



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

ste - 504pk -
John K -
David Garcia -
LAW/DOE
order sent to
National by
2/13/99

FEB 26 1999

HSWA LANA 5/11/11/6

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

Re: Request for Supplemental Information
*RFI Report for Potential Release Sites in the Eastern and Western Aggregates at
Technical Area 6, LA-UR-98-3710, EM/ER:98-396
Los Alamos National Laboratory (EPA ID# NM0890010515)*

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the RCRA Facility Investigation (RFI) Report for Potential Release Sites (PRSs) in the Eastern and Western Aggregates at Technical Area 6. The report details environmental investigations at twenty (20) PRSs, and integrates them into two aggregate areas for the consideration of human health and ecological risk.

Although EPA agrees with No Further Action (NFA) determinations at approximately half of the PRSs detailed in this report, EPA cannot concur with NFA determinations for the aggregates as whole parcels. Clarification is needed for PRSs contained in each aggregate area. In particular, further documentation of ecological methodologies and data inputs is required. Soil concentrations presented in the document are well above screening levels for several receptors, requiring further documentation of methodologies prior to any assessment of NFA.

Please see the attached comments. If you have any questions, please call David Vanlandingham at (214) 665-2254 or Jeffrey Yurk at (214) 665-8309.

Sincerely,

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



2931

R

Request for Supplemental Information
 TA-6 Eastern and Western Aggregates
 LA-UR-98-3710
 EM/ER:98-396

Los Alamos National Laboratory
 NM0890010515

ATTACHMENT
 Request for Supplemental Information
RFI Report Potential Release Sites in the Eastern and Western Aggregates at Technical Area 6
 Dated September 30, 1998

The following table includes a complete listing of the potential release sites presented in this document, LANL's proposed actions, and the rationale for the Administrative Authority's (AA) concurrence or non-concurrence.

PRS	LANL'S PROPOSED ACTION	DOES AA CONCUR?	AA RATIONALE
06-002 ✓	NFA	YES	No apparent release of RCRA constituents
06-003(c) ✓	NFA	NO	Detailed ecological assessment necessary.
C-06-005 ✓	NFA	NO	Detailed ecological assessment necessary.
C-06-006 ✓	NFA	YES	No apparent release of RCRA constituents.
C-06-016	NFA	YES	No apparent release of RCRA constituents.
C-06-020	NFA	NO	Detailed ecological assessment necessary.
C-06-003 SA ✓	NFA	YES	No apparent release of RCRA constituents.
06-003(g) ✓	NFA	NO	Detailed ecological assessment necessary.
C-06-007 ✓	NFA	NO	Detailed ecological assessment necessary.
C-06-008 ✓	NFA	YES	No apparent release of RCRA constituents.
C-06-009 ✓	NFA	YES	No apparent release of RCRA constituents.
C-06-010	NFA	YES	No apparent release of RCRA constituents.
C-06-011	NFA	NO	Detailed ecological assessment necessary.
C-06-012	NFA	YES	No apparent release of RCRA constituents.
C-06-013	NFA	NO	Extent of release has not been adequately determined.

PRS	LANL'S PROPOSED ACTION	DOES AA CONCUR?	AA RATIONALE
C-06-014	NFA	YES	No apparent release of RCRA constituents.
C-06-015	NFA	YES	No apparent release of RCRA constituents.
C-06-017	NFA	YES	No apparent release of RCRA constituents.
C-06-018	NFA	NO	Clarification is needed regarding the depth of Sample ID 0506-95-1306.
C-06-021	NFA	NO	Detailed ecological assessment necessary.

General Comments

1. As it currently exists, comments on the document can only be presented in generalities because no details have been presented in the document which can be reviewed to verify risk calculations. The document references a methodology outlined in Kelly et al., 1998, however that document does not supply adequate information on factors such as concentration equations, dose equations, bioconcentration factors, biotransfer factors, food chain multipliers, ingestion rates, body weights, toxicity reference values, and receptor diets to evaluate how hazard quotients were calculated in this document. Please present all relevant information necessary to calculate hazard quotients including concentration equations, dose equations, bioconcentration factors, biotransfer factors, food chain multipliers, ingestion rates, body weights, toxicity reference values, and receptor diets.
2. The risk assessment shows that several COPCs fail the ecological screening assessment based on the toxicity values used. This should bring the risk assessment to the baseline stage. Then uncertainties should be looked at more closely to see if: 1) site-specific adjustments can be made to the concentration or dose equation inputs, or 2) a site-specific toxicity reference value can be substituted for the screening value utilized in calculating the hazard quotient. Dropping sites without presenting and documenting how assumptions have been altered should not be used to recommend NFA decisions. Please propose and document any changes made to the screening assumptions to show that NFA is a viable option.

3. In a screening level risk assessment, maximum media concentrations are either used to directly compare to no-observed adverse effect levels (NOAEL) for community level receptors (e.g. plants, invertebrates) or used to calculate NOAEL dose levels to upper

trophic level receptors (e.g. omnivores, carnivores). The ecological soil screening levels (ESLs) presented (should be equal to NOAELs) appear to be nearer the lowest observed adverse effect level (LOAEL) in soil for plant and invertebrate species, based on a check of literature values (see references below). This would have a tendency to increase the screening level hazard quotients by an order of magnitude. Please present all toxicity reference values used to calculate hazardous quotients along with full documentation of references. The following table summarizes toxicity reference values as reviewed by EPA and cited:

Compound	Duration and Endpoint	Test Organism	LOAEL	Reference
Cadmium	Chronic LOAEL	Spruce seedling growth	2 mg/kg	Burton et al. (1984)
Lead	Chronic LOAEL	Senna	46 mg/kg	Krishnayya and Bedi (1986)
Zinc	Chronic LOAEL	Spring barley	9 mg/kg	Davis, Beckett, and Wollan (1978)

Burton, K.W., E.Morgan, and A. Roig. 1984. *The influence of Heavy Metals Upon the Growth of Sitka-Spruce in South Wales Forests. II. Greenhouse Experiment.* Plant and Soil. Volume 78. Pages 271-282.

Krishnayya, N.S.R., and S.J. Bedi. 1986. *Effect of Automobile Lead Pollution in Cassia tora L. and Cassia occidentalis L.* Environmental Pollution. Volume 40A. Pages 221-226.

Davis, R.D., P.H.T. Beckett, and E. Wollan. 1978. *Critical Levels of Twenty Potentially Toxic Elements in Young Spring Barley.* Plant and Soil. Volume 49. Pages 395-408.

4. The argument that contaminated hotspots are not ecologically relevant for most species because of their large home range is flawed. If food items of larger organisms are weakened by exposure at a site, and thereby become more vulnerable to predation, they may occupy a larger portion of a predators diet than would be assumed by an adjustment for home range. The hotspot might also serve other ecologically relevant functions such as a breeding site for some species. Analysis of hotspots is past the level generally

considered in a screening assessment. If the initial screening assessment is well documented including equations used to calculate the soil screening level, hot spots can be dealt with by adjusting the area use factors and proportion of diet that is contaminated factor in the risk equation as appropriate. Documentation of the adjustments should be

presented along with a discussion of what constitutes an ecologically relevant hotspot. This belongs in the baseline assessment. Another alternative is to conduct hotspot removal and confirmatory sampling.

Specific Comments

3.3.4.3(c) Data Review - Evaluation of Organic Chemicals, Page 131

1. Due to the documented low bias of HE target analytes measured under request 504, LANL qualified undetected HE analytes as "UJ-." The J- qualifier should be added to the detected HE analytes as well. For example, the RDX concentrations in Sample IDs 1506-95-1317 and 0506-95-1317 and the 2,4,6-TNT concentration in Sample ID 0506-95-1306 should be denoted as J- in Table 3.3-10.

3.3.4.3(c) Data Review - Evaluation of Organic Chemicals, Table 3.3-10, Page 132

2. The Sample ID 0506-95-1306 is denoted as being taken from a depth of 3ft. However, Table 3.3-1 denotes Sample ID 0506-95-1306 as being a surface sample (0 to 6in). Please clarify the true depth of Sample ID 0506-95-1306.

3.3.4.3(c) Data Review - Evaluation of Organic Chemicals, Table 3.3-10, Page 133

3. RDX was detected at depth in Sample ID 0506-95-1317 while RDX was not detected in any surface samples in the area of PRS C-06-013. Additional samples should be taken at depth and analyzed for HE in order to delineate the extent of contamination or show that this sample is a data anomaly.