



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

COPY

December 4, 2006

Reply to
Attn Of: ECL-117

Mr. Nolan Jensen, Manager
United States Department of Energy
Idaho Operations Office, NE-ID
1955 Fremont Avenue, MS 1222
Idaho Falls, Idaho 83415

Re: EPA Concurrence with INL Site-Wide Five Year Review, 2006

Dear Mr. Jensen:

EPA has reviewed the June 2006 Five Year Review for the Idaho National Laboratory (INL) Federal Facility which was signed by the Department of Energy (DOE) on November 29, 2006. This is the first Site-wide Five Year Review for INL written by DOE. EPA is encouraged by the progress INL has made in implementing the recommendations set forth in previous Site-Specific Five Year Reviews and acknowledges the efforts of the Federal Facility Agreement/Consent Order (FFA/CO) project team. This Five Year Review covers the Waste Area Groups (WAGs) 1, 2, 3, 4, 5, 6, 7, 9 and 10. WAG 8, the Naval Reactor Facility, is managed by the Navy which is responsible for the Five Year Review for WAG 8.

EPA reviewed the document for technical adequacy, accuracy, and consistency with EPA guidance. The document provides a clear summary of the status of individual INL sites. It also identifies a number of actions to be taken that affect the protectiveness of the selected remedies and documents a schedule for completion of the recommended actions.

Based on EPA's review of the 2006 Site Wide Five Year Review and other knowledge and documents regarding the site and remedies, and consistent with EPA's "Comprehensive Five Year Review Guidance, July 2001, EPA has made independent findings regarding the protectiveness of the Operable Units at INL. These findings can be found in the Addendum to the Issues Identified in the Site-Wide Five Year Review and EPA's Protectiveness Determination attached to this letter.

EPA looks forward to working with INL and the Idaho Department of Environmental Quality on implementing the recommended actions in the five year review report and in EPA's findings.

If you have questions concerning this letter, please call me at 206/553-1090, or contact EPA's site manager for this review, R. Matthew Wilkening, at 208/378-5760 (email: wilkening.matt@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Opalski", written in a cursive style.

Daniel D. Opalski, Director
Office of Environmental Cleanup

Enclosures

cc: Daryl Koch, Idaho Department of Environmental Quality, HQ
Nick Ceto, EPA, Hanford Operations Office

Table 2 EPA's Addendum to DOE's Table C-1
 Issues Identified in the INL Site-Wide Five Year Review
 December, 2006

Issues	Affects Protectiveness (Y/N)		Recommendations/Follow-up Actions	Anticipated Completion Date	Follow-up Actions Affect Protectiveness (Y/N)	
	Current	Future			Current	Future
WAG 2						
The presence of diesel in perched aquifer assoc. w/ Well PW 13, OU 2-13.	No	Yes	Continue annual monitoring to track concentration of diesel in the perched aquifer and the rate of removal via the petroleum traps.	Annually until next 5 Year Review	No	Yes
WAG 4						
Presence of VOCs in the perched aquifers	No	Yes	Continue annual monitoring to determine if concentrations of VOCs reflect variability in concentration or a migrating front.	Annually until next 5 Year Review	No	Yes
Nitrate concentrations in SRPA above MCLs	No	Yes	Source of nitrates determined. Continued monitoring to determine if concentrations of nitrates will decline below MCLs by 2095	Annually until next 5 Year Review	No	Yes
WAG 7						
Nitrate concentration in vadose zone is trending upward at Pad A	No	Yes	Evaluation of this trend will be performed as part of the site wide RI/FS.	2009	No	Yes

Table 1 INL Site-Wide Five Year Review
 Summary of EPA's Protectiveness Determinations
 December 2006

Area	Protectiveness Determination	Protectiveness Statement
<p><u>WAG 1</u> Test Area North</p> <p>Operable Unit 1-07B TAN Groundwater Contamination</p>	Protective	<p>The remedy at OU 1-07B is protective of human health and the environment because the three components of the remedy have been implemented in accordance with the schedules stated in the appropriate remedial action work plans and the remedy is expected to attain the RAOs defined in the 2001 ROD amendment. All prefinal/final inspections have been completed, and all institutional controls for the remedy are in place.</p>
<p>Operable Unit 1-10 Groups 1 and 3 Sites</p>	Protective	<p>The OU 1-10 sites, Groups 1 and 3 are protective of human health and the environment. The remedial actions have been constructed and the final remedial action reports documenting that final remedial goals have been met are pending for sites. Institutional controls are in place as necessary.</p>
<p>Operable Unit 1-10 Group 2 sites</p>	Will be protective	<p>Remediation of OUI-10 Group 2 sites is in progress and is expected to be protective of human health and the environment upon completion. Remediation and construction are being done in accordance with the requirements of the decision documents and design specifications included in the respective RD/RA work plans. In the interim, exposure pathways that could result in unacceptable risks are being controlled</p>
<p><u>WAG 2</u> Test Reactor Area/Reactor Technology Complex</p> <p>Operable Unit 2-13</p>	Protective in the Short Term	<p>The remedy at OU 2-13 currently protects human health and the environment because at OU 2-13 sites where remediation is completed, RAOs have been met and the cleanup is protective of human health and the environment. At the remaining sites institutional controls are in place to prevent unacceptable human health exposures. However, in order for the remedy to be protective in the long-term, the issues regarding the perched aquifer need to be resolved. The continued use of the Cold Waste Pond was not anticipated in the ROD. The use of this pond is projected to last for at least 20 more years. This has resulted in the continuation of a local perched aquifer. The perched groundwater is not a viable source of drinking water but has the potential to impact the regional aquifer. The hydrogeologic model needs to be revised based on the geochemical fingerprinting of the perched water. Continued monitoring will track levels of contaminants and diesel in the perched aquifers. Any diesel</p>

Area	Protectiveness Determination	Protectiveness Statement
		accumulation will be removed via petroleum traps.
WAG 3 Chemical Processing Plant/INTEC OU3-13 - Group 1 sites (Tank Farm Soils)	Protective in the short term	The selected interim remedy at the Group 1 sites currently protects human health and the environment by reducing worker exposure and controlling surface water infiltration. The final remedy will be selected as part of the OU 3-14 ROD in 2007.
OU3-13 - Group 2 sites (Soil under Buildings and Structures)	Will be protective	The remediation at Group 2 sites is in progress and expected to be protective of human health and the environment upon completion. In the interim, exposure pathways that could result in unacceptable risks are being controlled through institutional controls. The selected soil excavation and capping activities have been deferred until the buildings and structures over the soils are closed, decontaminated and dismantled, which is underway and expected to be completed by 2012.
OU3-13 - Group 3 sites (Other Surface Soils)	Will be protective	The remediation at Group 3 sites is in progress and is expected to be protective of human health and the environment upon completion. In the interim, exposure pathways that could result in unacceptable risks are being controlled through institutional controls.
OU3-13 - Group 4 Site (Perched Water)	Protectiveness Deferred	A protectiveness determination for the Group 4 site cannot be made until additional ongoing perched water data collection and evaluation efforts are completed. This assessment is expected to be complete in April 2008. In the interim, exposure pathways that could result in unacceptable risks are being controlled. Additional controls to limit recharge are being investigated because the northern perched water volumes have not diminished in response to the post-ROD recharge controls and because elevated Tc-99 activity has been detected in the aquifer below the tank farm.
OU3-13 - Group 5 Site (Snake River Plain Aquifer)	Protective in the short term	The interim remedy for Group 5 sites currently protects human health and the environment because exposure pathways that could result in unacceptable risks are being controlled by institutional controls. However, in order for the remedy to be protective in the long-term, the final remedy for OU 3-14 must be selected and implemented.
OU3-13 - Group 6	Protective	The remedy for the Group 6 site is protective of human health and the environment

Area	Protectiveness Determination	Protectiveness Statement
Sites (Buried Gas Cylinders) and No Further Action Sites		because the remediation of the buried gas cylinders is complete and all remedial action objectives have been met. No institutional controls are needed at this site.
OU3-13 - Group 7 Site SFE-20 Hot Waste Tank System)	Will be protective	The remedy is expected to be protective of human health and the environment upon completion, and in the interim, exposure pathways that could result in unacceptable risks are being controlled. The removal of the SFE-20 tank has been completed and the treatment and disposal of the tank contents is ongoing.
OU 3-14 Tank Farm Soils	NA - Remedy not yet selected	A protectiveness determination cannot be made until the RI/FS is complete and the final remedy for the Tank Farm Soils is selected. In the interim, exposure pathways that could result in unacceptable risks are being controlled.
Idaho CERCLA Waste Disposal Facility (ICDF)	Protective	Based upon a review of the O&M Reports, Site data, and an inspection of the Site, the remedy is protective of human health and the environment, and exposure pathways that could result in unacceptable risks are being controlled and reinforced with the implementation of ICs.
WAG-4 Central Facilities Area OU 4-12	Protective in the Short-Term	The remedy at CFA landfills 01, 02 and 03 currently protects human health and environment because the selected remedial action of compacted native soil covers and ICs has been implemented. However, in order for the remedy to be protective in the long-term, the issue of VOCs in soil gas needs to be addressed. Monitoring notes that the VOCs in the shallow soil gas samples are decreasing. However, the recent sampling indicates concentrations of VOCs in the deep soil gas samples are increasing (see the Five Year Review Report, which summarizes data through 2003 and the CFA Landfill Monitoring Report 2005). Continued monitoring will determine whether this trend is a reflection of variability or of a migrating front. EPA will track this as an Issue and Recommendation for follow-up action.
OU 4-13	Protective in the Short-Term.	The remedy at OU-13 currently protects human health and environment because the selected remedial actions for CFA-04, Mercury Pond; CFA-10, sewage treatment plant drainfield; and CFA-10, Transformer Yard have been constructed and ICs in place to protect the remedies and control possible exposure pathways. However, in order for the remedy to be protective in the long-term, the issue of nitrates in the groundwater needs to be addressed. At the CFA-04 Site, Mercury Pond, the mercury

Area	Protectiveness Determination	Protectiveness Statement
		contaminated soil was removed. Routine monitoring has since determined that this pond was also the source of the nitrates above the MCLs. Continued monitoring is needed to determine the trend of the concentration of nitrates in the groundwater.
WAG-5 Auxiliary Reactor Area/Power Burst Facility OU 5-07	Protective	The remedy at the site is protective of human health and the environment. The containment remedy was constructed consistent with the selected remedy and institutional controls are in place to protect the remedy and to control possible exposure pathways.
OU 5-12	Protective	The remedy at OU 5-12 is protective of human health and the environment because the remedies selected for these sites have been constructed. The final remedial action report documenting that final remedial goals have been met is completed. Institutional controls are in place as necessary.
WAG-6 Experimental Breeder Reactor OU 6-01	Protective	The remedy at OU 6-01 for the BORAX-1 Burial Ground is protective of human health and the environment. The engineered cover is completed, O&M and inspection activities are being performed, and institutional controls are in place to protect the remedy and to control possible exposure pathways.
OU 6-05	Protective	The remedy at OU 6-05 is protective of human health and the environment. The selected containment barriers are completed, O&M and inspection activities are being performed, and institutional controls are in place to protect the remedy and to control possible exposure pathways.
WAG-7 Radioactive Waste Management Area OU 7-08	Protective	The remedy at OU 7-08 is protective of human health and the environment because the remedy has been implemented in accordance with the schedules in the remedial action work plan and the remedy is expected to attain the RAOs defined in the 1994 ROD. All prefinal/final inspections have been completed, and all institutional controls for the remedy are in place.
OU 7-10	Will Be Protective	Remediation of OU 7-10 is in progress and is expected to be protective of human health and the environment upon completion. Remediation and construction are being done in accordance with the requirements of the decision documents and design specifications included in the RD/RA work plans. In the interim, exposure pathways that could result in unacceptable risks are being controlled.

Area	Protectiveness Determination	Protectiveness Statement
OU 7-12	Protective in the Short-Term	The remedy at OU 7-12 currently protects human health and the environment because the remedy has been implemented in accordance with the schedules in the remedial action work plan. All prefinal/final inspections have been completed, and all institutional controls for the remedy are in place. However, the low-level but increasing nitrate concentrations need to be evaluated to in order for the remedy to be protective in the long-term. This evaluation is part of the on-going OU 7-13/14 RI/FS.
OU 7-13/14	NA - RI/FS underway	The final remedy for the RWMC site-wide investigation has not yet been selected. In the interim, exposure pathways that could result in unacceptable risks are being controlled.
WAG-9 Materials And Fuels Complex OU 9-04	Protective	The remedy at OU 9-04 is protective of human health and the environment. The remedy has been implemented in accordance with the schedules in the remedial action work plan. Prefinal/final inspections have been completed, and all institutional controls for the remedy are in place. The only area that has not undergone remediation, ANL-04, Sewage Lagoons, has been transferred to OU 10-08.
WAG-10 INL Site-Wide OU 10-04	Will Be Protective	Remediation of OU 10-04 is in progress and is expected to be protective of human health and the environment upon completion. Remediation and construction are being done in accordance with the requirements of the decision documents and design specifications included in the RD/RA work plans. In the interim, exposure pathways that could result in unacceptable risks are being controlled
OU 10-06	NA – RI/FS underway	The final remedy for the RWMC site-wide investigation has not yet been selected. In the interim, exposure pathways that could result in unacceptable risks are being controlled.

SIGNATURE SHEET

Signature sheet for the Five-Year Review of CERCLA Response Actions at the Idaho National Laboratory.



Richard B. Provencher, Deputy Manager
Idaho Completion Project
U.S. Department of Energy,
Idaho Operations Office

11/29/06
Date