



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

February 10, 1998

*Stu*  
*Please forward to*  
*LANL/DOE by 3/20/98*  
*or forward to EPA*  
*by the same date*  
*w/ national points*

Mr. Benito Garcia, Chief  
Hazardous and Radioactive Materials Bureau  
New Mexico Environment Department  
P.O. Box 26110  
Santa Fe, NM 87502

Re: TA-3 Potential Release Sites RFI Report  
Los Alamos National Laboratory (EPA ID# NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the RFI Report for Potential Release Sites (PRSS) 3-004(c,d), 3-007, 3-014(k,l,o), 3-021, 3-049(a), 3-052(b), 3-056(k), and C-3-014 located in Technical Area (TA) 3 at Los Alamos National Laboratory (LANL).

EPA concurs with a human-health No Further Action (NFA) recommendation for eight (8) of these PRSSs. However, EPA recommends that ecological assessments be conducted at those sites where evidence of a release exists, namely PRSSs 3-004(c,d) and 3-014(k,l). EPA has not concurred with a human-health NFA recommendation for three (3) PRSSs, as additional investigation or submitted information is requested.

A major concern raised by EPA in this review is that LANL has made several deviations from screening techniques and sampling strategies as approved in the *RFI Work Plan for Operable Unit 1114*. EPA has requested that, in the future, LANL obtain Administrative Authority approval prior to making such changes.

A review summary and a list of comments and deficiencies is attached. Should you have any questions, please contact Mr. David Vanlandingham at (214) 665-2254.

Sincerely,

*David W. Neleigh*  
David W. Neleigh, Chief  
New Mexico and Federal  
Facilities Section

Enclosures



5539

MSWA LANL 1/11/4/3

TU

**Summary of EPA Review  
RFI Report for TA-3 Potential Release Sites**

PRS	Human Health NFA		Rationale for Recommendation of Human Health NFA Denial or Approval
	YES	NO	
3-004 (c)	X		Contamination has been adequately characterized and does not pose an unacceptable risk to human health.
3-004 (d)	X		Contamination has been adequately characterized and does not pose an unacceptable risk to human health.
3-007		X	Further information required on acetone and benzoic acid concentrations.
3-014 (k)	X		Contamination has been adequately characterized and does not pose an unacceptable risk to human health.
3-014 (l)	X		Contamination has been adequately characterized and does not pose an unacceptable risk to human health.
3-014 (o)		X	Further investigation of contamination required; problems with phthalates data.
3-021	X		No evidence of a contaminant release.
3-049 (a)		X	Further information on cyanide analysis requested.
3-052 (b)	X		No evidence of a RCRA contaminant release.
3-056 (k)	X		No evidence of a RCRA contaminant release.
C-3-014	X		No evidence of a contaminant release.

**List of Deficiencies and Comments**  
**RFI Report for Technical Area 3 Potential Release Sites**  
**Los Alamos National Laboratory (NM0890010515)**

**General Comments**

1. Neither the LANL document *Risk-Based Corrective Action Process* (LA-UR-96-2811) nor Multiple-Chemical Evaluation (MCE) outlined in this document have been approved by the Administrative Authority. EPA believes that the misapplication of the MCE to phase I investigation results often eliminates contaminants of concern (COCs) from further investigation before the extent of contamination has been delineated. EPA believes that, after adequate site characterization, the simplest way to account for additive effects due to multiple noncarcinogenic constituents is to compare contaminant concentrations against respective SALs which have been divided by ten (10).
2. For all PRSs included in this report, except for PRS 3-049(a), LANL has noted deviations in screening techniques and sampling strategies which were approved as outlined in the *RFI Work Plan for Operable Unit 1114*. EPA requests that LANL submit copies of the formal correspondences in which EPA or NMED approves these deviations. If such formal approvals do not exist, EPA requests that, in the future, LANL obtains Administrative Authority approval before making any changes from the Work Plan. This position is outlined in the EPA/NMED Position Paper, "Variances from Approved Workplans" (01/29/98).

**Specific Comments**

3. 3.3.1 Risk Due to Naturally Occurring Inorganic Chemicals in Soils (Background).

The assumptions used to conduct exposure assessments and estimate the reference dose for manganese are the same as for any other inorganic chemical. Those assumptions, along with the fact that the manganese background UTL exceeds a hazard quotient of 1.0, will be taken into consideration if a contaminant release is discovered at a site and the need for a corrective remedy is assessed. The risk due to naturally occurring background concentrations should not be minimized.

4. 4.3.2 Organic Analysis.

LANL multiplies all contaminants found in the laboratory blank by 10 in order to obtain a concentration at which those constituents are considered to be detect. Once the "10 times" rule

was applied for the qualification of bis(2-ethylhexyl)phthalate (DEHP) and di-n-butylphthalate data, the concentration at which these two constituents were deemed detect were relatively high: 2.3 and 2.2ppm, respectively. For this reason, the concentration of DEHP in sample 0103-97-0030 (0.84ppm) may actually denote a contaminant release but was considered nondetect. Furthermore, results from di-n-butylphthalate are completely omitted from the report. EPA requests that those constituents which are found in laboratory blanks be included in the body of the report, regardless of if they are considered detect or nondetect.

5. 5.1.7 Evaluation of Organic Chemicals for PRS 3-004(c).

In Appendix C, LANL calculates risk for PRS 3-004(c) and PRS 3-014(o) based upon comparisons to EPA Region 9 Preliminary Remediation Goals (PRGs). PRGs were established by EPA to serve as a screening tool for determining if a contaminant release has occurred at a site, if the release requires further delineation, or if a site risk assessment should be conducted. These PRGs were calculated for both residential and industrial exposure scenarios. Although Region 9 PRGs correspond to a hazard quotient of 1.0 for noncarcinogens and a risk of  $1 \times 10^{-6}$  for carcinogens, EPA did not intend for PRGs to be used to estimate risk at a site or be used as a shortcut to the risk assessment guidelines outlined in *Risk Assessment Guidance for Superfund* (RAGS).

6. Table 5.1.10-1.

EPA requests that, in the future, method Estimated Quantitation Limits (EQLs) and Screening Action Levels (SALs) be added to this and other analytical summary tables to serve as points of comparison.

7. 5.1.11 Risk-Based Screening Assessment: PRS 3-004(d).

LANL claims that "no chemicals were detected at concentrations greater than their respective SALs." However, benzo(a)pyrene was calculated at 0.180ppm, above its SAL of 0.061ppm.

8. 5.2.7 Evaluation of Organic Chemicals.

The concentration of benzoic acid in sample 0103-97-0223 taken from PRS 3-007 is listed in Appendix A as 710mg/kg, not 0.710mg/kg as listed in Table 5.2.7-1. EPA requests that LANL clarify which concentration is correct. Furthermore, acetone was found in sample 0103-97-0225 at a concentration of 4mg/kg but was omitted from

Table 5.2.7-1. EPA cannot concur with a No Further Action determination for PRS 3-007 unless this information is corrected.

9. 5.3.4 Field Investigations.

EPA requests that LANL clarify who determined that one sample location per bed was adequate to detect contamination if it exists. Please see comment 2.

10. 5.3.13 Evaluation of Organic Chemicals for PRS 3-014(o).

EPA requests that LANL submit a process schematic which would explain why the westernmost bed of PRS 3-014(o) contains the greatest amount of contamination; for instance, this may have occurred if the westernmost bed was the first bed in sequence to have received wastewater sludge. Also, LANL should explain how sludge was transported from the treatment facility to the drying beds. This information is omitted from Figure 5.3.4-1.

11. 5.3.13 Evaluation of Organic Chemicals for PRS 3-014(o).

EPA believes that significant contamination is present in the westernmost bed of PRS 3-014(o). Five constituents, including Aroclor-1260, exceeded their respective SALs, and two constituents exceeded Region 9 industrial PRGs. Furthermore, the concentration at which phthalates were considered detect was high (see comment 4). EPA recommends that LANL further characterize the contamination in this bed and conduct human health and ecological risk assessments.

12. 5.5.5 Evaluation of Inorganics.

EPA believes that a statement should have been made here to discuss findings of the cyanide analysis although the results are in Appendix A. EPA requests that LANL explain why they cyanide results for samples 0103-97-0096, -0097, and -0098 were qualified as nondetect even though the results are high (10mg/kg).

13. 5.5.8 Risk-Based Screening and Assessment for PRS 3-049(a).

The chromium analysis conducted for PRS 3-049(a) consisted of total chromium and hexavalent chromium only. EPA believes LANL is unjustified comparing total chromium results to the trivalent chromium SAL. The total chromium results should be compared to the total chromium SAL, which is 210mg/kg.

14. Table 5.5.8-3

EPA recommends that NMED review the screening levels obtained from the NMED documents *Drinking Water Regulations and Standards for Interstate and Intrastate Streams* to determine if their use in this table is appropriate based upon the assumptions used to establish these values.