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ENTERED

Date: APR 2 6 1995
Refer to: EM/ER:95-152

Ms. Barbara Driscoll
RCRA Permits Branch
U.S. Environmental Protection Agency
Region 6
1445 Ross Ave, Suite 1200
Dallas, TX 75202-2733

Dear Ms. Driscoll:

SUBJECT: RESPONSE TO THE NOTICE OF DEFICIENCY (NOD) FOR THE RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION (RFI) WORK PLAN FOR OPERABLE UNIT (OU) 1154

Enclosed are two copies of the Los Alamos National Laboratory's response to the Environmental Protection Agency's NOD concerning the RFI Work Plan for OU 1154. A certification form signed by the appropriate officials is also enclosed. The NOD was received at the Los Alamos Area Office on December 5, 1994. The enclosed response repeats each comment from the NOD for convenience in reviewing.

Please contact Cheryl Rofer at (505) 667-2988 or Mike Gilgosch at (505) 665-7202, if you have any questions about this response to the NOD.

Sincerely,

Jorg Jansen, Project Manager
Environmental Restoration

Sincerely,

Theodore J. Taylor, Program Manager
Los Alamos Area Office

Environmental Restoration

MAY 1 1995

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JJ/TT/bp

Enclosures: (1) NOD Response: Operable Unit 1154
(2) Certification Statement

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CERTIFICATION

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document Title:

NOD Response: Operable Unit 1154 RFI Work Plan

Name: _____ Date: 4-24-95

Tom Baca, Program Director
Environmental Management
Los Alamos National Laboratory

or

Jorg Jansen, Project Manager
Environmental Restoration Project
Los Alamos National Laboratory

Name: _____ Date: 4/24/95

Joseph Vozella,
Acting Assistant Area Manager of
Environment Projects
Environment, Safety, and Health Branch
DOE-Los Alamos Area Office

or

Theodore J. Taylor
Program Manager
Environment Restoration Program
DOE-Los Alamos Area Office

RESPONSES TO THE ENVIRONMENTAL PROTECTION AGENCY (EPA) NOTICE OF DEFICIENCY (NOD) ON OPERABLE UNIT 1154 RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION (RFI) WORK PLAN

1. **The Los Alamos National Laboratory (LANL) should provide a definitive schedule for each of these sites which will be investigated including field start work and completion dates and submittal of report dates.**

   1. A schedule for each of the sites to be investigated in Operable Unit 1154 is attached.

2. **No Further Action Criteria, p. 4-5 - Text in this section of the work-plan indicates that all the No Further Action (NFA) criteria are based on the Hazardous and Solid Waste Amendments (HSWA) permit while only criteria number two is actually discussed in Section J of the HSWA permit. LANL may wish to use the same NFA criteria that has been agreed to by EPA for the Laboratory for these Fenton Hill sites.**

   2. The NFA criteria agree to with the EPA and adopted by LANL's ER Project have been used to make NFA decisions for the sites at Fenton Hill. The RFI work plan text will be modified to be in agreement with the criteria. The text on page 4-5 will be changed as follows:

   First paragraph, fifth line: The words "..specified in the HSWA Module" will be deleted.

   First paragraph, eighth line: The sentence "Additional descriptions of these criteria are presented in Chapter 6." will be added.

   Table 4-2: This table will be modified to read as follows:

   TABLE 4-2

   NFA Criteria

   1. The site has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents, or other Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substances. Also falling under Criterion 1 are those PRSs that cannot be located or may have been found never to have existed, duplicate PRSs, and those that are located within and therefore investigated as part of another PRS.

   2. No release to the environment has occurred.

3. The PRS is regulated or closed under a different authority which addresses corrective action.

4. The PRS has been characterized or remediated in accordance with current applicable state or federal regulations, and the available data indicate that contaminants of concern are either not present or are present in concentrations that would pose an acceptable level of risk under the projected future land use. The determination of acceptable risk and future land use has considered stakeholder involvement.

In addition, the following changes will be made in Chapter 6:

Page 6-1, paragraph 1, line 4: The sentence beginning "These NFA criteria are based on .. " will be deleted.

NFA Criteria descriptions beginning with Section 6.1, paragraph 2, will be modified to read as follows:

NFA Criterion 1. The site has never been used for the management (that is, generation, treatment, storage, or disposal) of RCRA solid or hazardous wastes and/or constituents, or other Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substances. Also falling under Criterion 1 are those PRSs that cannot be located or may have been found never to have existed, duplicate PRSs, and those that are located within and therefore investigated as part of another PRS.

Examples/Explanations: For purposes of the HSWA Module of the RCRA permit, units falling under Criterion 1 may have been mistakenly identified as SWMUs in an earlier study. If a unit has only a radionuclide component, then the site may be requested for an NFA determination, and a permit modification request may be submitted to remove it from the HSWA Module. The unit may still be investigated as an AOC by the ER Project.

NFA Criterion 2. No release to the environment has occurred.

Definition of release: "Release" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous constituents) into the environment.

Examples/Explanations: Units falling under Criterion 2 are those where no release has occurred, or where a release of any hazardous constituents to the environment may be unlikely due to the engineering (secondary containment or overflow prevention) or management (inspection or inventory) controls. For example, if a unit is completely contained within a building with no migration route to the environment, a visual inspection of the unit and examination of engineering drawings if available, may be satisfactory for documentation of no release.

NFA Criterion 3. The PRS is regulated or closed under a different authority which addresses corrective action.

Examples/Explanations: Non-land-based treatment, storage, and disposal facilities (such as containers or tanks) should not be considered under RCRA corrective action, because requirements under interim status, the Laboratory's RCRA operating permit, and RCRA generator requirements adequately address releases from these units.

Temporary storage areas in use since 1980 (less-than-90 days and satellite storage areas) must operate according to 40 CFR 262, which requires that the units be routinely inspected and closed according to 40 CFR 265. To avoid further consideration by the ER Project, engineering and management controls must be present. If there is evidence of a possible release, whether visual staining, vapor releases, or analytical data indicating a release has occurred (and remediation has not been accomplished), and if the unit qualifies under the HSWA Module or under CERCLA, it may undergo corrective action measures under the ER Project.

Releases to surface water through a storm sewer are regulated under the national pollutant discharge elimination system (NPDES) storm water program, and releases through other NPDES-permitted outfalls are also exempt from RCRA. However, an outfall may be permitted under the NPDES program, and still be required to be investigated under RCRA corrective action authority. The NPDES permit addresses only the actual water discharge from the outfall, and does not address corrective action or remediation of material deposited at the outfall over time. In this instance, the soil at the outfall may need to be sampled.

If a regulated unit is being closed under RCRA authority, then this site will normally not be investigated under the HSWA program.

Even though it may be more expedient and convenient to address all release pathways under corrective action, the State of New Mexico will ultimately have to approve the closure plan for the regulated unit. The EPA can, however, require corrective action beyond closure, if warranted.

NFA Criterion 4. The PRS has been characterized or remediated in accordance with current applicable state or federal regulations, and the available data indicate that contaminants of concern are either not present or are present in concentrations that would pose an acceptable level of risk under the projected future land use. The determination of acceptable risk and future land use has considered stakeholder involvement.

Examples/Explanations: An underground storage tank for which certification of closure has been received from NMED may be requested for NFA under Criterion 4. Another example would be a one time spill that has been cleaned up in accordance with applicable standards, such as the Spill Prevention Control and Countermeasures (SPCC). A third example would be

an expedited cleanup or voluntary corrective action performed in accordance with an approved plan.

Determination that a contaminant is "not present" will be made by comparison with background data. Determinations of "acceptable level of risk" will be based on subsequent comparisons with SALs. Constituents exceeding SALs can be further evaluated in risk assessments based on projected future land use scenarios.

3. **4.1.3 Decision Point 3, p. 4-8 - If pre-existing analytical data is of an unverifiable quality then it should probably not be used to support a NFA determination.**

3. Pre-existing analytical data of unverifiable quality would not be considered appropriate as the sole basis of an NFA recommendation; however, if these data were consistent with other archival information, such as process knowledge, it would be appropriate to use the analytical data along with other archival information in support of an NFA recommendation, as stated in the text.

4. **4.1.3.1 Phase I Sampling, p. 4-9 - Rather than sampling for only indicator constituents, LANL should complete analysis for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals using SW 846 or other EPA approved methods. Upon receipt of laboratory results, LANL may determine that data validation only needs to occur for certain constituents.**

4. Comprehensive analyses are proposed in the work plan for the types of hazardous constituents that process knowledge indicates could be present at the PRSs. The goal of the Phase I sampling, as explained in Section 4.1.3.1 of the work plan, is to determine whether the site is contaminated. If contamination is found, its nature and extent will be further investigated in Phase II sampling. Historical information indicates that metals and SVOCs might be present at the Group 2 and 3 sites, and that metals and VOCs might be present at the Group 4 site. Analytes that are unlikely to be present are not good indicators of contamination. However, as explained in the responses to subsequent NODs, the sampling described in the work plan has already been completed and the indicator parameters have been found to exceed screening action levels (SALs) at most sites. Further investigation under a Phase II program will therefore likely be performed and complete analyses of the type recommended in this comment will be conducted.

5. **4.1.4 Decision Point 4, p. 4-10 - LANL should collect background samples from uncontaminated areas in the area of Operable Unit 1154, for comparison to Phase I sampling results.**

5. A constituent concentration must exceed both SALs and background levels before a COC is determined to be present. Such comparisons provide the information needed to determine the potential presence of a health risk based upon human activities at the site. To increase efficiency, the comparison with SALs is performed first. If SALs are exceeded, then background is determined and a comparison with background is made. As noted in the response to NOD 4, SALs have been found to be exceeded at most sites in Operable Unit 1154, therefore background samples will be collected.

6. **4.4.1 Potential Transport Processes, p. 4-23 - The second sentence in the second paragraph of this section states, "Substances with the potential to volatilize will transfer from the soil surface directly to the air." Substances that volatilize will move from areas of more concentration to areas of less concentration in all directions, and not only to the air. This is particularly true of dense compounds that easily breakdown products. These physical properties should be taken into consideration.**

6. The sentence in question in this comment will be modified to read: "..directly into the air, and will also move within the soil from areas of higher concentration to areas of lower concentration."

7. **5.2.5.1 Sampling Strategy and Objectives, p. 5-20 - LANL indicates that sampling of the active lined ponds will be deferred until decontamination and decommissioning; because there is no evidence of an environmental release. What means has LANL used to determine that no release has occurred from these units?**

7. Evidence for the absence of a significant environmental release from either of the two active lined ponds is provided by the secondary containment beneath each pond. Each pond is underlain by two liners with a recovery system between them. A negligible volume of water is periodically collected from the recovery system beneath the 5-million gallon pond (less than 1/8 gallon per minute), and essentially no water has been observed in the recovery system for the 1-million gallon pond.

8. **5.2.5.3 Sampling Plan, p. 5-22 -**

a. In addition to taking a sample for analysis from the most highly contaminated horizons, LANL should also take a sample from the bottom of the ten foot interval below the pond bottom. Should this interval be determined by field screening to be the most contaminated, then LANL shall collect an additional sample ten feet deeper, and every ten feet until contamination is not recorded by field screening devices.

8a. As previously mentioned, the sampling described in the work plan has already been completed. In pond GTP-1E, the concentration of arsenic exceeded SALs and the concentration of lead exceeded 20xTCLP. In pond GTP-2, concentrations were below both SAL and TCLP screens. In pond GTP-3W, concentrations of arsenic and barium exceeded SALs, and concentrations of arsenic, barium and lead exceeded 20xTCLP. Although final determination of the presence of COCs must await comparison with background, particularly for arsenic which has a high local background concentration relative to the SAL, Phase II sampling may be necessary at two of the three ponds to define the vertical extent of contamination. At pond GTP-2, where concentrations were low, the most highly contaminated zone was found in the 4.5 ft to 5 ft depth interval, which was well above the bottom of the approximately 15 ft deep borehole.

b. LANL should also sample pond GTP-3E in a similar manner. A decision for NFA cannot be made for this site based on the sampling conducted at GTP-3W.

8b. Pond GTP-3W was considered in the work plan as a worst-case surrogate for pond GTP-3E. Because the presence of COCs appears likely in GTP-3W, the presence of COCs in GTP-3E will be investigated during Phase II.

c. In addition to the two sample locations proposed for the Burn Swale, LANL should also sample near the outfall. LANL needs to determine the depth of contamination closer to the outfall. Therefore, LANL should core to a depth of ten feet and collect a sample for analysis at the bottom foot near the outfall. Should field screening indicate contamination then LANL should continue to field screen every five feet until there are no readings of contamination. A sample should be collected for analysis at the point where contamination is no longer indicated by field screening, and at the last interval where contamination was indicated.

8c. Arsenic levels were found to exceed SALs in surface sediments at both sampling locations in Burns Swale. Pending comparisons with background, it is likely that Phase II sampling will be conducted in the swale, which would include upstream sampling near the outfall. Samples taken at 3 ft to 8 ft depth intervals at each of the two swale sampling locations showed no constituents above SAL or TCLP screens, indicating that contamination does not persist with depth. However, the surface samples indicated strongly increasing concentrations in an upstream direction, and additional samples will be taken near the outfall at this site even if Phase II sampling is not triggered.

9. **5.3.1 Description and History of Group 3 Sites, p. 5-28 - What type of analysis was conducted on the sludge? What were the**

restrictions imposed on the sludge according to the agreement between the DOE and the U.S. Forest Service?

9. The sludge water was generally analyzed for major water quality ions, pH, and conductivity, although occasional trace metal analyses were also performed. Information on specific restrictions associated with use of the sludge pits could not be found.

10. **5.3.5.1 Sampling Strategy and Objectives, p. 5-29 - LANL should also sample the area where sludge flowed through the berm and ponded on the bedrock surface south of the pit. A sample should be collected in the top two feet from within this area, and submitted for laboratory analysis.**

10. The sampling strategy called for sampling the overflow area south of the sludge pit if COCs were found in the pit itself. Samples from the eastern section of the pit were found to have arsenic and barium concentrations that exceeded SALs, and arsenic, barium, and lead concentrations that exceeded 20xTCLP. Samples from the western section of the pit were found to have arsenic concentrations that exceeded SALs and lead concentrations that exceeded 20xTCLP. Pending comparisons with background, it is likely that a Phase II investigation will be conducted at this site and that this investigation will include the overflow area.

11. **5.3.5.3 Sampling Plan, p. 5-31 - the Laboratory should also submit the last sample taken from the bedrock at the bottom of the hole for laboratory analysis.**

11. Samples from both sections of the sludge pit were found to exceed both SALs and 20xTCLP. A Phase II investigation of the site is expected and would include investigation of the vertical extent of contamination. See response to comment 10.

12. **Table 5-18, p. 5-33 - It appears that LANL is collecting quality assurance samples based on the number of samples field screened rather than the number of samples to be submitted for laboratory analysis. This procedure should be reviewed.**

12. Quality assurance (QA) sampling for field screening with XRF is based upon the numbers of samples field screened, and QA sampling for laboratory analysis is based upon the number of samples collected for laboratory analysis.

13. **LANL needs to provide an explanation as to why samples from Groups two and three are not being analyzed for VOCs.**

13. Samples from Groups 2 and 3 are not being analyzed for VOCs because in both groups drilling mud is the potential source of contaminants, and a detailed review of the constituents in the mud indicated that no VOCs were present in significant quantities. This review is summarized in Table 6-2.

14. 5.4.5.3 Sampling Plan, p. 5-40 - The sampling plan does not detail the depth of the leach field or the depth of sample collection. Table 5-16 indicates that five soil samples will be field screened with an XRF; however, this is not mentioned in text. How will the location of the field screened samples be selected?

14. The depth of the leach field and the mode of sample collection was not detailed in the work plan because the design and location of the leach field was not known. The leach field has since been located following the methods described in the work plan, and sampling has been conducted. The leach field was found to be an approximately 4x4 ft pocket of sand and gravel surrounding the end of the drain pipe, located at a depth of about 2 ft beneath the fill material to the southeast of the chemistry trailer site. The sand and gravel was covered by a plastic sheet. The thickness of the sand and gravel is not known. Because a solid-walled drain line was used and all discharge issued from the end of the pipe, a single sample was taken of sand and gravel from a zero to 6 inch depth interval beneath the end of the pipe. This sample was analyzed for metals and VOCs. No odors and no staining were detected in the sand and gravel. The VOC results have been received and none were found to exceed SALs. The metal results have not been received.

15. LANL should provide a copy of the work plan for removal of the drum in Group 4 to both EPA and the New Mexico Environment Department.

15. Removal of the Group 4 chemical waste drum were considered a straightforward housekeeping measure that did not require a work plan.

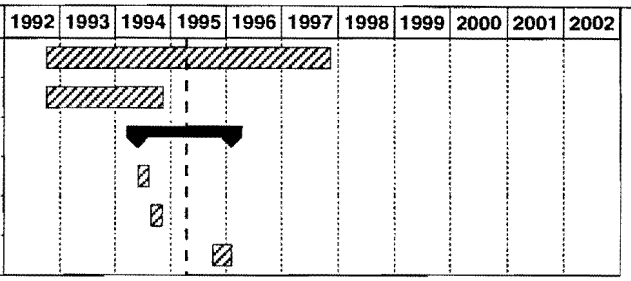
The drum was removed and disposed of under LANL work management procedures. Two confirmatory samples were taken from the soil underneath the drum. No visual staining of the soil or crack or holes.

16. 5.2.1 Drilling Mud Pits - PRS 57-001(a), p. 6-6 - LANL should provide the letter of communication from the discussion with the New Mexico Division of Oil and Gas concerning the drilling and pit.

16. A copy of the record of correspondence documenting the discussion with the NMDOG concerning the drilling mud pits is attached. A confirmatory phone call was made to the State of New Mexico in March 1995 and is attached. Both records indicate that the State of New Mexico does not consider the mud pits at Fenton Hill to be a problem.

1154 Schedule

Name	Scheduled Start	Scheduled Finish
1 Project Management LOE)	10/1/92 8:00am	11/13/97 5:00pm
2 RFI Workplan	10/1/92 8:00am	11/10/94 5:00pm
3 RFI Field Work	5/24/94 8:00am	2/2/96 5:00pm
3.1 Field work preparation	5/24/94 8:00am	8/10/94 5:00pm
3.2 Phase I Field Investigation	8/15/94 8:00am	11/3/94 5:00pm
3.3 RFI Report (Area 1 Soil Sampling)	10/2/95 8:00am	2/2/96 5:00pm



Project:
Date: 4/10/95

Critical
Noncritical
Progress
Milestone
Summary
Rolled Up

RECORD OF COMMUNICATION
X Phone call
TO: Kerry Burns
FROM: Bill Olson
DATE: 9/16/93
TIME: 10:30 am
SUBJECT: Restoration of drilling pits
OU NO.: 1154

SUMMARY OF COMMUNICATION

Discussions were held with Glen Saums of Surface Water, NM Department of Environment. He is responsible for NPDES discharge permit at Fenton Hill.

The drilling operations at Fenton Hill were permitted by the NM Department of Oil and Gas, Roger Anderson's office. Spoke to Chris. Roy Johnson or Bill Olson handle mud pits.

Spoke to Bill Olson and explained the present status of the mud pits. He said that it is sufficient to "just remove junk and backfill, and that's that". That was done. He has no concerns regarding Fenton Hill.

CONCLUSIONS, ACTION TAKEN OR REQUIRED:
The mud pits were restored to NMDOG requirements. No further action is neeed. This means 5-001(a) should be deleted from list of SWMUs.
INFORMATION COPIES TO:
Tracy Glatzmeier, Jim Albright
SIGNATURE: (sgd.) Kerry L. Burns