

**M E M O R A N D U M**

TO: STEPHANIE KRUSE, PERMITTING SECTION  
THROUGH: RONALD KERN, MANAGER, RCRA TECHNICAL COMPLIANCE PROGRAM *RAC*  
FROM: LEE WINN, RCRA TECHNICAL COMPLIANCE PROGRAM *fw*  
DATE: JUNE 1, 1995  
RE: **REVIEW AND COMMENT ON LANL RESPONSE TO NOV ON TA 53  
CLOSURE PLAN** *(circled)*

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Enclosure B, attached, includes technical comments to LANL's: 1) Response to NOD comments for the TA 53 surface impoundments closure plan dated December 16, 1994, and 2) Response to Technical Area (TA) 53, NE & NW Surface Impoundments (Former Operable Unit 1100), dated March 10, 1995 in which LANL responds to the Teleconference comments of January 24, 1995 between LANL and NMED.



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## ENCLOSURE B

### 1) Response to NOD comments for the TA 53 surface impoundments closure plan dated December 16, 1994:

#### LANL's

#### COMMENT: RESPONSE:

# 2 (page 3) A minimum of 10 samples per exposure unit is necessary to give a 95% UCL of the mean. Please provide plots of observations versus concentration to indicate distribution and show how the 95% UCL of the mean was calculated. If LANL is unable to demonstrate this, LANL must either take more samples per exposure unit or use the highest measured value for the concentration term in order to calculate the reasonable maximum exposure. If LANL use the highest measured value and cannot demonstrate a 95% UCL, they must state this. Reference :EPA publication 9285.7-081, May 1992 "Supplemental Guidance to RAGS: Calculating the Concentration Term."

(page 4) LANL must assure that determination of background concentrations for naturally occurring metals is conducted by using samples from same strata and soil types found at the site. LANL may compare their site specific values to the facility-wide background study to assure that the results are within facility-wide range. Also, LANL must provide a site specific sampling and analysis plan to determine background concentrations for naturally occurring metals. This plan may incorporate relevant facility-wide background study results.

(page 5) If LANL cannot adequately indicate 95% UCL of the mean then the highest concentrations should be used including those detected at greater than or equal to five times the limit of detection (see comment #2 (page 3) above).

(pages 4 & 5) If LANL uses the Tolerance Interval for determining the background upper (tolerance) critical limit, and the Confidence Interval to average the verification sample results from a closure/remediation activity, the resulting comparison would involve comparing totally different single parameters (comparing a mean to a maximum with an unknown sample distribution). This is not how the statistical methods were intended to be used. LANL must propose a consistent and acceptable method for comparing background results with sample results.

ENCLOSURE B  
June 1, 1995  
page 2

(page 6) "The additive effects of multiple constituents is similarly evaluated by adding the ratios of the SAL comparison values (maximum concentration/SAL) for each constituent with similar toxic end point (E.g., cancer, kidney effects, liver effects, etc.)" Calculating risk assessment based on toxic endpoint organs is not acceptable. LANL must quantify exposure and calculate toxicity assessment as outlined in the Risk Assessment Guidance for Superfund (December 1989).

- #4 (page 7) PCBs are identified as hazardous constituents in 40 CFR 261, Appendix VIII. PCBs are also hazardous constituents discussed in Subpart S guidance, in which a conservative health-based action level is provided as an example. Although TSCA has set "cleanup standards" for PCBs based upon land usage, HRMB is concerned about the "protectiveness of health and the environment" because the example Subpart S health-based action level is more conservative than the most conservative TSCA PCB standard. For screening purposes, HRMB recommends calculating the screening action level as described in Subpart S guidance using the most recent toxicological data for PCBs.
- # 11 (page 13) This response does not but should indicate that monitoring will continue until closure is certified.
- # 13 (page 17) Are 3 samples enough? See response to comment # 2 (page 3) above.
- # 18 (page 19) See comments for item number 2 (page 4) above. There should be a sampling and analysis plan to determine background levels for naturally occurring metals.
- # 30 (page 32) Are three samples per exposure unit enough to produce a curve to determine the 95% UCL? See response to comment number 2 (page 3) above.
- # 32 (page 33) Again, are three samples per exposure unit enough to produce a curve to determine the 95% UCL? See response to comment number 2 (page 3) above.
- # 34 The guidance default value for Exposure Frequency (EF) is 365 days not 274 for residential land use. LANL must perform a baseline risk assessment using the conservative residential risk scenario for comparison purposes. Additionally, future land use is a major consideration. Therefore, LANL should utilize a

ENCLOSURE B  
June 1, 1995  
page 3

residential land use scenario, a hazard index of 1 or less,  $10^{-6}$  or less increase in cancer risk over background. Risk assessment calculations based on other assumptions may be presented in addition to the most conservative scenario.

Furthermore, because of this site's long history, the nature of historic activities, and the lack of complete knowledge of process, it is important to characterize all risk, including that associated with radioactive constituents, to human health and the environment. If there are radioactive constituents present, then by their very nature they are hazardous to a person's health. Because health risk is being evaluated here, it is important to look at the health risk posed by the combination of all contaminants of concern, including radioactive isotopes. Therefore, LANL should include radioactive isotope sampling and radioactive concentration terms in the risk assessment. NMED understands that the radioactive waste, if necessary, will be remediated under a different authority.

Please refer to the EPA Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A) Interim Final, section 10.7.3 Combining Radionuclide and Chemical Cancer Risks, and other EPA Risk Assessment Guidance documents, for precautions to be taken when combining radiological and chemical risk assessments.

**2) Response to Technical Area (TA 53, NE & NW Surface Impoundments (Former Operable Unit 1100), dated March 10, 1995 in which LANL responded to the Teleconference Comments of January 24, 1995 with NMED:**

**LANL's Comment #1 Proposed Text Changes, page 2, third complete paragraph. "Available information indicates that there is also no current risk associated with infiltration to groundwater...."** Please remove this entire paragraph. There is not enough hydrogeological data to support this assumption.

**LANL's Comment #2, page 3, general comment.** Notes from the telephone conference reflect that NMED suggested that LANL completely remove the abandoned piping. LANL's response describes removing only the contaminated portion of the piping. It is technically acceptable to leave the uncontaminated portion of piping in place if it has been adequately characterized and shown to pose no risk to human health and the environment. This is the strategy to be