



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
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NOV 10 1994

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Mr. Joseph C. Vozella  
Assistant Area Manager  
Environment, Safety and Health Branch  
Department of Energy  
Los Alamos Field Office  
Los Alamos, NM 87544

Re: Notice of Deficiency, RFI Work Plan OU 1100  
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Vozella:

The Environmental Protection Agency (EPA) has reviewed the RCRA Facility Investigation (RFI) Workplan for Operable Unit 1100 (OU 1100) dated May 23, 1994, and found it to be deficient. Enclosed is a list of deficiencies which need to be addressed within thirty (30) days of receipt of this letter.

Should you have any questions, please feel free to contact Barbara Driscoll at (214) 665-7441.

Sincerely yours,

*W. K. Honker*  
William K. Honker, P.E., Chief  
RCRA Permits Branch

Enclosure

cc: Mr. Benito Garcia ✓  
Bureau Chief, Hazardous and Radioactive Materials Bureau  
New Mexico Environment Department  
Mr. Jorg Jansen  
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**List of Deficiencies  
Operable Unit 1100**

**General Comment:**

Whenever possible LANL should be determining actual sampling locations prior to submittal of workplans. Surveys of drainages and geophysical surveys may be conducted prior to submittal of a sampling plan. This information should be used to determine how and where samples will be collected, and this information should be presented in the workplans.

**Specific Comments:**

1. LANL shall submit a schedule for each of the SWMUs in this workplan which are required to be investigated under the HSWA portion of the RCRA permit. This schedule shall include start field work dates, end field work dates and submittal of final RFI Report dates. Geophysical survey dates should also be included.
2. **4.5.1.1 Explosive Constituents, p. 4-7** - In the third paragraph of this subsection, text indicates that the production impurities of pentaerythritol trinitrate (PETN) have never been detected in the environment. LANL needs to elaborate on this statement, and explain why the by-products from PETN might not be found in the environment.
3. **4.5.3 Potential Impacts, p. 4-17** - In determining remediation levels for sites, LANL may use a risk assessment based on actual land use. If risk assessment is to be used for a no further action determination, then a residential exposure scenario or a scenario agreed to with public input should be used. No response required.
4. **4.6.1 No Further Action, p. 4-18** - EPA does not agree with Criterion 2. A comparison of analytical results should be made against background for inorganics and practical quantitation limits (PQLs) for organics to determine the extent of a release or if a release has occurred.
5. **4.7.1 Statistical Basis, p. 4-19** - EPA does not necessarily agree with how the proposed statistical method will be used in the sampling plans. EPA will indicate for each SWMU whether an adequate number of samples is being collected irregardless of the statistical approach being used. No response required.
6. **4.8.2 Sampling of Soils, Sediments, and Wastes, p. 4-26** - LANL shall elaborate on why they want to increase the number of field duplicate samples from 1 in 20 to 1 in 10.

7. **5.1.4.2 Sampling and Analysis, p. 5-11** - Sampling plans for these areas are much too sketchy to be approved. How will LANL determine how many trenches for each landfill? What is the spacing between samples to be collected? What field screening will be used? LANL shall provide the dates of the proposed geophysical surveys, and revised sampling plans should be resubmitted based on the geophysical information.
8. **5.2.4.1.3 Radiation Surveys, p. 5-27** - How will this radiation survey be conducted. Will a grid pattern be employed? What type of coverage of the area will there be.
9. **5.2.4.2.1 PRS 20-002(a) - Steel Lined Pit, p. 5-29** - How will the location of the 22 samples be determined? How will sample locations be determined if field screening is negative?
10. In Section 5.2.1.1.1 PRS 20-002(a), LANL discusses the failure of the shot containment tank called a "Dumbo" (PRS 20-002(2)). LANL should provide more information about the failure of the tank, and does that mean that material might have been scattered out of the "Dumbo". What type of explosives were used in the tank? How is the sampling plan addressing this failure?
11. **5.2.4.2.2 PRS 20-002(b) - Dumbos, p. 5-31** - The Dumbo was used to test explosives therefore, LANL should not request no further action based on a lack of radiation readings above background. LANL should submit a percentage of the samples collected closest to the location of the Dumbo for laboratory analysis of HE.
12. **5.2.4.2.3 PRS 20-002(c) - Firing Pad Bordered on Three Sides by Earth Berm, p. 5-32** - How will LANL determine sampling locations?
13. **5.2.4.2.4 PRS 20-002(d) - Firing Site, p. 5-32** - How will LANL determine sampling locations?
14. **5.2.4.2.5 PRS 20-003(b) - 20 mm-Gun Site, p. 5-34** -
- a. LANL needs to indicate on Figure 5-10 the approximate location of the gun and the direction the canyon wall which the gun shot into. In addition, drainage paths from the impact area to the main stream channel should be indicated, as well as sampling locations. LANL needs to demonstrate a route from the cliff face to the sampling area.
- b. LANL should do a reconnaissance of the cliff face and area under the impact zone to determine if there is any visible waste.
15. **5.2.4.2.6 PRS 20-003(c) - Navy Gun Firing Site, p. 5-34** - How will LANL determine sampling locations?

16. **5.2.4.2.7 PRS 72-001 - Active Firing Range, p. 5-36** - How will sampling locations be determined within the study area. What type of field screening methods will be used to determine sampling locations (e.g. XRF)? Drainage paths should be indicated on Figure 5-11.

17. **5.3.4.2 Sampling and Analysis, p. 5-52** -

a. Text indicates that radioactive potential contaminants of concern (PCOC) are not expected at most PRSs and that all samples will be field screened. In addition, samples sent for offsite analysis will be analyzed for hazardous and radioactive. If samples which are field screened indicate that radioactivity is not a concern, and yet the samples are to go for laboratory analysis, why is LANL going to conduct laboratory analysis for radioactivity?

b. It is recommended that samples be taken where there is any visible staining on the asphalt surrounding or directly under the waste accumulation areas.

18. **5.3.4.2.3 PRS 53-001(e), p. 5-56** - Samples should be collected in the areas closest to the unit if not within the boundaries of the unit. Figure 5-19 indicates sampling occurring too far away from the unit.

19. **5.3.4.2.5 PRS 53-005 - Waste Oil Pit, p. 5-56** - Text indicates that solvent wastes (TCF and freon), oil and greases, and acidic wastes were removed in 1986. This pit was not lined and there is no data from the cleanup. Therefore, LANL shall core at least 10 feet below the depth of the pit and collect samples at 5 feet and 10 feet and analyze for VOCs, SVOCs and metals.

20. **5.3.4.2.5 PRS 53-008 - Boneyard, p. 5-60** - How will sampling locations be determined if there are no radiation readings above background? How will the radiation survey be conducted?

21. **5.5.4.2 Sampling and Analysis, p. 5-70** - Laboratory analysis for SWMU 20-005 should include SVOCs.

22. **5.6.4.2 Sampling and Analysis, p. 5-84** -

a. LANL shall ensure that a least one sample is collected as close to the outfall as possible even if this means collection of a sample into the tuff.

b. It is recommended that LANL delineate the drainage channel and the sediment catchments and then clearly present them on Figure 5-31 along with concise sampling locations.

**23. 6.1.2 PRS 53-007(a) - Neutralization Tank, p. 6-2 - EPA** cannot determine from the description of this unit if the neutralization tank may be visibly inspected or if it is under the basement. LANL should also indicate how they can determine if there have been any leaks from this entire system.

**24.** LANL may request a Class 3 permit modification for the following unit: 53-007(b)

LANL does not need to add the following sites to the HSWA portion of the RCRA permit:

20-003(d)  
 53-001(f,h,i,j,l,m,n,o)  
 53-003  
 53-011(a,b,c,d,e)  
 C-53-001 through C-53-019  
 72-002  
 72-003(a,b)  
 C-20-001  
 53-001(d,k)

**25.** The following sites may be deferred until closure: 53-002(a) and 53-002(b).

**26. PRSs 53-006 (b,c,d,e), p. 6-12 -**

**a.** Are there any hazardous constituents released to SWMUS 53-006(b and c)?

**b.** LANL shall provide information related to the integrity of these units. How can LANL determine if any leakage has occurred? EPA will evaluate this information prior to making a decision regarding deferral of these units.

**27. PRSs 53-012(a-d,f,g,h), pp. 6-22 through 6-24 - EPA's review** of the "worst case" information presented in Chapter 5, Section 5.6.2.1 indicates that the cooling tower outfalls may be of concern. No dates of operation are presented in the writeups for these outfalls, and LANL does not indicate if the additives have changed with time. Chromium has been found to accumulate at similar outfalls at other sites. EPA recommends that several of these outfalls be sampled for metals. A sample should be collected within the top foot of soil or tuff as close to the outfall as possible.

NPDES permits only regulate the actual discharge of water from the outfall. They do not regulate the accumulation of material in the sediment or require corrective action for sediment accumulation.

Because the NPDES permits do not cover these additional items, RCRA may still address remediation of the sediment at any outfall.

**28. PRSs C-20-002 and C-20-003, p. 6-28** - Since these were wooden structures and therefore probably had wooden floors it is very likely that the soil beneath the structures may be contaminated with high explosives (HE). EPA suggests that at a minimum the areas where the structures were located be tested using the HE spot test kit in order to determine if there is any gross contamination.

**29. PRS 53-001(c), p. 6-29** - What does LANL mean by the EM-8 tracking system confirmed the site had been removed? Does this mean removed from the tracking system or cleaned up? Does the location of the staining outside TA-53-16 coincide with the location of the storage area? Can LANL confirm this through areal photos or other means?

**30. 6.4.1.2 Justification for DA, p. 6-30** - LANL's reasons for requesting deferred action for these sites are not reasonable. LANL should evaluate if there were any major spills from these areas. If there were no major spills, and if the sites can not be located or are now covered by buildings then LANL should request NFA.

**31. PRS 53-006(a) and 53-006(f), p. 6-31** - LANL needs to provide additional information on these units. LANL shall provide figures indicating the relation of these units with the buildings with which they are associated. Also, LANL needs to provide a list of hazardous constituents which may have been stored in the tanks. Can an inspection or integrity test for the units be conducted?

**32. PRS 53-009, p. 6-33** - LANL needs to provide the dates that these tanks were used, and information from any inspection reports of the tanks.