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Date: October 30, 1997  
 Refer to: EM/ER:97-432

Mr. Benito Garcia  
 NMED-HRMB  
 P.O. Box 26110  
 Santa Fe, NM 87502

**SUBJECT: RESPONSE TO REQUEST FOR SUPPLEMENTAL FOR THE  
 RFI REPORT FOR TA-35, PRSS 35-004(a,g,h), 35-009(e),  
 35-014(g1,g2), and 35-016(b,j,n,q) (FORMER OU 1129)**

Dear Mr. Garcia:

The Environmental Restoration Project received your letter dated October 1, 1997, in which you requested supplemental information on the Resource Conservation and Recovery Act Facility Investigation Report for Technical Area 35, Potential Release Sites 35-004(a,g,h), 35-009(e), 35-014(g1,g2), and 35-016(b,j,n,q). In your letter, you indicated that a response should be received from the Los Alamos National Laboratory within 30 days. Enclosed please find our responses to your request.

Should you have any questions, please contact Allyn Pratt at (505) 667-4308 or Mike Gilgusch at (505) 667-5794.

Sincerely,

Julie A. Canepa, Program Manager  
 LANL/ER Project

Sincerely,

Theodore J. Taylor, Program Manager  
 DOE/LA0

JC/TT/rfr

Enclosure: Response to Request for Supplemental Information for RFI Report for TA-35



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**Response to Request for Supplemental Information**  
**RFI Report for TA-35**  
**PRS Nos. 35-004(a, g, h, and m); 35-009(e); 35-014(g<sub>1</sub> and g<sub>2</sub>); and 35-016(b, j, n, and q)**  
**Submitted July 1996**

**INTRODUCTION**

This document responds to a letter titled, "Request for Supplemental Information for RCRA Facility Investigation (RFI) Report for Technical Area 35, Potential Release Sites (PRSs) 35-004(a, g, h), 35-009(e), 35-014(g<sub>1</sub>, g<sub>2</sub>), 35-016(b, j, n, q) dated July 1996 Los Alamos National Laboratory NM0890010515." This letter was sent from the New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau to the Los Alamos Area Office of the Department of Energy and Los Alamos National Laboratory (LANL). To facilitate review of this response, NMED's comments (in *italic type*) are included verbatim. The comments are divided into general and specific categories as presented in the letter. LANL's responses (in regular type) follow each NMED comment.

**GENERAL COMMENTS**

**NMED Comment**

1. *This report does not include radiological sample results. The results from the radiological sampling performed at these sites are needed to evaluate a proposal for No Further Action (NFA). All sample information resulting from the RFI should be included in the RFI report.*

**LANL Response**

1. The intent of the July 1996 RFI report was to address only Resource Conservation and Recovery Act (RCRA) concerns. Only recently have conversations been held with NMED to discuss an approach for an "integrated NFA" (for example, radiological and surface water concerns). An addendum to the RFI report, which addresses only radiological concerns for PRS Nos. 35-004(a), 35-009(e), 35-004(g), and 35-004(h), was sent to NMED on September 30, 1997. Additional radiological data were collected to complete the evaluation of PRS Nos. 35-004(m); 35-014(g<sub>1</sub> and g<sub>2</sub>); and 35-016(b, j, n, and q). A report that includes the evaluation of both radiological and RCRA data will be submitted to NMED by February 1999.

**NMED Comment**

2. *This report includes only the results from Multiple Chemical Evaluation (MCE) calculations. In order to present the results more clearly, the chemicals, concentrations and SALs used in the MCE should be presented in a table. Also, all chemicals found at concentrations above 0.1 of the SAL should be included in the MCE calculation.*

**LANL Response**

2. Because of concerns about the RCRA data that were raised by NMED, LANL proposes further sampling at all PRSs in the July 1996 RFI report except PRS No. 35-004(h) (see the responses to general comment numbers 4 and 5). MCE tables that present the chemicals, maximum concentrations, and SAL values used in the calculations will be provided in the February 1999 RFI report. That report will include the results of resampling at these PRSs.

An MCE table for PRS No. 35-004(h) was not prepared (and is not presented here) because no chemicals having a SAL value were carried forward in the baseline screening assessment.

For context, the RFI report was prepared in accordance with the November 1995 RFI report format. In that format, MCE tables including the chemicals, concentrations, SALs, and results of the MCE were not required.

As described in Section 3.4.1 of the RFI report, all chemicals with one or more measured concentrations above background level were included in the MCE calculations. This includes chemicals with concentrations greater than 10% of their respective SAL values.

#### **NMED Comment**

3. *This report utilizes qualitative risk assessments in place of quantitative risk assessments. The guidance document cited in section 3.4.2, Risk-Based Corrective Action Process (Environmental Restoration Decision Support Council 1996, 53751) does not discuss the use of qualitative risk assessment as a basis for a recommendation of NFA. The methodology and basis of the qualitative risk assessment should be clearly defined. The use of qualitative risk assessments are not appropriate for recommending NFA and is not an approved method by the Administrative Authority for assessing PRSs in the NFA process.*

#### **LANL Response**

3. One or more chemicals were identified as chemicals of potential concern (COPCs) during screening assessment in the following five decision groups: PRS Nos. 35-004(a) and 35-009(e), PRS Nos. 35-004(m) and 35-014(g<sub>2</sub>), PRS Nos. 35-014(g<sub>1</sub>) and 35-016(n), PRS No. 35-016(j), and PRS No. 35-016(q). In the risk assessment sections of the RFI report, the COPCs identified in these PRS decision groups were evaluated for the likelihood of presenting unacceptable human health risk. In each case it was determined that the time and expense of developing and documenting a formal risk assessment was unwarranted because LANL felt that sufficient information was available to conclude that the sites posed no unacceptable health risk. However, in response to NMED's comments, additional sampling will be performed for these PRSs.

In Section 8 of "Assumptions for Data Collection and Evaluation" in the *Risk-Based Corrective Action Process* document, it is stated that further action after identifying COPCs during screening assessment includes further evaluation of currently available information as well as preliminary or baseline risk assessment activities. For the PRS decision groups in question, the evaluation of COPCs provided in the risk assessment sections of the RFI report include such activities as analysis of spatial extent, identification of potential PRS-related source activities, identification of likely land use and receptors, and evaluation of the toxicological basis for assumptions of additivity within MCE calculations. LANL believes that such activities logically fall under the categories of "further evaluation" and "preliminary risk assessment" described in *Risk-Based Corrective Action Process*.

Although LANL wishes to retain the option of evaluating the need for formal risk assessment when COPCs are identified during screening assessment, it is recognized that such evaluations rely heavily on the professional judgment of the RFI technical team. Therefore, LANL appreciates specific comments on the technical adequacy of such evaluations and the clarity with which the arguments for PRS recommendations are conveyed in reports.

#### **NMED Comment**

4. *X-Ray Fluorescence (XRF) was used to screen soil for mercury. The reported detection limit for mercury using XRF is 5 mg/kg. The SAL for mercury in soil is 23 mg/kg. The detection limit is greater than 0.1 of the SAL. Laboratory data should be reported to show the ratio of Hg concentrations to the SAL. Either the detection limit of 5 mg/kg should be used the MCE or fixed laboratory data with a lower detection limit should be used.*

#### **LANL Response**

4. LANL recognizes the limitations of the XRF screening method used for characterizing TA-35 soils, particularly with respect to the estimated detection limit (EDL) for mercury. LANL proposes further sampling at all PRSs in the RFI report except PRS No. 35-004(h). A

sampling and analysis plan (SAP) will be submitted to the Administrative Authority by June 1998.

PRS No. 35-004(h) will not be resampled because in 1996 a second phase of decommissioning activities at the former wastewater treatment plant resulted in the removal of the structure and foundation of building TA-35-7. Soil was excavated during the removal of the building footings and the inactive buried waste lines (see the addendum to the RFI report for PRS Nos. 35-004[a], 35-009[e], 35-004[g], and 35-004[h], which was sent to NMED on September 30, 1997). On the north side of TA-35-7 soil was excavated to a distance of 15 ft from the building and to depths ranging from approximately 15 to 18 ft. On the east side of TA-35-7 soil was excavated to a distance of 10 ft from the building and to depths ranging from approximately 5 to 10 ft. Then the excavation area was backfilled with clean fill material and regraded. Therefore, further sampling is not necessary.

**NMED Comment**

5. *Elements that do not have an XRF UTL or those which have an XRF detection limit greater than 0.1 of the SAL, fixed lab analytical results should be reported to support the XRF results.*

**LANL Response**

5. LANL agrees that additional fixed laboratory analytical results are required to support the XRF results. As stated in the response to general comment number 4, LANL proposes further sampling at all PRSs in the RFI report except PRS No. 35-004(h).

**NMED Comment**

6. *The report shall include an ecological risk assessment. Risk to ecological receptors shall be evaluated before sites are proposed for No Further Action.*

**LANL Response**

6. To date, the RFI reports submitted to NMED recommend NFA for a PRS based only on human health concerns. LANL has developed an ecological risk assessment methodology that will address the ecological concerns over larger ecological exposure units. The ecological risk of the PRSs at TA-35 will be addressed when that methodology is implemented.

**SPECIFIC COMMENTS**

**NMED Comment**

1. *§ 5.1.7.2.1, Review of chemicals of Potential Concern and Extent of Contamination, Page 5-9. "The concentration of aroclor 1260 in this sample was approximately three times higher than its SAL value." Given the spatial separation of the sample points and the concentration of mixed aroclors in the samples, this site may require additional sampling to determine the extent of contamination. Sample AAC1158 seems to represent a hot spot. Additional information should be provided to show that the areas of maximum concentration have been sampled.*

**LANL Response**

1. LANL agrees that further sampling for polychlorinated biphenyls (PCBs) is required at PRS No. 35-009(e) to establish the extent of PCB contamination. The plan for further PCB sampling at PRS No. 35-009(e) will be included in the SAP for the PRSs in the RFI report, which will be submitted to the Administrative Authority (see the response to general comment number 4).

**NMED Comment**

2. *§ 5.1.5, Figure 5.1.5.1, Locations of organic chemicals and analytes that exceed UTLs and SALs at PRS s 35-004(a) and 35-009(e), Page 5-7. This site should be considered for implementation of Best Management Practices (BMPs) in order to stop any of the mixed aroclors from entering surface water flow into Ten Site Canyon. The potential for contaminant migration into the canyon should be discussed and mitigated as needed.*

**LANL Response**

2. Further sampling to determine the extent of PCB contamination will be performed at this site (see the response to specific comment number 1). The potential for contaminant migration into Ten Site Canyon will be assessed under the "Evaluation and Notification of Potential Surface Water Concerns at Environmental Restoration Sites" (LANL-ER-AP-4.5). The "Surface Water Site Assessment" (Part B) was completed, and the "Constituent Assessment" (Part A) will be completed when additional data are collected. The necessity for mitigation of potential contaminant migration into the canyon will be determined based on that assessment and the results of the additional PCB sampling. Also, please note that most of the area where the samples were collected is covered with asphalt. The surface site assessment score for PRS No. 35-004(a) was 3.6; the score for PRS No. 35-009(e) was 18.3.

**NMED Comment**

3. *§5.8.1, PRS 35-016(q), History, Page 5-75. The report should include information on the past waste management practices in the Sodium Test Building. Also, the origin of the buried construction materials, and the purpose of the trench should be discussed. The selective asphalt capping of the waste material may be an indication of buried hazardous materials. The area of the trench buried and covered with asphalt should be further investigated. The origin and purpose of the recent backfill material not associated with this PRS should be discussed*

**LANL Response**

3. LANL will conduct additional archival research to determine past waste management practices in the Sodium Test Building, the origin of the buried construction materials, the purpose of the trench, and the origin and purpose of the backfill material. A plan for further sampling at PRS No. 35-016(q), which incorporates the results of the archival research, will be included in the SAP for the PRSs in the RFI report, which will be submitted to the Administrative Authority (see the response to general comment number 4).

**NMED Comment**

4. *§ 5.8.4.2, Page 5-77, Deviations from the Sampling and Analysis Plan. "...engineering surveys showed that this material is recent backfill material and is not associated with the PRS." The origin and purpose of the recent backfill material should be discussed. Indicate the origin of the material, type, and when it was deposited.*
4. See the response to specific comment number 3.

**NMED Comment**

5. *§ 5.8.5, Background Comparisons, Page 5-79. "Mercury was detected in one sample at a concentration of 6.16 mg/kg." The SAL for mercury is 23 mg/kg. The concentration of mercury in the sample represents about .26 of the SAL. Contaminants found at concentrations above .1 of the SAL should be included in the MCE calculation.*

*Mercury above background concentrations in an active channel is a concern to the NMED Surface Water Quality Bureau. These concentrations may result in excellencies of the New Mexico Water Quality Control Commission standards for interstate and intrastate streams. During the current LANL Systematic Evaluation for Water Quality Compliance, this site should be evaluated for implementation of BMP's to stabilize the buried material and to prevent recent backfill and asphalt cap materials from eroding into the canyon.*

#### LANL Response

5. As described in Section 3.4.1 of the RFI report, all chemicals with one or more measured concentrations above background levels were included in the MCE calculations. This includes chemicals with concentrations greater than 10% of their respective SAL values (see the response to general comment number 2). The MCE for noncarcinogens at PRS No. 35-016(q) that is given in the RFI report was 0.7 and included the normalized sum for mercury using a maximum concentration of 6.16 mg/kg.

LANL proposes further sampling at all PRSs in the RFI report except PRS No. 35-004(h) (see the response to general comment numbers 4 and 5). MCE tables that present the chemicals, maximum concentrations, and SAL values used in the calculation will be provided in a future RFI report. That report will include the results of resampling at these PRSs.

The potential for contaminant migration into Ten Site Canyon will be assessed under the "Evaluation and Notification of Potential Surface Water Concerns at Environmental Restoration Sites" (LANL-ER-AP-4.5). Based on the implementation of LANL-ER-AP-4.5, the necessity for mitigation of potential contaminant migration into the canyon will be determined. The results of the additional sampling at this site will be included as part of the "Constituent Assessment" (Part A).