

S&GRP Central Plateau Remediation Project
DOCUMENT REVIEW AND COMMENT FORM

1. Date: 12/12/2007

2. Page 1 of 3

3. Project: 200-ZP-1 OU
Proposed Plan.

4. Review No: DOE/RL-2007-33,
Draft A

5. Document Number(s)/Title(s): DOE/RL-2007-33,Draft A Proposed Plan for the Remediation of the 200-ZP-1		6. Program/Project/Building Number	7. Reviewer EPA	8. Organization/Group U.S. Environmental Protection Agency	9. Location/Phone
12. Comment Submittal Approval (optional): _____ Reviewing Organization Manager (print / sign) _____ Date		15. Concurrence with indicated comment disposition(s) _____ Date _____ Date		17. Closure Approval <input type="radio"/> No Comments (Disposition status is either "Open", "Closed", etc.) _____ Date _____ Date	
		_____ Reviewer/POC (print/sign) _____ Author/Originator (print/sign)		_____ Reviewer/POC (print/sign) _____ Author/Originator (print/sign)	

Item	10. Page/Line	11a. Comment (include technical justification for comment)	11b. Recommended Change	13. (A)cccept or (R)eject	14. Disposition (provide justification if NOT accepted)	16. Status
1	General Comment	Add a diagram showing the pump-and-treat wells at a conceptual level.		A	A conceptual extraction well location map for the proposed pump-and-treat system is included as Figure 10. The previous Figure 10 is now Figure 11.	
2	General Comment	Add additional information on the major waste stream contributing to the groundwater problem.		A	Additional information is included in the <i>Site Background</i> section regarding the process waste streams that appear to be the primary source of groundwater contamination.	
3	General Comment	The plan must address nitrates and do a better job of explaining the monitored natural attenuation (MNA) portion of the remedy. A discussion of what parameters will be measured to ascertain whether MNA is working should be described.		Partially Accepted	a. A specific treatment technology for nitrate is currently expected to be identified in the remedial design phase. Additional nitrate text could be included in section titled <i>Alternative #2: Full-Scale Pump-and-Treat, Institutional Controls, MNA, Plus Groundwater Flow-Path Controls</i> if it is available when the 200-ZP-1 Feasibility Study is finalized. b. The 200-ZP-1 Feasibility Study is not expected to define parameters for measuring MNA effectiveness. Specific COC concentration, water quality, and other parameters are expected when the 200-ZP-1 monitoring program is developed.	0076364
4	Page 10, 2 nd paragraph	Define industrial exclusive once, then simply refer to it as industrial.		A	The term "industrial-exclusive" is retained in the 1 st paragraph of the <i>Land Use and Site Risk</i> section, and then replaced with "industrial" thereafter.	

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attached to: 0076363

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5	Page 11, Table 2	All risk factors should be reported in one standard format, such as so many in 10,000 or in one million or 100,000. It is confusing if the risk is expressed in several formats.		A	The risk factors in Table 2 are converted to a basis of 1 in 10,000 for incremental cancer risk to industrial workers.	
6	Page 12, COCs	This section should be rewritten to describe all contaminants above an MCL as a COC.		Accept	Contaminants with concentrations above an applicable Federal MCL are now included as COCs.	
7	Page 12	<p>This brief summary of degradation products omits the information relevant to the proposed remedy:</p> <ul style="list-style-type: none"> • The primary carbon tetrachloride transformation process that the remedy will be relying on is hydrolysis, an abiotic process that is not dependent on oxidation-reduction (redox) conditions in an aquifer. • The likely byproducts of carbon tetrachloride hydrolysis are carbon dioxide and hydrochloric acid. • We expect little additional production of chloroform and other reductive dechlorination products because the contaminated aquifer is predominantly aerobic. 		Partially Accept	Brief discussions of carbon tetrachloride degradation are modified in the " <i>ADDITIONAL CONSTITUENTS</i> " and " <i>Monitored Natural Attenuation (MNA)</i> " sections to state that abiotic hydrolysis is the expected predominant degradation pathway.	
8	Page 12	The products listed are anaerobic degradation products		A	Chloroform, methylene chloride, and chloromethane are now described as anaerobic degradation products of carbon tetrachloride.	
9	Page 14	It is EPA's understanding that PNNL has not done laboratory studies on the hydrolysis of carbon tetrachloride. They did a literature review (published as Appendix C in PNNL-133560) to arrive at the estimated half-life of 100 years.		A	The reference to PNNL hydrolysis studies is deleted from the <i>Monitored Natural Attenuation (MNA)</i> section.	
10	Page 14	This is an incomplete definition of dispersion as an attenuation mechanism. The process involves contaminants "spreading out" into uncontaminated portions of an aquifer resulting in lower concentrations through dilution and possibly sorption.		A	The definition of dispersion is deleted from the <i>Monitored Natural Attenuation (MNA)</i> section.	

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Contingent Treatment Technologies. Further discussion is needed on the contingent technologies. This is the first EPA has heard of this proposal. What action levels would trigger the need for contingency?

A

The role of contingent treatment technologies is described in the *Contingent Treatment Technologies for Use with Alternative #2* section as follows: "In the event that future characterization or performance monitoring suggest that a persistent source area is present, that source area could be treated using an in situ method such as electrical resistance heating (ERH) and/or anaerobic bioremediation, as described below. These technologies are included to provide flexibility in responding to performance monitoring data that indicate additional remedial measures are required. For example, targeted contaminant concentrations in localized portions of the 200-ZP-1 aquifer might decrease at significantly lower rates than in the aquifer as a whole. A contingent treatment technology could then be applied to the localized area to accelerate contaminant reduction."

The *Preferred Final Remedial Alternative* section includes the following in the 3rd paragraph: "In the event that future characterization or performance monitoring suggest a persistent source area, that source area could be treated using an in situ method such as ERH and/or anaerobic bioremediation." The last paragraph of the same section begins with: "Contingent alternatives, as well as adjustments to the preferred remedy, will be invoked in the event of the discovery of persistent source zones and if performance expectations are not being met."