

LANL 1994 TA-06

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Reviewed by Tech-Comp.

LANL/GR/OU 1111

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DATE: July 12, 1994

SUBJECT: **REVIEW OF THE LOS ALAMOS NATIONAL LABORATORY RCRA FACILITY INVESTIGATION WORKPLAN FOR OPERABLE UNIT 1111, DATED JUNE 1993**

Hazardous and Radioactive Materials Bureau (HRMB) staff in the Agreement In Principle (AIP) program have completed their review of the Resource Conservation and Recovery Act Facility Investigation Workplan (RFIW) for Operable Unit 1111 (OU 1111). The comments below are keyed to the section and page numbers in the subject document. Tables or figures cited in the text are referenced as 't' or 'f', respectively. Text in italics is taken directly from the RFIW.

GENERAL COMMENTS

ITEM NO.

1. 4.6.4, p4-21. "Phase I investigations will be performed under analytical Levels I, II, III, and IV, as discussed in ... the IWP..." The EPA guidance which set forth the distinctions between data types as 'levels' ("Data Quality Objective Guidance for Remedial Response Activities: Development Process and Case Studies", EPA/540/G-87/003) has been replaced by EPA/540/R-93/071 and -078, "Data Quality Objectives Process for Superfund" and the work book associated with this document. AIP recommends that the consequences of this change be discussed between AIP, NMED regulatory staff, EPA, DOE and LANL during review of the draft Installation Work Plan.
2. The RFIW for each SWMU aggregate should include a plan view map with proposed sample locations. Where possible a sampling and analysis plan should be 'third-party executable', that is, should be detailed enough such that a new contractor could execute the plan as written. (5.1.4, 5.2.4, 5.3.4, etc). None of the plans in this RFIW are third-party executable.
3. Compositing of samples is proposed for various locations throughout this RFIW. NMED AIP staff propose that DOE/LANL consider the following as a guideline for compositing of samples:
 - A. Samples taken at maximally contaminated locations for the purpose of defining a target

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analyte list should not be composited.

- B. Compositing practices must take into account the fact that total risk from multiple contaminants may exceed an acceptable level even though the risk from each is below this level.
 - C. Where composite samples do not indicate relatively consistent proportions of contaminants in specific areas the assumption of homogeneity of contaminant distribution cannot be made and risk calculations should be made separately for such areas.
 - D. Where homogeneity of contamination cannot be supported with direct evidence and if n subsamples are composited, contaminants identified in the composite must be assumed to exist at n times the level found in the composite.
- 4. This RFIW makes the repeated statement that phase II actions will be taken only for locations where a single contaminant exceeds SAL's, e.g. 5.2.3.1.1, p5-18. Cumulative effects from multiple contaminants must be considered.
 - 5. It appears that several units identified as SWMUs in this RFIW may be non-HSWA RCRA units and so may need to be included in LANL's RCRA permit. (See Items 7 and 12 under Specific Comments, below.)
 - 6. Cores are proposed for sampling in firing sites. Why are surface samples alone not adequate? (For example, item 11 under Specific Comments, below.)

SPECIFIC COMMENTS

ITEM NO.

- 1. Table 4-6, p4-12. Why is UF_6 not included in the table when the text on page 5-45 indicates its use at TA6-8.
- 2. 5.1.1.1, p5-2. What were the analytical results for the 1987 sampling of Pit 6-007(e)?
- 3. 5.1.2, p5-7. "If contaminants are migrating out of the pits, the contents of the pits and contaminated media will be removed." Removal of the material may be necessary only if migration out of the pits is a danger to human health or the environment, i.e., some migration may be occurring, yet may pose no threat.
- 4. 5.1.3.1.1, p5-9. "These geophysical techniques may be tested in any sequence." There would seem to be a 'best order' for application of these techniques, e.g., a mag survey first to locate the large metal objects in the pits followed by a radar survey to identify pit boundaries.
- 5. 5.2.4, p5-20. The plan may propose to base its target analyte list on samples taken from the most contaminated locations. Samples of surface and sub-surface soils at the outfall and in the

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old ponded area in S1 might reduce the number of target analytes in subsequent analyses. For this purpose samples should be taken without compositing.

6. 5.2.4, p5-19. "The number of samples will be sufficient to detect contaminants above SALs with at least an 80% certainty if the contaminants cover 20% or more of the area being sampled." AIP staff have commented on the use of this technique as proposed in the 1993 IWP. The use of this technique has not been approved or disapproved by NMED or EPA. Guidelines for use of such techniques must be developed in cooperation with these agencies.
7. 5.3.1.1, p5-26. SWMU 22-015(a) is an example of a unit which apparently received RCRA hazardous waste until 1987. Some of these SWMUs may require either inclusion in LANL's RCRA operating permit or closure under 40CFR Part 264.
8. Table 5-6, p5-32. The footnote, "Activity in excess of ^{238}U natural chain" is unexplained.
9. 5.4.3.1.1, p5-49. "...the area to be sampled extends 10 ft beyond the perimeter of the firing pad." This does not seem to be adequate.
10. Table 5-11, p5-52. If the only radiological contaminant reasonably likely to exist in Aggregate 4 is DU it is not clear why other than gross alpha should be performed.
11. 5.4.4, p5-53. In reference to flat topography within a firing site, the rationale for taking cores is unclear. It would seem that 0-6" samples would be adequate.
12. 5.6, p6-61. It is not clear whether disposal of RCRA hazardous waste was discontinued prior to RCRA promulgation at these sites.
13. Figure 5-31, p5-85. Was there a directionality to these shots that leads to limiting the assessment to the area south of the pad?
14. 5.7.4, p5-86. What is the 'radiation counter' proposed here? Also, firing sites in general are inappropriate for use of VCAs. Also, how is the data from the shrapnel and radiological survey to be used in phase II?
15. Table 5-18, page 5-87. It would seem that volatile organics should be added to the target analyte list for the landfill.
16. Table 5-20, p5-94. Volatile organics be added also to the TAL for SWMUs 6-002 and C-6-005.