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DEPARTMENT OF THE ARMY  
HEADQUARTERS, U.S. ARMY INDUSTRIAL OPERATIONS COMMAND  
ROCK ISLAND, ILLINOIS 61299-6000



REPLY TO  
ATTENTION OF

October 2, 1996

Radioactive Waste  
Disposal Division

Mr. Stewart Brown  
U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety  
and Safeguards  
Division of Waste Management  
Low-Level Waste and  
Decommissioning Projects Branch  
Washington, D.C. 20555-0001

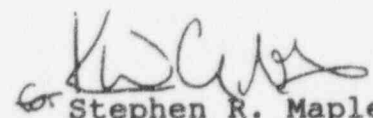
Dear Mr. Brown:

Our prime contractor is revising the decommissioning procedures for the Lake City Army Ammunition Plant Area 10 remedial action. We anticipate having a revised plan for your review no later than October 9, 1996. This letter provides you with a quick synopsis of our proposed revisions (enclosure) in response to your comments of September 10, 1996.

Your expedient review of our proposed revisions would be greatly appreciated. As we have stated previously, we need your approval to proceed prior to October 31, 1996, if we are to complete the Area 10 remediation during this calendar year.

The point of contact is Mr. Mike Styvaert, AMSIO-DMW, (309) 782-0880, electronic mail address mstyvaer@ria-emh2.army.mil.

Sincerely,

  
Stephen R. Mapley  
Chief, Radioactive Waste  
Disposal Division

Enclosure

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RESPONSES TO NUCLEAR REGULATORY COMMISSION (NRC)  
COMMENTS (SEPTEMBER 10, 1996) ON THE WORK PLAN  
TO REMEDIATE AREA 10 (SANDPILE AREA)

1. Our revised plan will include a discussion on how the Lake City background conditions (both in terms of depleted uranium (DU) concentrations and in terms of surface exposure rates) were quantified.

We will revise our discussion of the field screening process in terms of the NRC criteria that released areas be within 10 uR/hr above background. The Lake City background was determined to be 12 uR/hr.

The 20 uR/hr screening criteria was developed in terms of detecting a 10g fragment of DU at a depth of 6 inches. We do not have a correlation for the exposure rate limit (20 uR/hr) to a soil contamination limit. The characterization field screening was conducted using 2" x 2" sodium iodide detectors on Ludlum Model 3 rate meters. We are confident of the validity of this screening methodology based on our process knowledge on the nature and physical make-up of the contamination, and how the material was placed in Area 10.

In addition, the contractor surveyed 254 each 10' x 10' grids in Area 10 and collected 148 soil samples. The soil sample results match the surface screen predictions (as to whether a grid is affected or unaffected) in 146 out of 148 cases; i.e., a 98.6 percent success rate). The two misses were in adjacent grids.

2. We are revising the work plan to provide additional detail on how the sand removed from the inaccessible areas will be screened and sampled for the presence or absence of DU. As you suggest, part of the process will involve spreading the sand to a maximum thickness of 15 cm.

The remaining material in the inaccessible areas of Area 10 will be field screened with sodium iodide detectors and sampled in accordance with NUREG-5849. The presence or absence of contamination in the 2-foot removed layer will determine whether these inaccessible areas are sampled as affected or unaffected areas. As a minimum, we will collect 30 surface soil samples and 30 depth samples to demonstrate a releasable condition with 95 percent assurance in accordance with paragraph 4.2.3 of NUREG-5849.

3. We will send 10 percent of our gamma spectroscopy samples to an independent laboratory for purposes of conducting an alpha spectral analysis to provide assurance of the isotopic uranium make-up of the Area 10 contamination. We will use these results to confirm our compliance with the NRC's option 1 release criteria.

In addition, we will include a discussion on the accuracy and precision of using gamma spectral analysis for determining DU concentrations in soil.

4. We are completely rewriting sections 5.1 through 5.5 to include the requested level of detail and to be in accordance with NUREG-5849. Our sampling frequency and location will be per NUREG-5849. Except for the inaccessible grids, we are proposing to use the 20 uR/hr field screening criteria as the determination between affected and unaffected grids. The status determination for the inaccessible areas will depend on discovery of contamination in the 2-foot of removed material.