

ENVIRONMENTAL RESTORATION PROJECT COMMUNICATION RECORD

Date: 08/14/01

Time: 3:00 p.m.

Recorded By: P. Bertino

To: Vickie Maranville

From: P. Bertino, LANL ER

Telephone No.: 665-2198

Affiliation: NMED-HWB

Other Parties: Dan Holmquist and John Hopkins (LANL ER), and Woody Woodworth (DOE-AL)

Discussion: This communication record (including all referenced information previously provided to NMED-HWB) documents discussion topics and agreements reached during the July 30, 2001 meeting between LANL ER Project and NMED-HWB staff regarding the approach for the implementation of Voluntary Corrective Measures (VCMs) at PRS 21-011(k). During the meeting, the following information was presented and/or discussed:

- 1) A summary of confirmation sample data following the 1996 Interim Action (IA) of 21-011(k) including: a map with confirmation sample locations, analytical results for confirmation samples, and map with post-IA (1996) radiation survey (provided with fact sheet).
- 2) A summary of the results of the recent radiological surveys of PRSs 21-011(k) including, Chemrad results and maps from the July 2000 survey of the site and the approach toward and results from the 2001 in situ gamma survey, including color maps and results tables.
- 3) Good correlation between in situ gamma surface measurements and ARS gamma spectroscopy for Cs-137. Depth profiles reveal an exponential relationship between Cs-137 and depth (present graph prepared by SEA showing Cs-137 concentrations decreasing with depth). Analytical results show good correlation between Cs-137 concentrations and other radionuclides. Results support the use of field screening targeting Cs-137 during VCM.
- 4) Waste characterization sample results from 11 locations within PRS 21-011(k) based on rank and percentile analysis of in situ gamma survey data (5 from locations with high activity, 4 from locations with medium activity and 2 from areas with low activity). LANL will formally provide analytical results in the VCM Plan. Summary results include:
 - No TCLP results above regulatory limits for VOCs, SVOCs, or metals. No PCBs.
 - TAL metals – cadmium, calcium and mercury just above both sediment and soil BVs.
 - Radionuclides – Sr-90, Pu-238/239, Am-241 and Cs-137 above sediment BVs.
 - VOCs/SVOCs – VOCs detected in composite sample, but not in the discrete samples from the same location. LANL will resample the location on the western side of the PRS in early FY02 for VOCs.
 - Characterization results indicate Low-Level Waste (LLW) only – consistent with all previous results – Radionuclides are the risk drivers and nature and extent have been determined.
- 5) Reasons to implement VCM include: source reduction/control; dose reduction; and to prevent any subsequent contaminant migration down the canyon. LANL presented the radionuclide inventory remaining at PRS 21-011(k) relative to the rest of DP Canyon and the watershed to support the rationale for the implementation of source control/removal and discussed the ALARA approach and results of recent screening assessments.
- 6) LANL proposed four main options for the VCM: A) no action; B) fence the site with some level of BMPs; C) source stabilization of “hot spots” with engineered site restoration along with BMPs and periodic monitoring and no removal; and D) hot spot excavation and removal with site restoration. Consensus is that the no action and fencing of the site alternatives are not acceptable. Option C is LANL’s preferred approach and would involve the stabilization of approximately 500 yds³ of “hot spots” along with engineered site restoration to secure the source term along with integrated long-term stewardship activities such as periodic monitoring/site surveys and BMP installation and maintenance. The implementation of this approach will save an estimated \$2 million in waste management costs, while avoiding increased risk associated with the transportation of contaminated soils through the town site for disposal as LLW at MDA G at TA-54. Additionally, the stabilization of radionuclide-contaminated environmental media is a proven technology presently being implemented at other DOE sites. NMED-HWB generally concurred with the approach described in Option C; but stated that approval of the forthcoming VCM plan will be based on bench scale test results. NMED-HWB further stated that residential land use risk levels would have to be met to support a proposal for No Further Action (NFA).
- 7) Land use for TA-21 is and will continue to be industrial under DOE ownership and control. However, the scenario for 21-011(k) is not a typical industrial site since it is located on the hillside above the canyon bottom. Therefore, LANL proposed using the more realistic trail user exposure scenario for ALARA and human health screening assessments and presented ALARA assessment results using post-IA confirmation sampling and in situ gamma data. However, to determine the maximum potential exposure, results from post-stabilization/restoration site surveys and/or confirmation sampling will be assessed using a residential scenario.
- 8) The radionuclide risk drivers at PRS 21-011(k) are relatively short-lived (Cs-137 and Am-241), that within 100-200 years the current levels will decay to levels resulting in an acceptable dose. Physical measures (stabilization and restoration) will be designed to be effective over this time frame and protect public (engineered design) and based on preliminary ALARA screening assessments should meet and most likely exceed DOE’s “free release” dose level of 15 mrem/yr and NMED’s target risk level of 10⁻⁵ cancer risk.
- 9) LANL is planning to conduct bench scale testing of the stabilization technology in early FY02, which will include a thorough literature search and analysis of stabilized media from the PRS. Results of the bench scale testing and literature will be presented in the VCM Plan for PRS 21-011(k) along with design specifications for the engineered restoration of the site (conceptual design), proposed post-stabilization/restoration site surveys and/or confirmation sampling, proposed BMPs and components of long-term stewardship that may include site inspections, site maintenance and periodic surveys and/or monitoring to ensure the integrity of the remedy. LANL does not plan to conduct a pilot study. If bench scale test results are successful, NMED-HWB has indicated that results from the test can be applied to the implementation of the VCM for the PRS. If unsuccessful LANL will propose an alternative VCM approach to NMED HWB for review and approval.
- 10) LANL will provide NMED-HWB with a detailed schedule of preliminary proposed VCM activities at PRS 21-011(k) in November 2001.



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Action Items: Deliver communication record [redacted] / Vickie Maranhville to initial. Provide a detailed schedule in November 2001 to include the bench scale testing, additional waste characterization sampling to confirm or deny presence of VOCs, VCM Plan preparation and submittal, and VCM implementation during the spring and summer of FY02. LANL will include all analytical results from the IA confirmation samples, recent radiation surveys, recent waste characterization sampling, and bench scale testing in the VCM Plan.

Distribution:

V. Maranhville/J. Young, NMED-HWB
J. Hopkins & D. Holmquist, MDAFA
L. Woodworth, DOE-AL
P. Bertino, RCFA/MDAFA
J. Santo, SEA
RPF

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