

24794



PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION:

Waste Area Group 5 Remedial Design/Remedial Action Work Plan, Phase II

DATE: March 25, 2003

REVIEWER: U.S. Environmental Protection Agency - Region 10

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER
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COMMENT

RESOLUTION

Specific Comments

1	1.3.1		<p>Last 2 Paragraphs: Sites that do not meet unrestricted (1E-4) risk at the present time (but are expected to meet unrestricted risk levels within the 100 year remediation timeframe) need institutional controls until they do. The approach taken (where sites exceeding 1E-6 in 100 years are assumed to exceed 1E-4 now) is an acceptable shorthand that should be conservative. Based on the second to last paragraph, the three landfill sites require institutional controls, but the last paragraph is unclear as to why these three sites require institutional controls.</p>	<p>Additional text pertaining to the three landfill sites and the reasoning behind the continued institutional controls has been added to the last paragraph.</p>
2	4.1		<p>I think the ROAs for groundwater should include achieving MCLs.</p>	<p>The Record of Decision does not define any remedial action objectives for groundwater; therefore, none are defined here.</p>
3	4.1		<p>Last Paragraph: If soil is cleaned to basalt, but contamination in excess of risk-based levels is left in the basalt, then institutional controls will be needed in order to meet RAOs.</p>	<p>Text has been added to clarify this fact.</p>
4	4.2		<p>I think MCLs should be listed as ARARs for groundwater.</p>	<p>This table lists the compliance strategy for ARARs that are required by the Record of Decision. Because no ARARs are specified in the Record of Decision for groundwater, a compliance strategy is not provided in this table.</p>
5	Appendix J		<p>The table J-3 footnotes include a statement about using Cs-137 as a surrogate for Ag-108m in CAP88 runs. A more detailed presentation of the derivation of CAP88 input values is needed for review. For instance, it is unclear whether the 9.4E-7 Ci input includes the Cs-137 from the site (present at 47 pCi/g based on the RI/FS), or whether it only represents the "Cs-137 equivalent" for the Ag-108m.</p> <p>Cs-137 is a reasonable surrogate (with appropriate corrections) for Ag-108m in CAP88, but deriving an equivalent Cs-137 concentration for CAP88 input based on the total risk estimate (largely due to external exposure) may not be the best approach. This is because of the importance of the inhalation pathway to</p>	<p>Ag-108m/Cs-137 surrogate calculations have been revised to use the recommended HEAST inhalation slope factors. Co-60, as well as U-234 and U-238, were added to the dose assessment for ARA-12. St-90 was added to the ARA-23 assessment. The dose assessment was also revised to model to the maximally exposed individual at the INEEL boundary which is standard protocol for NESHAP</p>

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			<p>CAP88.</p> <p>To convert Ag-108m concentrations into equivalent Cs-137, I would use the ratio of HEAST inhalation slope factors for Ag-108m and Cs-137. Since the inhalation slope factor for Ag-108m is 2.24 times that of Cs-137+D, each pCi of Ag-108m is equivalent to 2.24 pCi of Cs-137. Once the Ag-108m is converted to an equivalent Cs-137 concentration, I would add that to the actual measured Cs-137 concentration to get the Cs-137 value that would be used to derive CAP88 input.</p> <p>Co-60 was also a contaminant at ARA-12 and should also be included in the CAP88 run.</p>	<p>assessment on the INEEL.</p>