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April 30, 2013

Jonathan A. Dowell, Assistant Manager
for the River and Plateau
Richland Operations Office
U.S. Department of Energy
P.O. Box 550
Richland, Washington 99352

Re: U.S. Environmental Protection Agency (EPA) Comments on the 200-UP-1 Groundwater Operable Unit Remedial Design/Remedial Action Work Plan (DOE/RL-2013-07), Draft A

1220148

Dear Mr. Dowell,

The U.S. Environmental Protection Agency (EPA) has reviewed the 200-UP-1 Groundwater Operable Unit Remedial Design/Remedial Action Work Plan, Draft A. EPA is highly concerned with the remedy implementation schedule proposed in the document which would delay all well installation of the pump-and-treat remedy component until fiscal year (FY) 2016 through FY 2018. Remediation of groundwater at the Hanford Site is a top priority for EPA. EPA's expectation for the 200-UP-1 OU remedy is that all wells will be drilled in FY 2014 through FY 2015 and all injection and extraction wells will be connected to the 200 West Pump-and-Treat facility by FY 2016.

Enclosed are EPA's comments on the referenced document. For questions or comments, please contact me at laija.emerald@epa.gov or at (509) 376-4919.

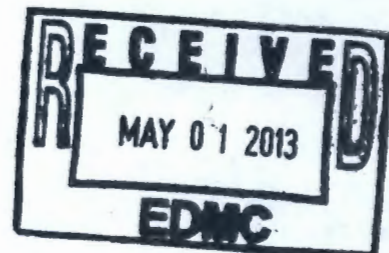
Sincerely,

Emerald Laija
Remedial Project Manager

Enclosure

Cc (electronically):

John Morse, DOE
Naomi Bland, DOE
Dib Goswami, Ecology
Administrative Record, 200-UP-1 File



EPA Comments on the 200-UP-1 Groundwater Operable Unit Remedial Design/Remedial Action Work Plan (DOE/RL-1013-07), Draft A

General Comments

Models used during remedial design should compare the vertical and horizontal movement of contaminants (hydrostratigraphic control) and address it based on preferential controls. Past research indicated distribution of uranium and T-99 show a shallow distribution pattern and carbon tetrachloride contamination is expansive in the unconfined aquifer.

Consider the use of future rebound studies after a period of pump-and-treat activities have occurred, particularly for uranium.

Specific Comments

- 1) Page 1-9, Figure 1-4: Identify all the wells which have not yet been installed and hooked up on the figure more clearly. Clarify if the 2011 carbon tetrachloride plume boundary reflects points of calculation based on concentration or some regulatory changes to the RCRA point of compliance.
- 2) Page 2-6, Section 2.1.4: The text should include the role of the CERCLA five-year review as described in section 12.2.7 of the ROD.
- 3) Page 2-10, Section 2.3, line 1: The text beginning on this page seems out of place. This section should include a title such as "Attainment of Cleanup Levels".
- 4) Page 2-11, Section 2.3, lines 21-23: The text references how statistical analysis will consist of calculating the upper one-sided 95 percent confidence limit (UCL₉₅). However, the text does not identify which wells will be used. Clarify the sentence as follows:
"The statistical analysis will consist of calculating the upper one-sided 95 percent confidence limit (UCL₉₅) for each COC on a well-by-well basis using a representative set of data for comparison to cleanup levels."
- 5) Page 2-12, Section 2.4: The schedule for the SAP for monitoring well installation should be included in the implementation schedule in Figure 7-1. This SAP should be considered part of the work plan.
- 6) Page 2-13, Section 2.4.1: A SAP for the installation of injection and extraction wells should be mentioned here and included in the implementation schedule in Figure 7-1. This SAP should be considered part of the work plan.
- 7) Page 2-13, Section 2.4.3, line 38: Revise the text as follows:
"The data will be used to calculate the UCL₉₅ for individual COCs on a well-by-well basis and changes in plume size or concentration over time as a measure of cleanup progress."

- 8) Page 3-2, Section 3.1.2, lines 29: Section 3.4 is referenced when it should be 3.5. The RDR should include more than the 30% design. The RDR should be complete when the 90% design is available and should include complete design specifications, drawings, and schematics.
- 9) Page 3-3, Section 3.1.2.2: Clarify if the MODFLOW/MT3DMS approach used for the 200-UP-1 OU is the same modeling approach used in the 200-ZP-1 RD/RA.
- 10) Page 3-16, Section 3.5, lines 37-42: As mentioned in a previous comment, the RDR should be based on a 90% design. The 60% and 90% design should incorporate regulator input and then be documented in the RDR. This section should be revised as follows:

"The remedial design process will be performed in a phased manner (30 percent, 60 percent, and 90/100 percent designs with the latter being included in the RDR. Upon completion of the 30 percent design, EPA will be briefed on the progress of the RD and solicited for informal comments to be incorporated into subsequent design efforts. A briefing will also be held with EPA at approximately the 60 percent design to update progress and solicit comments to be incorporated into the 90 percent design. The RDR will be provided to the lead regulatory agency for review and approval."
- 11) Page 3-17, Figure 3-4: Identify all the wells which have not yet been installed and hooked up on the figure more clearly. Clarify why the area around ERDF is labeled as a "facility of interest."
- 12) Page 3-18, Section 3.5.1: See the previous comments regarding use of 90% design in the RDR. The RDR should include the 90% design for U Plant area, the iodine-129 plume remedies, and the characterization plan for the SE chromium plume.
- 13) Page 3-19, Section 3.5.3, line 22: Revise the text as follows:

"...and to calculate changes in the UCL₉₅ for individual COCs on a well-be-well basis as a measure of cleanup progress."
- 14) Page 3-19, Section 3.5.3, line 34: The methodology and data for calculating the UCL₉₅ statistic may be included in the PMP, but it should first be identified in the RDR. The PMP is likely to change over time since it is treated as a living document. Identifying the methodology and data for the UCL₉₅ calculation in a primary document such as the RDR will ensure consistency over time in evaluating the remedy.

This section references a SAP to be contained in the PMP. Any SAPs used as part of planning for the 200-UP-1 remedy should be considered part of the work plan and/or the RDR, both of which are primary documents. No field work should be conducted until the SAPs are approved by EPA.
- 15) Page 3-20, Section 3.5.4: It is not clear how and when the I-129 Technology Evaluation Plan will be developed. Clarify to what extent EPA will be briefed and solicited for input on the Evaluation Plan.

- 16) Page 3-20, Section 3.5.5, lines 15-23: The pre-1980 wells, 699-32-62 and 699-33-56, have a perforated carbon steel casing and the potential interaction with the groundwater should be considered when analyzing data from these wells. The newer 699-30-66 well with a stainless steel casing does not have the same well deficiencies.
- 17) Page 3-20, Section 3.5.5: It is not clear how and when the DQO processes will begin for additional characterization of SE chromium plume and subsequent evaluation of plume geometry. It is EPA's expectation that all wells for the remedy, including characterization and extraction/injection wells for the SE chromium plume, will be drilled during FY 2014 and FY 2015 and hooked up to the 200 West facility in FY 2016. Provide more details on the overall schedule of completion of all the characterization, extraction, and injection wells of this remedial approach and the completion of the associated groundwater transfer lines and infrastructure needed to remediate the SE chromium plume.
- 18) Page 4-7, Section 4.5, line 9: Revise the text as follows:
"If the decrease in a contaminant concentration appears to be gradual, then the frequency of reports may be decreased to a minimum of every 5 years to correspond with the CERCLA five-year review."
- 19) Page 5-4, Table 5-2: ETF is listed as a disposal pathway option for liquids from sample and analysis screening. Considering there are efforts to reduce the number of waste streams going to ETF, reconsider if this is a disposal pathway that should be listed.
- 20) Page 7-1, Section 7.1, lines 5-7: The cost estimates seem to be high. Full details and breakdown of costs will be expected in the RDR, so it is important that all costs are accurate and justifiable. For example, if the RDR is expected to cost over \$1.8 million, it should include the 90% design information. Revise the text as follows:
"The cost estimate for the remedial action will be included in the RDR once the design is finalized and the operational approach is described in the O&M plan. The cost estimate in the RDR will also be compared to the original estimate in the 2012 200-UP-1 ROD."
- 21) Page 7-4, Figure 7-1: EPA is highly concerned with the remedy implementation schedule proposed in the document which would delay all well installation of the pump-and-treat remedy component until fiscal year (FY) 2016 through FY 2018. Remediation of groundwater at the Hanford Site is a top priority for EPA. EPA's expectation for the 200-UP-1 OU remedy is that all wells will be drilled in FY 2014 through FY 2015 and all wells will be connected to the 200 West Pump-and-Treat facility by FY 2016. Revise the implementation schedule accordingly.

The following items should be included as line items on the schedule:

- a) Completion of all remedy injection/extraction wells for all plume areas (can be listed as one item or as a separate item for each plume area) during FY 2014 and FY 2015
- b) Completion of all monitoring wells by FY 2015 (these can remain as listed under item 10 of the current schedule, but the dates must be adjusted accordingly)
- c) Connection of injection/extraction wells to the 200 West facility by FY 2016
- d) Start and completion dates for any SAPs associated with the 200-UP-1 remedy

- e) Start and completion dates for the characterization of the SE chromium plume
- f) Start and completion of the I-129 Technology Evaluation Plan including EPA review time

22) The milestone change form should be revised based on the following:

- a) Submittal of the RDR should be changed so that the RDR includes the 90% design.
- b) The remedial design investigation for characterization of the SE chromium plume should be included in the RDR, not the PMP. The PMP is a secondary document.
- c) Characterization and remedial design/implementation for the SE chromium plume should be completed by FY 2015.
- d) All milestone dates should be changed to reflect that wells will be drilled in FY 2014 through FY 2015 and all wells will be connected to the 200 West Pump-and-Treat facility by FY 2016 (M-016-195 and M-016-196).