M E M O R A N D U M

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DATE: August 8, 1994

SUBJECT: Review of LANL's Operable Unit 1085 RFI Work Plan, Submitted May 1994.

The Hazardous and Radioactive Materials Bureau (**HRMB**) Agreement in Principle (**AIP**) staff have completed the review of the operable unit (**OU**) 1085 RCRA facility investigation (**RFI**) work plan. This memo details the comments stemming from the review. For clarity, the memo contains numbered items listing comments that are keyed to a specific chapter/section number, bullet, table or figure in the RFI as well as to the page number e.g., **Item 2. (4.4.4.4, b5, T. 4-4-4, Fig. 4-4-4, pg. 4-17).** The AIP program is submitting these comments and technical recommendations to the HRMB's RCRA Permits and Technical Compliance Programs due to eventual New Mexico Hazardous and Solid Waste Act **(HSWA)** authorization. A separate letter is sent to the Environmental Protection Agency **(EPA)** from HRMB.

Item

1. **General Comment** The decision not to include residential use as a potential future land use scenario should not be made without adequate stakeholders' input. The residential scenario should be considered in future land use options for OU 1085.

2. **General Comment** It is understood that any area of concern (AOC), or solid waste management unit (SWMU) scheduled for voluntary corrective action (VCA) is done at Los Alamos National Laboratory's (LANL) own risk. Under HSWA authority, the EPA or the state of New Mexico could revisit all potential release sites (PRS) for evaluation at any time in the future. Review of proposed VCA's by NMED/AIP staff may help in the designing and completing of adequate verification sampling and may help in communicating the objectives and results of the VCA to regulatory bodies, thereby reducing the possibility of revisiting the site in the future.

3. **General Comment** It is recommended all surface sample locations and depths should reflect considerations regarding the geomorphology of the area; specifically, cut and fill, slope colluvium, depressions, or any area where there may be increased transport.

4. **Specific Comment (2.3.1 pg. 2-2 to 2-3)** Important archival information to effectively evaluate PRSs is lacking. Is there any information as to whether the firing sites were ever bulldozed, cleaned, backfilled etc.?

5. **General Comment (3.4.2 pg. 3-4 to 3-7)** The text mentions three large near vertical faults (Frijoles segment of the Pajarito fault zone, the Guaje Mountain fault, and the Rendija Canyon fault) have been mapped within or near OU 1085. The text also states "... Unlike cooling joints, such tectonic fractures are likely to cross flow units and may provide a deeply penetrating flow path for groundwater migration." However, throughout the RFI it is stated that no viable pathway to the main aquifer exists. What is the significance of these faults? Has LANL investigated the possibility of migration through these fault zones?

6. **Specific Comment (5.1.6.3 Interior Sampling pg. 5-1-14)** The information provided in the sampling plan and on fig. 5-2 pg. 5-1-4 is inadequate. Specifically, why are the samples that are to be taken from inside the steel pit [SWMU 12-001(a)] not differentiated from the samples to be taken from the cover of the pit? It is recommended precise sampling locations be described in the text and represented on the figure.

7. **Specific Comment (5.1.1 pg. 5-1-6)** It is not clear if the report (Blackwell 1959, 21-0009) from 1959 supports LANL's assumption that the presence of radioactivity or chemical PCOC's other than HE are unlikely in structure TA-12-2, AOC C-12-002. Also, was this structure burned in 1960 with the other structures in the western area? The text seems to refer to the structure as though it is still standing.

8. **Specific Comment (5.1.3.1 pg. 5-1-7)** Is there any visible staining on the ground from the oil and fuel around area of concern C-12-004?

9. **Specific Comment (5.1.3.2 pg. 5-1-7 and fig 5-2 pg. 5-1-4)** The text does not correspond to the figures. Figure 5-1 is the conceptual exposure model, not figure 5-2.

10. **Specific Comment (5.1.5.2 b.3 pg. 5-1-11 and fig.5-3 pg.5-1-8)** The drainage pathway mentioned in text should be clearly delineated in figure 5-3. Is sample 12-3 on figure 5-3 (outside the former magazine structure) the separate sampling event mentioned in the text? Why was this location chosen?

11. **Specific Comment (5.4.5.4.1 pg 5-1-12 to 5-1-13)** The proposal for VCA at SWMU 12-001(b) is very unclear. Is there a size criteria for the removed pieces of HE under which samples will be taken? How deep are these samples proposed to go? What constituents will the samples be analyzed for? For the radiation biased samples, will there be five samples taken total or will there be five samples taken at each "hot spot"?

12. **Specific Comment (5.1.6 pg. 5-1-13) Field Screening:**
    a) It is recommended LANL provide a figure depicting the grid mentioned in the text.
    b) Clarify bullet 2: "... Samples with positive (2 times background) and readings;"

13. **General Comment (5.1.6.3 pg. 5-1-14) Sampling Summaries:** It is recommended that a more detailed sampling plan be presented. A rationale for each biased sample and an accurate location should be provided. A corresponding grid should be provided for randomly generated sample locations along with a description of the method for generating these locations. Grid and sample locations should be reflected in 5-2 and 5-3.

14. **Specific Comment (5.2.5.4 pg 5.2-7)** "...six laboratory samples will provide an 80% chance of discovering contamination if 25% of the SWMU is contaminated." How is If LANL is making the assumption that 25% of the SWMU is contaminated, then LANL should provide a basis for this assumption. This comment also applies to **5.6.5.4.1 pg. 5.6-10; 5.6.5.4.2 pg.5.6-15.**

15. **General Comment (section 5.3)** It is unclear in this section why LANL is not going investigate PRSs 14-002(a-b), 14-009, 14-010, C-14-002, and C-14-008 since currently they are not active. The surface disposal area 14-009 is of particular concern. It is recommended LANL clarify the reasoning for not investigating these SWMUs.

16. **Specific Comment (5.3.2 pg. 5-3-4) SWMU 14-002(b)** The text states ".. After a series of shots, the area was swept and HEs, shrapnel, and debris picked up." Did the

sweeps include the sandbags that were pushed over the edge of the canyon?

17. **Specific Comment (5.3.2. pg. 5-3-5) SWMU 14-010** When was the sump removed and disposed of by the WX-2 group? Was there any confirmative sampling done?

18. **Specific Comment (5.3.3.2 pg.5-3-6)** It is recommended that a more detailed description of how each SWMU would be affected by surface water run-off be presented. What is the effect of the damaged sandbags that were spread for erosion control? It should be made clear if the sandbags were successful for erosion control, or if they are a concern due to the contamination present.

19. **Specific Comment (5.3.5.3 pg. 5-3-10)** A more detailed map showing drainage pathways and sediment catchments should be provided. This map should include the sampling locations in reference to the sediment catchments.

20. **Specific Comment (5.3.5.3 pg. 5-3-10)** Is LANL planning to sample for PCOCs other than HE in the sediment catchments in the western and eastern drainage? Table 5-9 pg.5-3-14 indicates that these samples will be analyzed for isotopic uranium, metals, semivolatile, and gamma spectroscopy, however this is not apparent in the text.

21. **Specific Comment (5.4.2 T. 5-10 Pg. 5.4-4)** The table indicates that PRSs 14-001(g)and 14-005 are addressed in sections 5.4.6.2.1 and 5.4.6.1.1. respectively. However, they are addressed in sections 5.4.7.2.1 and 5.4.7.1.1 respectively. It is recommended that this will be corrected and clarified in the text.

22. **Specific Comment (5.6.6.2.3 pg. 5.6-15) East Site Drainage Sampling** The four surface sampling locations are not shown on the map in figure 5-13 pg. 5.6-13. It is recommended that a map showing the drainage pathway and the sample locations relative to that drainage be provided.

SWMU's/AOC's Proposed For No Further Action (NFA)

23. **General Comment** It is the policy of the AIP staff to evaluate NFA sites of greatest concern and then to provide technical comments to the EPA through the NMED RCRA Permits/Technical compliance staff. A list of NFA sites to be visited will be submitted to the OU 1085 OUPL and NMED RCRA Permits/Technical Compliance staff following a comprehensive review of Chapter 6.

24. **General Comment** When proposing a SWMU/AOC for NFA to EPA based on archival data, the archival information and an assessment of its reliability should be provided for review. Archival data could possibly be submitted as an addendum to the RFI work plan (e.g., The OU 1085 addendum containing 7 sites proposed for NFA).

If you have any comments regarding this review, contact Mary Perkins at (505) 672-0458