DRAFT

April 17, 1995

MEMORANDUM

SUBJECT: **Guidance for Screening Assessment Methodology** (dated: February 22, 1995).

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TO: Barbara Driscoll
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I have reviewed the above cited report and my comments follow.

General comment: The screening approach does not address potential ecological effects. This fact can greatly underestimate the potential risk especially since it will be used to establish no further action (NFA).

Figure 1. Decision logic for screening assessments.

Number 3 on the flowchart indicates that a chemical may not be considered a chemical of concern (COC) if the constituent concentrations do not differ between "blanks" and site samples. It appears that the question asked should be more from a quality assurance standpoint than with the purpose of defining COCs. That is, a better answer to the question asked would be if the constituent concentrations should be quantified or considered as a positive result. See Risk Assessment Guidance for Superfund (RAGS) Part A, Section 5.5 for further details.

The decision diamond that compares site data to background may need more clarification especially since it is in part the basis to conclude whether a constituent is a COC. Additionally, two important policy papers that provide essential information for this decision step have not been finalized by DOE (**Making Comparisons with Natural Background Concentrations of Metals for the Los Alamos National Laboratory Environmental Restoration Project**) or reviewed by EPA (**Evaluating the Human Health Significance of Polynuclear Aromatic Hydrocarbons at the Los Alamos National Laboratory**).

Number 4 on the flowchart indicates that only after an action level is exceeded will a chemical constituent be considered a COC. Does this step incorporate additive effects of all chemical constituents present? This question is important especially for sites with multiple constituents.

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It is stated that calculated SALs will be used for both surface water and ground water when no MCL value or state ground water is available. These SALs are said to be more stringent than required by NMED, according to LANL, since New Mexico has not designated surface waters to be evaluated as drinking water sources. It is important to note that NMED has passed water quality standards as of January 23, 1995. These standards include surface water designations such as public water supply. Furthermore, consideration of federal water quality criteria, including human health criteria, is suggested.

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This approach would be adequate for background concentrations that have been reviewed and concurred by EPA.

Page 6. Section 2.3 Derivation of SALs When Noncarcinogenic Toxicological Data Are Lacking

It is necessary to understand the specific extrapolating approach that LANL would use to calculate interim conservative estimated values where there is no chronic toxicological information. That is, will uncertainty factors be incorporated into the calculation? If so, what magnitude? Additionally, will the derived values be identified as estimated values?

Section 3.1 Rationale for Deriving SALs for Radioactive Constituents in Soils

It is important to understand exactly how DOE has set the limit of 100 mrem/yr as a maximum acceptable radiation dose to individuals in the general public. This approach, according to the issue paper takes into account all contaminant pathways, radionuclides and exposure sources. It would be beneficial to review exactly how this number was derived. Additionally, RAGS Part A (Chapter 10) describes how risk due to radioactive compounds should be evaluated. Essentially, RAGS recommends that the approach used to evaluate risk to chemical constituents be used, with modifications, to estimate risk to radioactive compounds. Perhaps, in addition to the above information, LANL can provide a comparison of the two approaches. This will aid EPA in evaluating whether the DOE approach is in accordance, at least in principle and conservatism, with the EPA approach.