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September 23, 1993

LANL

Ms. Diana Webb, LANL/AIP/POC
LAAO, 528 35th Street
Los Alamos, NM 87544

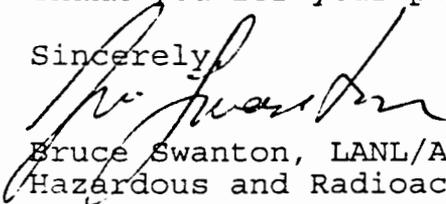
RE: Review of LANL's May 1991 RCRA Facility Investigation
(RFI) Work Plan for Operable Unit (OU) 1106

Dear Ms. Webb:

The enclosed attachment provides the Department of Energy (DOE) the Agreement-In-Principle's (AIP) technical comments for the above referenced RFI Work Plan as received by the Hazardous and Radioactive Materials Bureau's (HRMB) Technical Compliance Program.

Thank you for your prompt attention to this matter.

Sincerely,


Bruce Swanton, LANL/AIP/POC, Program Manager
Hazardous and Radioactive Materials Bureau

BS/td
Attachment

cc: Benito Garcia, HRMB Bureau Chief
Steve Alexander, HRMB
Barbara Hoditscheck, HRMB
Neil Weber, DOE Oversight Bureau Chief
Teri Davis, DOE Oversight AIP/LANL Technical staff
File LANL/RED/93
Glen Saums, SWQB Program Manager
Dennis McQuillan, GWPRB Program Manager
Barbara Driscoll, EPA Region 6
Garry Eller, LANL OUPL



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MEMORANDUM

TO: Steve Alexander, Technical Compliance Program Manager

THROUGH: Bruce Swanton, POC
AIP DOE/LANL

FROM: Teri D. Davis
LANL/DOE Oversight Program

DATE: August 27, 1993

SUBJECT: **Comments on LANL's May 1991, Operable Unit 1106 RFI Work Plan**

The Hazardous and Radioactive Materials Bureau (HRMB) Agreement in Principle (AIP) personnel have completed their review of the Operable Unit (OU) 1106 RCRA Facility Investigation (RFI) Work Plan. The following memo is divided into two sections. Section 1 contains technical comments and recommendations on Hazardous and Solid Waste Amendment (HSWA) issues. The AIP program is submitting these HSWA-related comments and technical recommendations to the HRMB's RCRA Permitting and Enforcement/Technical Programs because of eventual New Mexico HSWA authorization. Section 2 contains comments concerning non-HSWA issues and is provided in this memo for the sake of completeness of the Work Plan review. These non-HSWA issues are those that are not specific to the RCRA regulations.

SECTION 1, HSWA-RELATED ISSUES

General Comments

1. This work plan disregards the possible existence of some contaminant migration pathways at several sites. In general, NFA nominations which rely on the perceived lack of migration pathways are not recommended (see 1.1.4p3, 4.1.4.2, 16.1p4, and 17.1p2).

Specific Comments

1. [1.1.4p3] This statement appears to be in conflict with concepts within chapter 5 which identify "Five pathways of concern" of which unsaturated (vadose) zone transport (in both the liquid and vapor phase) is addressed as a major contaminant transport pathway.

This same statement suggests that the groundwater pathway is not of direct concern "based on the great depth and no known pathway to the main aquifer". Depth to groundwater in Otowi-4 is approximately 780 feet, perched water was encountered at approximately 250 feet and the alluvial aquifer in LA Canyon in the vicinity of Otowi-4 is approximately 15 feet thick. Since the hydrologic connection(s) between these zones of saturation are not understood it is recommended that the groundwater pathway be given more consideration.

2. [1.2.2p1] "The ER program will be conducting Laboratory-wide background studies of hydrogeology, geology..." Generalization of the hydrogeology and geology between OUs may not be possible due to the variability in stratigraphy, structure and other geologic conditions between sites. Hydrogeologic/geologic characterization at specific sites should be discussed on a case-to-case basis with the appropriate stakeholders prior to development of sampling plans.
3. [2.2.4, f2.2-3] The following SWMUs are not located on this figure:
 - 21-027(d)
 - 21-027(a)
 - 21-006(e)
 - 21-011(k)
4. [3.1.1p1] "Activities unrelated to plutonium processing also occurred at DP West; however, they are not detailed herein because they did not result in the SWMUs addressed in this document.".... Where are these activities addressed?
5. [4.1.4.2] This section suggests that infiltration into the tuff is limited; (e.g. "does not penetrate deeper than 10 to 22 feet into the tuff") and that clay fillings of joints and fractures inhibit the infiltration of precipitation. Joints/fractures that are open or partially open should be noted in this section because they may serve as pathways for contaminant transport.
6. [4.1.5.1] "No occurrence of perched water within the Bandelier Tuff has been identified." It has been observed that numerous springs emerge from contacts between welded ashflows within the Tshirege Member (e.g. Sawyer Spring, Homestead Spring). Please clarify this apparent discrepancy.

7. [4.1.5.1, f4.1-5] Borehole (TW-2) is not located on this figure as referenced in paragraph one of this section.
8. [4.1.7.2.p5] Data needs should include the frequency and nature of both tectonic and cooling fractures within the entire OU, not just in the area of MDA V. Data needs should also include studies to determine the impact of fractures on liquid migration.
9. [4.1.8.1.p11] "Laboratory and in situ measurements of hydrogeological properties of tuff at TA-21 OU are needed." How will these data needs be met?
10. [10.2b1] It is our understanding that units which are not nominally SWMUs, e.g. units with solely radiological contamination, will be retained as units to be addressed within the RCRA RFI/CMS/CMI framework. Thus the eventuality that a site is not a SWMU would not be a cause for NFA nomination. This issue should be discussed with the appropriate stakeholders.
11. [11.7] The level of QA/QC available for all analytical procedures using the mobile lab is not clearly stated. Clarification is needed concerning the detection limits and QA level attainable for individual constituents using the mobile lab.
12. [11.9, f11.9-1] Boreholes #6,7,8 are not labeled.
13. [14.1p2] SWMU 21-013(g) is mentioned here but is not referenced under Surface Disposal Area [SWMU 21-013(b)-(f)].
14. [14.3.1.1] The origin of the drain lines seem to be in question. If contamination is confirmed, how will these drain lines be addressed?
15. [14.3.2] The results of this initial sampling plan propose using Level II data for NFA recommendations. The use of low confidence data (Quality Assurance (QA)/Quality Control (QC) Level II) is not adequate for use as a basis for NFA recommendations. This issue should be discussed with the appropriate stakeholders.

16. [14.3.3] It is recommended that an organic vapor survey be conducted along with the radiological survey since the source term states that liquids contaminated with organics might have entered the tank(s).
17. [14.3.4.2, t14.3-1] It is suggested that at tank TA-21-346, in shallow borehole #1, that the interval between 2.5-5 feet have the same lab analysis performed on it as interval 0.0-2.5 feet.
18. [14.5.4.1] Regarding the nonsequential numbering of DP diesel tanks; what happened to #15 & #16?
19. [14.7.3.1.p1] See Specific Comment #16.
20. [14.7.4.1.p1] Establishing the number of samples to be taken regardless of area does not appear appropriate. The probability that contamination within a given gridded area is not missed cannot be assessed without determining the extent of the unit to be sampled. For planning purposes, it is suggested to estimate a gross area then determine the number of samples needed to reach a specified confidence level to assure that contamination within a specified gridded area is not missed. Judgmental sampling should supplement gridded sampling plans based on topography, site inspections, etc.
21. [14.7.4.1.p6] "Certain sampling intervals can be omitted because wastes should be mixed and dispersed if this was disposal area".... If the origins of these SWMUs are not known, this assumption may not be valid. Documentation supporting homogeneity should be submitted.
22. [14.7.4.1, 21-024(l).p4] "This location collects drainage from the entire area south of Bld TA-21-21"... The culvert is north of Bld TA-21-21.
23. [14.7.4.1, 21-024(o)] Why is this SWMU not addressed in this section?
24. [15.6.2b2] Why are metals not included as potential contaminants as stated in the source term?

25. [15.6.4p1] Why are the boreholes being drilled near the inlet side of the septic tank? It is recommended that subsurface samples be taken at any hot zones detected from the Rad-VOC surveys.
26. [16.all] It is suggested that all angled (lateral) boreholes proposed in areas associated with either liquid PRS or suspected perched aquifers, be completed as monitoring wells (soil-gas, moisture probe, etc.). This action should increase the efficiency of the RFI and provide valuable data which can be used to evaluate risk-based remedial selections for these MDAs.
27. [16.1p4] Liquid migration in the vadose zone should be considered as potential migration pathway.
28. [16.1.4.p4] VOCs should be analyzed for in these drainage samples.
29. [16.4.2.b2] Level II data is proposed to be used to confirm the "absence of contamination". See Specific Comment #15.
30. [17.1p2] Potential contaminant migration pathways should also include liquid movement in vadose zone, surface water runoff, and erosive exposure.
31. [17.4.4.1] "Nominal borehole depth will be 10ft"..... Is this proposed depth appropriate with consideration of previous regrading at these individual structures?

Clarify the use of subsurface soil samples with respect to the method description in Chapter 11.
32. [17.4.4.1.p6] If no gravel-concrete is encountered will the borehole be relocated?
33. [17.4.4.2] It is suggested that method 6010 be used instead of TCLP to determine health based action levels.

Initial borehole (f) is shown on figure 17.5-1 as being east of the sump; in the text it is stated as being to the west.

34. [18.1] What buildings are scheduled for D&D and when is this planned?
35. [18.5.1] A RAD-VOC survey should be conducted as a part of the current RFI activities. Hot spots could be marked and fenced off until D&D.
36. [18.7] The RAD-VOC survey should extend from the suspected contaminant location to the mesa edge.
37. [18.8.3] How will it be confirmed that the former location of the sump has been located when drilling?
38. [18.9] See Specific Comment #36.

SWMU PROPOSED FOR NO FURTHER ACTION

36. [19.1p1] "For those sites where records show that no documented releases have occurred..." This may not be sufficient criteria for NFA nomination.
37. [20.1.2b1] Has monitoring in the building been conducted?
38. [20.1.2b4] Have releases within the buildings been documented?
39. [20.2.2b1, 21-028(b)] "These storage areas exhibit no evidence of routine releases..." What releases have occurred? Are there floor drains in which releases could have migrated? No evidence of "routine" releases does not appear to be a basis for NFA.
40. In general, a tour of NFA sites and possibly supplemental archival data will be necessary before NMED/AIP can comment on the adequacy of NFA recommendations. Observations made at NFA sites by AIP staff will be reported to HRMB as an addendum to this review.

SECTION 2, NON-HSWA ISSUES

Specific Comments

1. It is suggested that the node spacing to be used within radiological survey areas be indicated when using a tripod. The node spacing should represent a specified confidence level that contamination within a specified gridded area is not missed.