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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950
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August 17, 2018 18-NWP-139

Mr. Michael W. Cline, Federal Project Director
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: A5-11
Richland, Washington 99352

1249689

Re: Department of Ecology's (Ecology) Response to the *200-EA-1 Operable Unit Waste Site RCRA Facility Investigation/Corrective Measures Study and Remedial Investigation/Feasibility Study Work Plan*, DOE/RL-2016-58, Draft A, for a Final Review Comment Record (RCR) Period

Dear Mr. Cline:

Ecology received the *200-EA-1 Operable Unit Waste Site RCRA Facility Investigation/Corrective Measures Study and Remedial Investigation/Feasibility Study Work Plan*, DOE/RL-2016-58, Draft A, on July 12, 2018, in accordance with the Tri-Party Agreement, Section 9.2.1, for an initial 45-day RCR Period.

Enclosed are our final RCR comments to the United States Department of Energy.

We are submitting a copy of the enclosed RCR to the Administrative Record, in accordance with the Tri-Party Agreement, Section 9.4.

If you have any questions, please contact me at nina.menard@ecy.wa.gov or (509) 372-7941, or Kim Welsch, Environmental Specialist, at kim.welsch@ecy.wa.gov or (509) 372-7882.

Sincerely,

Nina M. Menard
Environmental Restoration Project Manager
Nuclear Waste Program

kw/aa
Enclosure

cc electronic w/enc:
Dave Bartus, EPA
Craig Cameron, EPA
Dave Einan, EPA
Jim Hansen, USDOE
Doug Hildebrand, USDOE
Ben Vannah, USDOE
Roberta Day, CHPRC
Marty Doornbos, CHPRC
Michael Hickey, CHPRC
Curt Wittreich, CHPRC
Stephanie Brasher, MSA
Scott Davis, MSA
Jon Perry, MSA
ERWM Staff, YN
Ken Niles, ODOE
Nina Menard, Ecology
Kim Welsch, Ecology
Cheryl Whalen, Ecology
CHPRC Correspondence Control
Environmental Portal
Hanford Facility Operating Record
MSA Correspondence Control
USDOE-RL Correspondence Control

cc w/enc:
Susan Leckband, HAB
Administrative Record
NWP Central File

cc w/o enc:
Matt Johnson, CTUIR
Jack Bell, NPT
Alyssa Buck, Wanapum
Rose Longoria, YN

Review Comment Record (RCR)

200-EA-1 Work Plan Comments

Tracking_ID	Commenter	Chapter	Section	Page_Num	Line_Num	Table_Figure	Comment_Basis	Modification_Needed
	NSJ	3	3.4	3-36 - 3-37		Table 3-9	This Master COPC List is not inclusive of all of the nonradiochemical contaminants that were provided to Ecology at the January 23, 2017 200-EA-1 Workshop. If the omitted constituents do not fit the criteria for exclusion, as stated in Section 3.4, they will need to be added to the Master COPC List. In addition, make sure the nomenclature for the chemical compounds and chemical spellings are all correct. A technical edit is necessary for this table prior to issuing to Ecology for the official document review.	**Inorganics**: aluminum, ammonium, boron, lithium, molybdenum, strontium Organics: acetophenone, acrolein, aroclor, aroclor-1221, aroclor-1232, aroclor-1242, aroclor-1248, benzyl alcohol, biphenyl, bromomethane, chlordifluoromethane (Freon 22), chloroethane, cyclohexene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, dichlordifluoromethane, 1,3-dichloropropene, 1,4-dinitrobenzene, 2,4-dinitrophenol, heptachlor, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, methanol, methyl isocyanate, 4-methylphenol (p-cresol), nitrobenzene, pentachlorophenol, 2-pentanone, pyridine, 2,4,5-trichlorophenol, 2-sec-butyl-4,6-dinitrophenol (dinoseb), butylated hydroxyl tolune, di-n-butylphthalate, carbazole, 2,4-dinitrotolune, n,n-diphenylamine, ethyl ether, ethylene glycol, toxaphene, trichlorofluoromethane Please either include the missing analytes or provide the technical basis for their omission.
	BR DD	3	3.6.1	3-38	19-21		The text mentions a possible proposal of a conditional point of compliance for direct contact. Note that WAC 173-340-740(6)(f) is only for remedies involving 'containment of hazardous substances.'	No Modification of the workplan is needed. However, this regualtion needs to be addressed in the RI.
	BR DD	3	3.8.1.1	3-45		Table 3-11	The table only gives parameters for radionuclides. This is for the construction worker scenario. Contamination from all depths of construction will contain nonradionuclides in addition to radionuclides.	Please include the parameters for nonradionuclides for the construction worker or justification for excluding this information.
	DD	3	3.8.1.3	3-46 - 3-47		Table 3-12	Note that the column, "Maximum Background Value," has no regulatory application. The 90th percentile values are the acceptable comparison values.	Add a footnote that the Maximum Background Value is for information only.
	BR	3	3.8.1.4	3-48	20-25		The document indicates that when the 95% UCL exceeds the maximum observed concentration, the maximum concentration will be used instead of the 95% UCL. The preference for the maximum over the 95% UCL does not err on behalf of protecting human health and the environment.	Modify this based on the IAMIT Agreement once signed.
	DD	3	3.8.1.7	3-50	6-8		Discussion of uncertainty in HHRA (and ERA) should address sources of uncertainty in all steps of the risk assessment process (e.g., CEM, COPCs, exposure, toxicity, risk characterization). Sensitivity analysis or probabilistic tools could be used to provide more information.	Add this discussion.
	DD	3	3.8.2.5	3-51	27		Re BCGs, replace "background" with "biota."	
	DD	3	3.8.2.7	3-52	29-31		Note explicitly that RESRAD-BIOTA is the software tool for implementing the screening and analysis methods in DOE-STD-1153-2002.	Add to text. Note: DOE-ST1153-2002 is notin the reference section and cannot be found in the AR.
	BR	3	3.8.3	3-53	24-26		The assumption that long-term net infiltraton rates will be as low as 4 mm/y in 30 years after backfilling waste sites, and stay that way for hundreds of years, does not err on behalf of protecting human health and the environment.	Modifiy this based on the IAMIT Agreement once signed.

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	DD	3	3.8.3	3-53	24-26		Despite statements in DOE/RL-2011-50, acknowledge that the time frame for restoration of natural shrub-steppe systems is uncertain and may take much longer than 30 years. In fact, the habitat may never be effectively restored to pre-disturbance conditions (e.g., in terms of plant diversity/abundance/structure, wildlife habitat, soil stability).	Add the following to this bullet. "It is acknowledged in DOE/RL-2011-50 that the habitat may never be restored to pre-disturbance conditions.
	DD	3	3.8.3.2	3-56	30		A conditional POC in groundwater, WAC 173-340-720[8][c] should be cited, and those requirements would need to be met.	Add to text.
	BR	5		5-4		Table 5.1	Add field devices for detection of volatile organic compounds. This table has been moved or deleted	Add the table or give new location and verify that field devices for detec
	BR	5	5.6	5-5	7-15		The document discuses a cumulative impacts evaluation (CIE) but doesn't give a timeframe for this. Compliance with WAC 173-340-747(8) (Alternative fate and transpert models) should not be postponed until the CIE is prepared.	Add Text that states that the CIE will be completed and used as the basis for the BRA for 200-EA-1. IF the CIE is not completed in time, then a separate fate and transport model will be developed for 200-EA-1.
	BR	5		5-7		Table 5-1	The closure performance standards should be corrected to WAC 173-303-610(2), and should be consistent with the text on p. 5-6, line 11.	Change to match text on page 5-6.
	BR NM	5		5-9		Figure 5.1	This diagram needs to be updated to match with the latest pathforward for integration of RCRA TSD Units and CERCLA	Please coordinate with Ecology on changes to this figure.
	SAP Team	App A	A3.4.9	A-131 to A-132			Provide what "Supplemental Sampling and Testing for Attenuation and Transport Processes Evaluation" represents with specific ASTM standards.	Comment not addressed. No language has been added to answer the posed question
	DD	App A	A2.2.1	A-19 to A-20		Table A-5	Table A-5, it is unclear why groundwater protection values are missing for rads. In my previous comment on this table (3/30/2018), where groundwater protection values were supplied, I had noted two issues: 1) MDC values for rads were generally inadequate to evaluate groundwater protection (i.e., groundwater protection level<MDC) and should be identified as an analytical uncertainty, and 2) values listed for groundwater protection were not values currently returned with the EPA rad PRG calculator (https://epa-prgs.ornl.gov/radionuclides/) nor the ORNL rad PRG calculator (https://rais.ornl.gov/cgi-bin/prg/PRG_search?select=rad), with ORNL values higher (typically 10-1000 fold) than EPA values (presumably due to differences in modeling and/or default input values).	Add rad groundwater protection values and add text to address comments 1 and 2.
	BR	App A	A2.2.1	A-21 to A-27		Table A-6	**Table A-6** includes Direct Contact values for WAC 173-340 Method C. However, there is an important related requirement that needs to be included as a footnote with Table A-6. The footnote should state: 'WAC 173-340 Method C requires that adjustments to total site risk and hazard values be made when total site risk will exceed a risk value of 1E-05 and/or total site hazard index of 1, in accordance with WAC 173-340-745(6).'	Add Footnote
	NSJ	App A	A2.2.1	A-21 to A-27		Table A-6	Due to the potential of using EPA Method 1668a for aroclor-1254 and aroclor-1260, the method should be included within Table A-6 with the applicable analytical performance requirements	Comment not addressed

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	NSJ	App A	A2.2.1	A-21 to A-27		Table A-6	Please provide a footnote for SIM. Typically, when polycyclic aromatic hydrocarbons (PAHs) are analyzed Ecology requires the use of EPA Method 8310. However, using EPA Method 8270 with SIM is also acceptable for laboratories that do not perform the standard PAH method (8310).	A definition for SIM has been added, however a footnote that explains that the EPA Method 8270 SIM is being used for PAH's instead of the customary EPA Method 8310 has not been included as requested.
	DD	App A	A2.2.1	A-26		Table A-6	Eco protection values in Table A-6, footnote "d" states that the lowest value from generic, Tier 1, Tier 2 sources was selected. This may be overly conservative for identifying the lowest analytical detection limit required. When identifying an appropriate eco PRG, a tiered iterative approach (favoring Hanford site specificity) should guide selection in the order: Tier 2, Tier 1, generic.	Modify footnote "d" as described.
	SAP Team	App A	A2.2.1	A-27		Table A-6	The PCBs reference footnote "m", which states "If aroclors are not detected, additional analyses will be conducted using EPA Method 1668a to confirm that PCB congeners are not present at low levels." Due to the potential of using EPA Method 1668a, the method should be included within Table A-6 with the applicable analytical performance requirements.	The majority of the information included in footnote "m" for the informal review has been omitted from the final review document. This information was necessary and must be reinserted as shown: m. PCBs will be evaluated in samples from 0 to 4.6 m (15 ft) below ground surface using a phased approach. Total PCBs are obtained by summing individual aroclor results. Aroclors will be evaluated initially using EPA Method 8082. If aroclors are not detected, additional analyses will be conducted using EPA Method 1668a to confirm that PCB congeners are not present or are present at low levels. The PCB congeners will be evaluated in accordance with WAC 173-340-708(8)(f), "Human Health Risk Assessment Procedures."
	SAP Team	App A	A1.3.1	A-3			Provide where these data needs are addressed in the main text in Chapter 4.	Comment not addressed. No language has been added to answer the posed question.
	SAP Team	App A	A1.3.2	A-3 to A-4			Provide what kind of data based on which PSQ the data that will be collected to "reduce uncertainty associated with lateral and vertical extent of .....contamination."	Comment not addressed. No language has been added to answer the posed question
	SAP Team	App A	A2.2.2.9	A-37			Provide what purpose sediment particle surface area supports in relation to contaminant migration and the ASTM standard	Comment not addressed. No language has been added to answer the posed question.
	SAP Team	App A	A1.3.2	A-4 - A-5			Provide a defination for "sufficient" as it relates to "sufficient data". For the ultimate decision, sufficient data will never be achieved. Provide in context what is meant by "sufficient data".	A definition of "sufficient data" has not been provided

200-EA-1 Work Plan Comments

	NSJ	App A	A1.4	A-4 - A-5		Table A-2	Comment: This Master Target Analyte list is not inclusive of all of the list of nonradiochemical contaminants that were provided to Ecology at the January 23, 2017 200-EA-1 Workshop. This finding was also documented in Ecology's Informal Comments for Chapter 3 of the 200-EA-1 OU Work Plan.	The following nonradiochemicals that were provided at the January 23, 2017 200-EA-1 Workshop are still missing from Table A-2: Inorganics: aluminum, ammonium, boron, lithium, molybdenum, strontium Organics: acetophenone, acrolein, aroclor, aroclor-1221, aroclor-1232, aroclor-1242, aroclor-1248, benzyl alcohol, biphenyl, bromomethane, chlordifluoromethane (Freon 22), chloroethane, cyclohexene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, dichlordifluoromethane, 1,3-dichloropropene, 1,4-dinitrobenzene, 2,4-dinitrophenol, heptachlor, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, methanol, methyl isocyanate, 4-methylphenol (p-cresol), nitrobenzene, pentachlorophenol, 2-pentanone, pyridine, 2,4,5-trichlorophenol, 2-sec-butyl-4,6-dinitrophenol (dinoseb), butylated hydroxyl tolune, di-n-butylphthalate, carbazole, 2,4-dinitrotolune, n,n-diphenylamine, ethyl ether, ethylene glycol, toxaphene, trichlorofluoromethane. Please either include the missing analytes or provide the technical basis for their omission
	NSJ	General	3 and App. A	3-36 to 3-37 A-4 to A-5		Table 3-9 Table A-2	The document is inconsistent in it use of the terms "Target Analytes" and "Contaminants of Potential Concern". Table 3-9 identifies the list as the Master COPC List. Whereas, Appendix A (SAP) identifies the list as the Master Target Analyte List. Both tables include the same list of radionuclides, inorganics, and organics.	Label the tables the same.