0073723

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

AUG 07 2007

07-AMCP-0252

Mr. Ken Niles, Assistant Director
Nuclear Safety Division
Oregon Department of Energy
625 Marion Street Northeast, Suite 1
Salem, Oregon 97301

Dear Mr. Niles:

TECHNETIUM-99 PUMP-AND-TREAT SYSTEM TO SUPPORT THE 200-ZP-1 CERCLA REMEDIAL INVESTIGATION/FEASIBILITY STUDY PROCESS, DOE/RL-2007-23, REVISION 0 0072840

The purpose of this letter is to respond to the May 23, 2007, comments on Technetium-99 Pump-and-Treat System to Support the 200-ZP-1 CERCLA Remedial Investigation/Feasibility Study Process, DOE/RL-2007-23, Revision 0. The U.S. Department of Energy, Richland Operations Office has reviewed these comments and is providing the attached responses.

If you have any questions, please contact me, or your staff may contact Briant Charboneau, of my staff, on (509) 373-6137.

Sincerely,

Matthew S. McCormick, Assistant Manager
for the Central Plateau

AMCP:ACT

Attachment

cc: See Page 2

RECEIVED
AUG 10 2007
EDMC

cc w/attach:
B. A. Austin, FHI
G. Bohnee, NPT
L. Buck, Wanapum
M. E. Byrnes, FHI
J. Caggiano, Ecology
N. Ceto, EPA
R. H. Engelmann, EFSH
D. A. Faulk, EPA
B. H. Ford, FHI
S. Harris, CTUIR
J. Hedges, Ecology
R. Jim YN
S. L. Leckband, HAB
R. E. Piippo, FHI
J. B. Price, Ecology
J. G. Vance, FFS
Administrative Record (200-ZP-1)
Environmental Portal

S&GRP Central Plateau Remediation Project

DOCUMENT REVIEW AND COMMENT FORM

1. Date: 7/9/07	2. Page 1 of 2
3. Project: 200-ZP-1 OU	4. Review No: DOE/RL-2007-23 (Rev. 0)

5. Document Number(s)/Title(s):	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
DOE/RL-2007-23, Rev. 0, Technetium-99 Pump-and-Treat System to Support the 200-ZP-1 RI/FS Process	Central Plateau Remediation Project/ 200-ZP-1	Ken Niles	Oregon Department of Energy	(503) 378-4040

12. Comment Submittal Approval (optional):	15. Concurrence with indicated comment disposition(s)	17. Closure Approval ○ No Comments (Disposition status is either "Open", "Closed", etc.)
Reviewing Organization Manager (print / sign)	Date / Reviewer/POC (print/sign)	Date / Reviewer/POC (print/sign)
Date	Date / Author/Originator (print/sign)	Date / Author/Originator (print/sign)

Item	10. Page/Line	11a. Comment (include technical justification for comment)	11b. Recommended Change	13. (A)ccept or (R)eject	14. Disposition (provide justification if **NOT** accepted)	16. Status
1	p. 1-1, Section 1.1	In the third paragraph, it is stated that well 299-W-11-25B contained high concentrations of Tc-99. However, in the following sentence, it is stated that the well could not be completed.	Please provide an explanation as to how the groundwater sample was recovered and when the well could not be completed	A	During the drilling of well 299-W11-25B, groundwater samples were collected from multiple depths throughout the aquifer for the purpose of defining the interval showing the highest Tc-99 and carbon tetrachloride concentrations. At each sampling intervals the borehole was purged until groundwater parameters (e.g., pH, temperature, conductivity) stabilized, then a sample was collected for analytical testing. The intent was to use this depth-discrete data to help selected the optimum interval for setting the well screen. Unfortunately problems were encountered during well completion, requiring a replacement well to be installed.	
2	p. 1-2, Section 1-1	In the first paragraph, it is stated that system monitoring data will help support the RI/FS process for the 200-ZP-1 OU. It is not clear which specific data is referenced and, subsequently, how that data will support the RI/FS process.	It would be instructive to include additional information regarding what data will be collected and how that will inform the future RI/FS process.	A	As noted in Section 2.4.2 of this report, groundwater data will be collected from extraction wells 299-W11-45 and 299-W11-46 for the purpose of monitoring the movement of the Tc-99, carbon tetrachloride, and TCE plumes over time. This data will assist the CERCLA RI/FS process by verifying (or negating) the effectiveness of pump-and-treat operations in recovering these types of contaminants.	
3	p. 1-2, Section 1.1	In the closing paragraph, it is stated that the existing 200-ZP-1 pump-and-treat system cannot be used to treat groundwater from the T-Tank Farm Area because the 200-ZP-1 groundwater is contaminated with volatile organic compounds. What is not clear is why groundwater from the same operable unit contains different contaminants.	Inclusion of another groundwater plume map would help clarify the concern.	A	The last paragraph in Section 1.1 states that the existing 200-ZP-1 pump-and-treat system is designed to treat groundwater contaminated with volatile organic compounds only. The air stripping technology used in the 200-ZP-1 system does not remove Tc-99. As a result, the groundwater is being piped to the Effluent Treatment System for treatment as opposed to the 200-ZP-1 treatment building.	

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4	p. 1-4, Figure 1-2	It would help some readers if the two proposed extraction wells were highlighted in future figures. Also, it is inferred that the plume is bounded. That inference should be clearly articulated in the RI report for the groundwater operable unit.	Make changes accordingly.	A	Will consider highlighting the two proposed extraction wells in the cited figures in future versions of this report..	
5	p. 1-4, Figure 1-2 and p. 1-5, Figure 1-3	The 9,000 pCi/L isopleths excludes well 299-W11-45, one of the proposed extraction wells, yet the concentration result presented in Figure 1-3 indicates values >20,000 pCi/L.	Inclusion of this well within the isopleths would expand the areas hypothesized to be contaminated.	A	It appears that Figure 1-2 was created prior to the completion and sampling of well 299-W11-45. The 9,000 pCi/L isopleths in Figure 1-2 will be modified in future revisions of the test plan.	
6	p. 1-7, Table 1-1	Please consider using this information and related well drilling information to present stratigraphic cross-sections of the geology in this operable unit in the future RI/FS.	Make changes accordingly.	A	Chapters 3 and 4 of the CERCLA RI Report (DOE/RL 2006-24, Rev. 0) present multiple stratigraphic cross sections through the 200-ZP-1 groundwater operable unit. Please refer to these figures.	
7	p. 2-3, Section 2.4	Please add a Section 2.4.3, Monitoring of Adjacent Groundwater Wells. This section should detail the types and frequency of data to be collected from other monitoring wells in the vicinity of the two proposed extraction wells. It is advisable to collect baseline data prior to extraction of groundwater to provide information on aquifer characteristics. Additionally, once more highly contaminated groundwater is extracted, water quality in the wells surrounding the extraction wells should change. This may provide information on the location of the source area, a key data need for the RI/FS.	Make changes accordingly.	A	Table A3-2 of the CERCLA RI/FS Work Plan (DOE/RL-2003-55, Rev. 0) presents the groundwater monitoring well network, analyses being performed, and sampling frequency for the 200-ZP-1 groundwater operable unit. Data from this network is being used to track plume movement and is used to assess the performance of the pump-and-treat operations.	
8	p. 2-4, Section 2.4.2	In the first full paragraph, it is stated that the full length of the conveyance piping is to be inspected daily. Please consider the use of more automated methods to verify pipe integrity. With this operational approach, considerable volumes of extracted groundwater could be spilled without warning with the daily volume exceeding 57,000 gal at the proposed 40 gpm extraction rate. Please consider automated approaches to augment daily inspections.	Make changes accordingly.	A	As noted in sentence 3 and 4 of the cited paragraph, operators will periodically be monitoring groundwater flow rates entering the Effluent Treatment Facility. If the flow rates showed a significant drop, this would trigger an earlier walk-down to assure there was not a break in the line.	
9	p. 2-6, Table 2-1	Please expand the table or add a second table detailing other monitoring to be conducted to determine aquifer response to the stress imposed by the extraction of groundwater. Collection of this data will assist in developing an understanding of how the aquifer behaves and may provide insight on source-term areas.	Make changes accordingly.	A	See response to #7 above.	