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Department of Energy
 Albuquerque Operations
 Los Alamos Area Office
 Los Alamos, New Mexico 87544



NOV 23 1990

OTHER REQUEST REQUESTED

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Dr. Elizabeth Gordon
 Hazardous Waste Bureau
 New Mexico Environmental Improvement Division
 Harold Runnels Building
 1190 St. Francis Drive
 Santa Fe, New Mexico 87503

Dear Dr. Gordon:

The purpose of this letter is to formally transmit for your comment the enclosed description of Resource, Conservation, and Recovery Act (RCRA) closure activities that we are managing as part of the Environmental Restoration (ER) Program at Los Alamos National Laboratory (LANL). We briefly discussed our proposed technical approach in a meeting with you on September 19, 1990, and we provided you with a draft copy of the enclosure for your review at that time. You requested this letter so that you could provide us with formal guidance concerning our proposed RCRA closure strategy.

The enclosure justifies and describes in detail our proposal to delay closure activities, at sites where field work has not yet been initiated, until the RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) for the area is complete. These sites are very complicated and may be releasing hazardous substances into the environment. It is our feeling that a thorough RFI/CMS is required for these sites prior to the implementation of closure activities to ensure that the final remedy is permanent and addresses any releases that may have occurred. As the enclosure indicates, the Environmental Protection Agency (EPA) has agreed that your organization would maintain the lead regulatory agency role for these sites.

The enclosure is a section of the ER Program Installation Work Plan (IWP) which serves as a blueprint for conduct of ER activities at LANL. It is our intent to provide you with a copy of the IWP for review and comment simultaneously with EPA. The IWP must be received by EPA no later than November 19, 1990, according to Module VIII of our RCRA Part B Permit. Furthermore, I would like to reiterate the offer that was extended in the September meeting to provide you with tours and/or presentations on the ER Program at your convenience.



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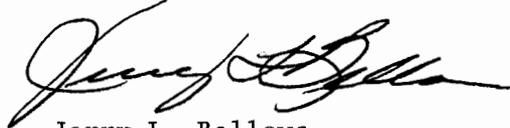
Dr. Elizabeth Gordon

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We look forward to receiving your comments on our RCRA closure approach; they will help us determine how to allocate ER Program funds this fiscal year. Thank you for your assistance.

Sincerely,



Jerry L. Bellows
Acting Area Manager

Enclosure

cc:

Tom Gunderson, LANL, MS K491

R. Vocke, LANL, MS K481

K. Hargis, LANL, MS K491

RCRA CLOSURES

There are several sites (solid waste management units [SWMUs] or corrective action management units [CAMUs]) listed in the LANL RCRA permit, Module VIII, that are subject to both the corrective action and closure provisions of RCRA (e.g., they intentionally managed RCRA hazardous wastes after November 19, 1980). LANL proposes to handle all of these sites in accordance with Proposed Subpart S (corrective action) regulations (55 Federal Register [FR] 30798; July 27, 1990), in a manner consistent with all of the other SWMUs listed in the LANL SWMU database. In some cases, this would result in "nesting" the corrective action process within the closure process, so that both sets of regulations are satisfied. It is understood that the New Mexico Environmental Improvement Division (NMEID) will maintain their role as the lead regulatory agency for these sites despite the change in approach.

There are several reasons why LANL feels that this strategy is appropriate:

- 1) The RFI/CMS portions of the corrective action process ensure that releases are identified and mitigated as part of a final remedy (simple compliance with closure standards does not always guarantee this);
- 2) it allows for a consistent, coherent approach to environmental restoration (e.g., some CAMUs currently contain SWMUs subject only to proposed Subpart S and SWMUs subject to both proposed Subpart S and Subpart G regulations);
- 3) it prevents duplication of effort; and
- 4) it is consistent with the proposed preamble to Subpart S regulations which states EPA's intent to modify Title 40 of the Code of Federal Regulations (CFR), Parts 264.112 and 264.113, to allow for closure deadline extensions to accommodate corrective actions.

ER Program Office Project Leaders in charge of tasks containing one or more of these sites will incorporate them into RFI work plans and other activities associated with the corrective action process. The final remedy for these sites will be consistent with the closure performance standards, and post-closure care monitoring will still be conducted at these sites if waste remains in place above clean closure standards.

There are two categories of closure sites discussed below: 1) Sites where field work has been initiated or completed; and 2) sites where work has not been initiated. For those sites where closure activities have already been initiated (either under an approved closure plan, or for institutional reasons, in advance of closure plan approval), LANL proposes to complete closure activities using the standard approach and documenting the work

in the RFI work plans as voluntary corrective actions. Since all of these sites are intended to be clean-closed, the RFI work plans will most likely recommend no further action.

Sites that have not yet been initiated (except for the TA-40 Scrap Detonation Site, as discussed below) will follow the integrated approach outlined above. This will involve delaying completion of closure activities until completion of the RFI/CMS process. DOE will pursue a letter agreement with the State of New Mexico stating that delays for these sites are acceptable. The letter agreement will eliminate the need to revise the existing closure plans to reflect the new strategy. The following sub-sections describe how each site will be managed using these two approaches.

2.2.9.1. TA-16 Burning Ground Surface Impoundment

The approved closure plan for this task was received from the NMEID on February 21, 1990, and the closure was completed by September 20, 1990, according to the mandated schedule. To adhere to the strategy outlined above, the closure report will be appended to the RFI work plan for TA-16, with an argument to remove the site from further consideration since it was clean-closed.

A good deal of the field work had already been completed in accordance with the original closure plan (submitted 2/6/89), when the new, NMEID-approved closure plan arrived. Water and sludge had been removed, treated and disposed, and the liner had been removed, decontaminated, cut up, and drummed. Also, verification samples in the bottom of the impoundment had been taken. But the approved closure plan called for additional sampling of underlying soils and additional rinsing of the liner, with rinseate and background composite sampling. In a telephone conversation with Dr. Elizabeth Gordon, NMEID (2/23/90), LANL was allowed to incinerate the liner off-site as hazardous waste in lieu of the additional sampling since the liner had already been cut up.

In late April, 1990, the analytical results for the 12 verification samples required by the approved closure plan were received. Only one of the 12 samples was contaminated; it contained 29 parts per billion (ppb) of tetrachloroethylene (PCE), and a duplicate sample contained 16 ppb PCE. Based on a conversation with the NMEID (Dr. Elizabeth Gordon, May 10, 1990), this level of residual contamination is insignificant, and no further excavation was required. Dr. Gordon's position was confirmed in a letter received by the ER Program Office on May 20, 1990. Thus, NMEID considers the site a clean closure not requiring post-closure care monitoring. A closure report with accompanying certification was submitted to the NMEID (copy to EPA) on September 19, 1990.

2.2.9.2. TA-35 Waste Oil Storage Pits

Closure plans for the two waste oil pits (#85 and #125) at TA-35 were submitted in October, 1988, and verbal approval to proceed with closure activities was subsequently received from the State. In late March, 1989, the contents of the pits were removed for incineration. The next month, the liner at surface impoundment #125 was chiseled through and samples of the underlying soils showed contamination. Discussions between LANL and State officials indicated that a clean closure could be achieved even if residual contamination remained in place, provided the residual was below a health-based limit. The State agreed to leaving contamination in place and calling it a "clean closure" if LANL would remediate the site to less than 1 ppm (volatile and semi-volatile organic compounds) and prove that residuals were not a threat to human health. This strategy was adopted, and the field work was essentially completed in early FY 1990, including backfilling.

Samples were taken during the excavation to determine if the remaining soil contained acceptable levels of residual contamination. A review of the sampling results, however, indicated some weaknesses. First, holding times were exceeded for some of the volatile analyses. Secondly, detection limits for some analyses were skewed due to the presence of waste oil. Hence, a second set of verification samples will be obtained in FY 1991 by drilling through the fill. The purpose will be to determine the extent of waste oil contamination (total petroleum hydrocarbons), and duplicate volatile and semi-volatile analyses. The State will be consulted in any decision to further excavate the two former waste oil pits.

Clearly, the closure plan for this site will have to be updated to reflect activities that actually occurred in the field. At a minimum, the agreement with the State will have to be documented, a risk assessment developed, and the final verification sampling results reported. The RFI work plan for TA-35 will report on these activities as voluntary corrective actions on two SWMUs within TA-35. Since this will qualify as a clean closure, the RFI work plan will most likely recommend no further action.

2.2.9.3. TA-16 Area P Landfill

The closure of Area P presents a significant technical challenge. Clean closure seems impractical at this site, but encapsulation will also be difficult considering the landfill is on a canyon rim. The existing closure plan, submitted in November, 1985, and supplemented in 1987, proposed partial encapsulation with leachate collection. The plan has not yet been approved.

This site is an excellent demonstration of the need for the integrated approach discussed above. In this case, a thorough RFI/CMS will resolve any outstanding issues and lead to implementation of the most protective, cost effective solution. The RFI/CMS could include a series of studies including an analysis of existing data and proposal to define the extent of barium contamination, an engineering study to develop the most effective cap design, and bench scale studies to determine the potential effectiveness of in-situ chemical fixation and/or leaching.

Thus, each of ^{the} RFI/CMS documents prepared during implementation of the corrective action process for TA-16 would be submitted to the State as modifications to the existing, unapproved closure plan. Final closure plan approval could then occur when the State agrees with the corrective action alternative selected by the CMS. An alternative approach would be to modify the existing plan to simply reference the forthcoming RFI/CMS documents (as above), the State could approve the plan at this point, and then LANL would submit the RFI/CMS documentation as a permit modification to an approved closure plan, according to 40 CFR 264.112(c), at the completion of the RFI/CMS process.

The corrective measures implementation plan, to be incorporated into the closure plan one way or another, will have to take into account all of the applicable closure requirements (40 CFR 264.310), including the closure performance standard (40 CFR 264.111) and post-closure care requirements (40 CFR 264.117 through 264.120 and 264.310) if clean closure is not feasible.

2.2.9.4. TA-40 Scrap Detonation Site

The existing closure plan for this site (amended December, 1985) is out of date. For example, it implies an intended future use for the scrap detonation site as an active firing site, but the goal of closure activities has since evolved into clean closure with no further land use. During FY 1990, the ER program Office prepared a revised closure plan in an effort to update the existing plan prior to State approval, which would have triggered closure activities no longer consistent with Laboratory plans. The revised closure plan includes a sampling scheme designed to define the limit of any necessary excavation to achieve clean closure.

Although field work has not yet been initiated for this site, LANL will treat this as an on-going activity since the closure plan revision is complete and ready to be implemented. Nothing would be gained by delaying closure of this site until the RFI/CMS for TA-40 is complete since it is a simple, discreet site, and the closure plan now defines a logical approach to closure. Thus, the revised closure plan will be submitted as an amendment to NMEID in November, 1990, and initiation of field

activities will be included in the FY 1991 Current Year Work Plan.

2.2.9.5. TA-54 Areas H, L, and G

Certain units (trenches, pits, and shafts) within Areas H, L, and G qualify as hazardous waste landfill cells subject to partial closure, and two closure plans (one covering Areas L and H and the other covering Area G) have consequently been submitted to NMEID. However, other units in these areas last received hazardous waste prior to 1980 and are therefore merely subject to corrective action under RCRA 3004(u). Thus, two different sets of cleanup requirements apply for units that are similar in content and geographic location.

Here, then, is a case similar to the Area P Landfill where the integrated approach is most appropriate, and it will be treated similarly. Although two separate closure plans have already been submitted, one for Areas L and H and one for Area G, the letter agreement will delay their implementation until the RFI/CMS is complete and the closure plans have been revised accordingly.

2.2.9.6. TA-54 Area L Waste Oil Storage Tanks

With verbal approval from C. K. Crossman, NMEID, six above ground storage tanks containing waste oil were pumped out in fiscal year (FY) 1989 and moved from Area L to Area G to make room for needed facilities. Although closure of these tanks was originally scheduled that same year, it was delayed to FY 1990 since the State had not yet approved the closure plan in FY 1989.

In early FY 1990, HSE-7 (Waste Management) expressed a desire to get rid of the tanks (for housekeeping purposes and to free up space in Area G). In order to decontaminate the tanks as quickly as possible, it was decided that the tank closure would not include any associated contaminated soil in Area L; any contaminated soil would be dealt with during the closure/corrective action of Area L.

The decontamination of these tanks was completed in FY 1990, and a closure report was initiated. The closure report will document the work as it actually occurred in the field, and it will be incorporated into the RFI work plan for Area L and/or Area G. No further action will be recommended for the tanks themselves, but contaminated soil will have to be characterized and potentially cleaned up during the corrective action process.