude that the COC cleanup levels have been reached." Clarify that these methods may be used when the PQL or RL is below the cleanup level.	Revise the sentence to clarify that nonstatistical review may be used if the PQL or RL is below the cleanup level. See Page 6-16, lines 25-28 for the appropriate language.	6	6-8/1	Accept	Added suggested text	Yes - 6/5/2019
DHRDRAWP-125	This section is to discuss "advanced performance analysis" but does not provide adequate information on these tools.		6	6-8/1-11	Accept with Modification	Added a reference to EPA 530/R-09-007, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. The document is referenced in OSWER 9283.1-44 as the appropriate guidance to refer to when conducting statistical analysis for determining attainment.	Yes - 6/5/2019
DHRDRAWP-126	This states that the rebound study approach will be documented, but no information is provided on the content, review, or reporting requirements of the study approach.	Provide what information will be included in the rebound study approach, and provide how the documentation will be reported. Include if the intent is to update the work plan prior to a rebound study or if a separate plan will be agreed to at that time.	6	6-8/29	Accept	Edited text to indicate that a new document will be prepared for each rebound study area.	Yes - 5/21/2019
DHRDRAWP-127	This states, "When the rebound study shows that the aquifer is not under the influence of active remediation (e.g., extraction and injection wells have ceased operating, and groundwater head levels and gradients return to ambient conditions), the compliance monitoring period (step 4) will commence." One element of the decision to move to step 4 seems to be missing - that contaminant levels remain below the RAOs.	Revise the sentence to add "and contamination levels remain below the RAO" before "the compliance monitoring period (step 4) will commence."	6	6-8/31-33	Not Accepted	Demonstration of meeting the CUL is when you meet the RAO, not before.	Yes - 5/20/2019

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DHRDRAWP-128	The statement "The attainment monitoring evaluation should be conducted separately for each COC at each well" is not definitive. This statement should state that attainment monitoring evaluation will be conducted separately for each COC at each well, in accordance with OSWER 9283.1-44.	Revise the sentence to "The attainment monitoring evaluation will be conducted separately for each COC at each well."	6	6-9/1	Accept	Edited to add the reference to OSWER directive.	Yes - 5/21/2019
DHRDRAWP-129	This paragraph provides recommendations, which are not definitive. This should provide definitive statements regarding the planned work. Also provide how the plans will be documented. The wording in the sentence on lines 6-7 is not clear, and could benefit by breaking the sentence up, since two different thoughts seem to be stated here.	Provide definitive statements regarding the planned work. Also provide how the plans will be documented. Suggest rewording the sentence on lines 6-7 as follows: "The same data set will be used to make both attainment monitoring conclusions provided in the bullets above. A minimum of eight data points will be used in these analyses."	6	6-9/6-9	Accept	Text edited as suggested.	Yes - 5/21/2019
DHRDRAWP-130	This states "Completed remediation can be attained after 95% UCL for each COC at each well remains below the established cleanup levels for a period of 3 years." It is unclear in this sentence what "completed remediation" means. It reads as if this is completion of attainment monitoring because this is when each COC remains below the cleanup level for a period of 3 years, but this could also be interpreted that this is the end of compliance phase. It is not clear whether the minimum of eight data points indicated on line 7 are collected during this period of 3 years.	Please clarify the relationship between the 8 data points on line 7 and the period of 3 years.	6	6-9/12-13	Accept with Modification	Clarified the text to indicate that a minimum of 8 samples are needed to calculate a UCL, and therefore attainment monitoring will be conducted until that is met, which is anticipated to be 3 to 5 years depending on the sampling frequency.	Yes - 6/5/2019
DHRDRAWP-131	This states, "The 95% UCL calculation will be completed by selecting the most suitable methodology based on the characteristics of the concentration datasets and considering WAC 173-340-720(9)(d)(i), "Groundwater Cleanup Standards." The remedial action goals for 100-HR-3 have been set forth in the ROD, so reference to WAC 173-340-720(9)(d)(i), "Groundwater Cleanup Standards" is unnecessary. This should state considering the remedial action objectives stated in the ROD.	Revise the sentence to state, "The 95% UCL calculation will be completed by selecting the most suitable methodology based on the characteristics of the concentration datasets and the remedial action objectives."	6	6-9/27-29	Accept	Edited as requested	Yes - 5/20/2019
DHRDRAWP-132	The organization of the report is unclear in this heading. The section "6.3.4 Remediation Monitoring and Evaluation" appears to be a general discussion of both P&T and MNA, and would seem to be more appropriate as a section under 6.3 Groundwater Cleanup. The content on pages 6-13 through 6-21 apparently is directed specifically to MNA.	Review the information and move if appropriate.	6	6-12/1-8	Accept	Document was reorganized to clarify. Section is under the Groundwater Cleanup main section, with text edited to clarify that it applies to P&T and MNA.	Yes - 6/5/2019
DHRDRAWP-133	Line 7 states that Table 6-2 provides a general timeline; however this is not obvious from the information in the table. Some actions are identified in Stage I only and others are identified in both Stage I and Stage II. Installation of new wells is shown for a duration of 2 years, implying it will not be performed beyond 2 years. The action "Evaluation of P&T system performance" is both 2 years and ongoing. The activity "Performance monitoring sampling" is shown only in the 2 year duration, implying that it is not an ongoing action. The action "Evaluation of MNA processes and associated indicators" is a 2 year duration, implying this will be completed within two years and will not be an ongoing activity. The action, "Reporting of performance monitoring sampling results and performance evaluation in the annual groundwater report" is a 2 year duration and also an ongoing activity but with the "performance evaluation" not part of the ongoing activity.	Review Table 6-2 and clarify which actions are limited to 2 year duration and which are ongoing. It would seem that only the actions that occur within 2 years should be listed here, and all actions that occur within 2 years and beyond 2 years should be ongoing duration.	6	6-12/7-8	Accept with Modification	Deleted table.	Yes - 6/5/2019

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DHRDRAWP-134	Line 8 states that discussions of these activities are provided in the following sections, but some of these are not. The relation between Table 6-2 and the activities discussed is not clear. The discussion provides actions that meet the steps of EPA's framework for MNA implementation.	Consider revising the Table 6-2 to provide direct relationships to the activities discussed, to the steps of EPA's framework, steps in groundwater remediation; or revise the table to provide a true timeline of remediation activities, or remove the table.	6	6-12/7-8	Accept with Modification	Deleted table.	Yes - 6/5/2019
DHRDRAWP-135	The text states "Evaluation of monitoring data for plume maps would also reveal unexpected increases in COC contamination..." Evaluation of trends as well as plume maps should indicate if unexpected increases in contamination may occur.	Provide contaminant trend evaluations as part of this review.	6	6-14/12-13	Accept	Edited as requested	Yes - 5/20/2019
DHRDRAWP-136	The text states "The new well installation data will include the elevation of geologic contacts, transmissivity of <i>unconfined aquifer</i> , and water table elevation." Wells that may be installed in the RUM will include transmissivity. This should not identify just transmissivity of the unconfined aquifer.	Revise the sentence to "The new well installation data will include the elevation of geologic contacts, transmissivity of aquifers, and water table or hydraulic head elevation."	6	6-14/32-33	Accept with Modification	Edited to read "...transmissivity of aquifers, and water table elevation or hydraulic head.	Yes - 5/20/2019
DHRDRAWP-137	The text refers to concentration data for each of these 'sources' will be used... Suggest replacing the word "sources" with "monitoring locations" so as not to confuse with secondary sources.	Replace "sources" with "monitoring locations."	6	6-14/41-42	Accept	Edited as requested	Yes - 5/20/2019
DHRDRAWP-138	The use of the word "may" in this sentence is not definitive.	Replace "may" with "will."	6	6-15/1	Accept	Edited as requested	Yes - 5/20/2019
DHRDRAWP-139	It is unclear whether this section applies only to MNA or to remediation in general. Clarify the scope of the section.	Clarify the scope of the section 6.3.4.2.	6	6-15/8	Accept	Edited text to clarify. It should be noted that the first two paragraphs of the main section state it applies to both P&T and MNA.	Yes - 6/5/2019
DHRDRAWP-140	This entire paragraph is not needed. Cleanup projections in the RI/FS were based on years worth of data already collected from a robust monitoring network. This paragraph was more applicable to an operable unit such as 100-FR-3 where a new monitoring network to was required for MNA.	Remove the paragraph.	6	6-15/34-44	Accept	Deleted paragraph	Yes - 5/20/2019
DHRDRAWP-141	This entire section discusses more specifically the statistical tests that are generally summarized in Section 6.3.2. It would be helpful to state in Section 6.3.2 that the analytical tools are discussed in more detail in Section 6.3.4.3.	Provide earlier in the Plan that details are provided in Section 6.3.4.3.	6	6-16/Entire section	Accept	Added a reference to this section earlier in the document. See response to comment -117.	Yes - 5/20/2019
DHRDRAWP-142	This states in part, "statistical analysis of the groundwater sample data set will be performed to evaluate if MNA progress is consistent with expectations and assess the attainment..." The specific mention of MNA causes some confusion. It is not clear if this entire section applies only to MNA.	Clarify whether the section applies only to MNA.	6	6-17/2-3	Accept	Deleted the reference to MNA and clarified that it applies to remediation progress.	Yes - 6/5/2019
DHRDRAWP-143	This text seems to imply the section applies to MNA only.	Clarify whether the section applies only to MNA.	6	6-17 to 6-20/13-15, 29-45	Accept	Deleted the reference to MNA and clarified that it applies to remediation progress.	Yes - 6/5/2019
DHRDRAWP-144	It is not clear why this section would require attainment monitoring for 5 years for each COC and well combination. Is this requiring that each well will be in attainment monitoring for 5 years? It is probable that monitoring of each individual well in 100-HR-3 may not be needed for attainment monitoring.	Remove or reword the statement to change the implication. Alternatively, provide justification for 5 years of attainment monitoring at each well. Since this language is specifically found in the MNA section, ensure it is duplicated in the sections on pump and treat.	6	6-17/39-40	Accept with Modification	Clarified the text to indicate that a minimum of 8 samples are needed to calculate a UCL, and therefore attainment monitoring will be conducted until that is met, which is anticipated to be up to 5 years. The text is under the Remediation Monitoring and Evaluation section, so it already applies to both P&T and MNA and does not need to be repeated.	Yes - 6/5/2019
DHRDRAWP-145	This states, "Attainment monitoring will be performed for 5 years for each COC and well combination." A period of 3 years was identified in section 6.3.2.4, page 6-9. Section 6.3.2.4 also stated 8 samples are needed to demonstrate attainment. Please clarify this apparent discrepancy. Provide the basis for performing monitoring for 5 years.	See comment.	6	6-17/39-41	Accept with Modification	Clarified the text to indicate that a minimum of 8 samples are needed to calculate a UCL, and therefore attainment monitoring will be conducted until that is met, which is anticipated to be up to 5 years. Edited earlier sections to be consistent.	Yes - 6/5/2019

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DHRDRAWP-146	Large concentration increases in any wells are of concern. This could indicate a new or renewed release or a previously unknown source.	Remove "Near-source".	6	6-21/13	Accept	Removed "Near-Source"	Yes - 5/20/2019
DHRDRAWP-147	This bullet implies the section applies to MNA only.	Clarify whether the section applies only to MNA.	6	6-21/17	Accept	That is correct, that bullet only applies to MNA. The overall section has been edited text to clarify that it applies to both P&T and MNA. It should be noted that the first two paragraphs of the main section (7.2.4) state it applies to both P&T and MNA.	Yes - 6/5/2019
DHRDRAWP-148	The text mentions the 5-year performance monitoring report. It is unclear whether this refers to the CERCLA 5-year review or some other report. The Plan previously stated that attainment monitoring will be conducted for 5 years after the RA is completed. It appears that this has been considered in the timing of the 5-year reports mentioned in lines 22-24.	Clarify what this 5-year performance monitoring report is.	6	6-22/17-18, 22-24, 32	Accept	Edited text. Results are to reported in the CERCLA 5-year review, annual monitoring reports, and in the final RA report.	Yes - 6/5/2019
DHRDRAWP-149	This title is misleading as it implies progress reporting for the interim remedy.	Suggest changing the title to "Periodic Remedy Progress Documentation and Reporting".	6	6-22/35	Accept with Modification	Edited to read "Periodic Remedy Progress Reporting". The word "documentation" is not needed.	Yes - 5/23/2019
DHRDRAWP-150	This identifies the outline for the final closeout report. Consider a separate section that provides the outline for the 5-year performance monitoring report.	See comment.	6	6-23/5	Not Accepted	see response to Comment #148, which clarified the document is the CERCLA 5-year review.	Yes - 6/5/2019
DHRDRAWP-151	This section should address all the remediated sites, not just the P&T of groundwater.	Suggest changing the paragraph to clarify that this section applies to the solid waste sites and the P&T operations (rather than the P&T only as currently stated on line 4)	6	6-24/3-5	Accept with Modification	Revised section title for clarity--this section is intended to be specific to decommissioning of P&T system components.	Yes - 6/5/2019
DHRDRAWP-152	The text cites dangerous waste regulation requirements. Verify this is appropriate for the site. Perhaps the reference should be to the Waste Management Plan.	See comment.	6	6-25/7-11	Accept with Modification	Paragraph deleted. Reference to the WMP in the underlying Section 7.5.1 corrected.	Yes - 6/5/2019
DHRDRAWP-153	This section should address all the remediated sites, not just the P&T of groundwater.	Revise this section to address solid waste sites in addition to the P&T systems.	6	6-25/13-36	Not Accepted	Please refer to response to Comment 151.	Yes - 6/5/2019
DHRDRAWP-154	The discussion on inspecting and replacing aquifer tubes is out of place here. Only removal and disposal of aquifer tubes is relevant to the scope of this section.	Remove discussions on aquifer tube inspection, repair, or replacement.	6	6-25/33-36	Accept with Modification	Edited text.	Yes - 6/5/2019
DHRDRAWP-155	The history of the DX & HX P&T systems is included in other portions of the document. A brief reminder that the same systems were built under the interim actions but are authorized under the final action ROD will clarify that we are discussing the systems currently in use. The subsections of Chapter 6 are not included in chronological order, which makes it somewhat unclear if we are discussing D&D of old outdated Interim P&T system or the final P&T system.	Reiterate in the text that the DX and HX systems were built under the interim actions but that they will be the pump and treat system under the final action as well. This will clarify that the D&D of the P&T will occur after the P&T has concluded its purpose.	6	6-25 through 6-26/--	Accept	Added text stating that the systems were installed under the interim action ROD, but authorized for continued use under the D/H ROD.	Yes - 5/23/2019
DHRDRAWP-156	Please adjust text "waste site capping" to more accurately reflect that this is the remedial costs associated with 100-D-50:2.	Change text to "100-D-50:2 Remedial costs" or "Pipe capping at 100-D-50:2".	7	7-1/34	Accept	Text revised.	Yes - 5/20/2019
DHRDRAWP-157	Work Plan schedules typically have dates associated with them. It is typical to develop TPA milestones associated with the schedule in the Work Plan.	Include dates within this table.	7	7-2/--	Accept	Edited table to include dates	Yes - 6/5/2019
DHRDRAWP-158	The "Summary of Attainment of Remedial Action Objectives" table is missing a fifth column that is typically found on these tables. It is a Reference column, which documents the specific Calculation Brief that was prepared to demonstrate that the remedial action goal has been attained.	Include a reference column which documents the specific Calculation Brief that was prepared to demonstrate that the remedial action goal has been attained.	App A	A-2/--	Not Accepted	This column hasn't been regularly used in CVPs/RSVPs since the liquid effluent sites remediation era. (It was still often used for the similar backfill concurrence forms, as those lacked the supporting text of the CVP/RSVP document.)	Yes - 5/20/2019
DHRDRAWP-159	Recommend adding text from DOE/RL-2014-44 ADD1 Section B4.6.2 (1st paragraph) regarding statistical sampling designs.	Include discussion of statistical design.	App A	A-7/--	Accept	Text added.	Yes - 5/20/2019

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DHRDRAWP-160	For accuracy, the sentence should be edited as shown: “The verification samples collected are submitted to offsite laboratories certified <u>and accredited</u> to perform the requisite analyses using U.S. Environmental Protection Agency (EPA)-approved analytical methods.”	See comment	App A	A-7/18-19	Accept	Text added.	Yes - 5/20/2019
DHRDRAWP-161	Include steps to take when the maximum analytical detection will be used for evaluation instead of a recommended UCL by ProUCL with a statistical data set. Steps should be outlined similar to those included in IAMIT Decision No. 2018-001. Recommend using the 2 bullets from page 2 of the agreement adjusted for closeout sampling (as opposed to baseline risk assessment).	Include steps for analyzing the data with the regulators when a recommended UCL from ProUCL will not be used given a statistical data set.	App A	A-8/22-32	Accept with Modification	Adjusted existing text for better flow with new text. Added additional step for documentation of such instances based on the second bullet of page 2 of the referenced IAMIT decision. (The first bullet, dictating advance discussion, is excessive relative to the scale of effort for cleanup verification documentation; such discussion, when needed, would be better supported in the context of regulator review of the <u>cleanup documentation</u> .)	Yes - 6/5/2019
DHRDRAWP-162	The text provides the operational history of the Hanford Site that warrants the exclusion of thorium and radium isotopes from further evaluation if detected. However, a basis is not given for excluding potassium-40.	Please provide the requested justification.	App A	A-9/17-20	Accept	Text expanded to identify that potassium-40 is a natural background isotope.	Yes - 5/20/2019
DOE/RL-2017-39	There are 10 or less pages of information that has not been copied from the RDR/RAWP. Maintaining such a small specific document is costly and provides no benefit. This document should be incorporated as part of the RAWP.	Incorporate the information contained in DOE/RL-2017-39 Draft A into the RD/RAWP (DOE/RL-2017-13).	NA	NA	Accept	Waste management plan incorporated into Section 6.3. Resulted in additional comment for purgewater management.	Yes - 9/28/2020
Additional	Errors in arsenic and pyrene cleanup levels identified in ROD and replicated in RD/RAWP.	Identify corrected cleanup levels in tables and text.	2		Accept	Added footnotes and clarification to cleanup levels.	Yes - 9/28/2020