

February 5, 1992

Docket No. 50-47

Major Melvin E. Adams, AR
Deputy Director/Commander
Department of the Army
U.S. Army Laboratory Command
Materials Technology Laboratory
Watertown, Massachusetts 02172-0001

Dear Major Adams:

SUBJECT: REQULST FOR ADDITIONAL INFORMATION

We are continuing our review of your application to decommission the U.S. Army Materials Technology Laboratory Research Reactor dated October 8, 1991. During our review of your application, questions have arisen for which we require additional information and clarification. Please provide responses to the enclosed Request for Additional Information within 30 days of the date of this letter. Following receipt of the additional information, we will continue our evaluation of your application. If you have any questions regarding this review, please contact me at (301) 504-1127.

In accordance with 10 CFR 50.30(b), your response must be executed in a signed original under oath or affirmation.

This requirement affects nine or fewer respondents and, therefore, is not subject to Office of Management and Budget review under P. L. 96-511.

Sincerely,
/s/
Alexander Adams, Jr., Project Manager
Non-Power Reactors, Decommissioning and
Environmental Project Directorate
Division of Advanced Reactors
and Special Projects
Office of Nuclear Reactor Regulation

cc: See next page

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U.S. Army Materials Technology
Laboratory

Docket No. 50-47

cc:

Commander
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Watertown, Massachusetts 02172-0001

Commander
U.S. Army Toxic and Hazardous Materials Agency
ATTN: CETHA-BC (Mr. Salvatore Torrisi)
Aberdeen Proving Ground, Maryland 21010-5401

Commander
U.S. Army Corps of Engineers, New England Division
ATTN: CENED-PD-L (Mr. Dennis Waskiewicz)
424 Trapelo Road
Waltham, Massachusetts 022054-0149

Headquarters, Department of the Army
ATTN: SAILE-ESOH (Colonel Chris Conrad)
Washington, D.C. 20310-0110

Mr. Robert M. Hallisey, Director
Radiation Control Program
Department of Public Health
The Commonwealth of Massachusetts
150 Tremont Street
Boston, Massachusetts 02111

REQUEST FOR ADDITIONAL INFORMATION

U.S. ARMY MATERIALS TECHNOLOGY LABORATORY

DOCKET NO. 50-47

1. Throughout the Decommissioning Plan (DP), reference is made to GUIDELINES FOR DECONTAMINATION OF FACILITIES AND EQUIPMENT PRIOR TO RELEASE FOR UNRESTRICTED USE OR TERMINATION OF LICENSES FOR BYPRODUCT, SOURCE, OR SPECIAL NUCLEAR MATERIAL, issued by the U.S. NRC, Division of Industrial and Medical Nuclear Safety, August 1987 for guidance. For 10 CFR Part 50 reactor licenses, the appropriate document to reference is REGULATORY GUIDE 1.86 (RG 1.86), TERMINATION OF OPERATING LICENSES FOR NUCLEAR REACTORS. Additionally, please commit to the unrestricted use acceptance criteria of 5 microRoentgen/hr above background at 1 meter from the surface, as discussed in GUIDANCE AND DISCUSSION OF REQUIREMENTS FOR AN APPLICATION TO TERMINATE A NON-POWER REACTOR FACILITY OPERATING LICENSE, Rev. 1, prepared by the Standardization and Special Projects Branch, Division of Licensing, Office of Nuclear Reactor Regulation, September 1984.
2. The radiation survey results of the facility in Section 1.3, show the surface contamination levels to be generally within the NRC limits given in RG 1.86, Table 1, for unrestricted release. However, there is no characterization of the material to determine if and to what extent licensed radioactive material may be present within the various concrete and metal structures that have to be demolished. Describe, in detail, the radiological program (including the lower limit of detection) that will be used to characterize the waste material.
3. Please justify not considering neutron activation of the concrete biological shield in Section 1.3.2
4. In paragraph 1.3.2.5 of the Plan, calculations show that only Co-60 and Mn-54 are expected to be found. However, the site characterization study reports finding Co-60, Eu-152, and Eu-159 in the reactor annulus. What verification was done during the site surveys to confirm the assumptions made in the neutron activation analysis?
5. In Section 1.5, an estimate of 50% of the concrete shield is expected to be contaminated. Also, Cistern 242 is listed as not being contaminated. Since the concrete in both structures has not been physically characterized, provide a basis for these assumptions.
6. In Section 1.5, the DP states that if the lead lining of the floor storage pit has fixed contamination, it will be packaged and given to the licensee for storage as mixed waste. Provide information on where this material will be stored, what license storage will be under, and the controls that will be in place to ensure control of the material after termination of the license.
7. Is the "waste holdup tank beneath the reactor" (page 1-52) the N-16 decay primary coolant holdup tank?

8. For Section 1.7, provide clarification on the responsibilities and authority of the MTL Radiation Protection Officer (RPO). The position description lists his only responsibilities as "reporting any safety violations and technical inconsistencies with installation procedures" and having stop work authority. However, in light of his experience at the facility, there does not appear to be a direct working link with the Contractor's Radiological Control and Safety Officer (RC&SO) or the Independent Quality Assurance Evaluator/Health Physicist (QAE/HP). The DP states that the RC&SO reports to the Contractor's Project Manager (PM) and the QAE/HP reports to the MTL Technical Monitor. This organization appears to isolate the RPO from any direct involvement in the development and operation of the project.

Also, provide clarification on the authority and responsibility of the Contractor's PM and RC&SO regarding radiological and safety violations during the project. Do these positions have stop work authority if problems arise or if procedure violations are observed?

Please provide resumes of key personnel after your contractors have been determined.

9. For Section 1.7, provide an expanded discussion on the involvement of the AMTL Radiation Control Committee (RCC) during the project. Describe the make-up and qualifications of the RCC. Is the RCC involved in the preparation, review, and approval of work packages?
10. In Section 1.8, please incorporate Regulatory Guides 8.13 and 8.29 into your listing and radiation worker training program, or justify not including these Regulatory Guides in your program.
11. For Section 1.9.1, define the criteria that will be used to exempt "personnel having received substantial radiation safety training within the past year". How will personnel demonstrate this knowledge?
12. For Section 1.9, provide a discussion on the criteria used to determine which workers are not required to take General Employee Training (GET), since all workers on the project have the potential to be working in the vicinity of radioactive materials, either known or unknown.
13. Section 2.1.3 discusses special training for workers undertaking jobs with high exposure potential. Please define what is the criteria for high exposure potential.
14. Table 2-2 contains a reference to an agreement between AMC and NRC concerning 10 CFR Part 20 requirements. Please provide a copy of this agreement.
15. Please describe the criteria to be used to determine if waste is to be released to a clean landfill or treated as radioactive waste. Please note that Regulatory Guide 1.86 concerns the release of structures for unrestricted use and not for the determination of radioactive waste.

16. For Section 2.1.5.1, provide clarification that emergency procedures will be in place to handle a contaminated injured worker who requires hospitalization.

Please provide a copy of your Emergency Response Plan to NRC when development is complete.

17. For Section 3.1, describe what precautions will be taken to control exposure to personnel and to prevent the release of radioactive material during the removal of equipment, furniture, cabinets, concrete blocks, lead bricks and other non-reactor related materials from the building and the surrounding areas.
18. Please provide additional detail on the statement in Section 3.4 that facility containment will not be broken until the facility has been decontaminated to releasable levels. Does this mean that ventilation will be maintained, the containment will be at negative pressure when compared to the atmosphere, and that airlocks will be utilized to move equipment into and out of the containment?
19. Section 3.4 outlines the procedure where platforms and the coolant equipment enclosure wall will be removed from inside the containment. What structural analysis was performed to ensure safe disassembly of these structures?
20. For Section 4.1, provide an expanded discussion on the security controls that will be in place during times when the reactor facility is occupied and unoccupied to prevent casual, inadvertent, and unauthorized entrance.
21. Chapter 5 refers to potential radiological accidents during decommissioning activities. Please provide additional detail.
22. Chapter 7, Technical Specifications, has several specifications with the word "will". Technical Specifications are usually "shall, should, or may" statements. Please clarify your specifications by stating them in shall, should or may form.
23. Please develop termination survey plans for surface and subsurface soil based on specific isotope limits. Also, develop survey plans for radiation fields.
24. Section 8.1 discusses soil activity measurements in "dpm". Soil activity is normally presented in activity per volume of soil. Please clarify.
25. In addition to a grid-square survey, a quick scan of soil and building walls should be performed to detect "hot spots". Please address.
26. Table 8-1 appears to have inaccuracies regarding use of survey instruments. Please address.

27. What contingency planning is being made to incorporate the new 10 CFR Part 20 standards into project procedures in the event work extends into 1993?
28. What contingency planning is being made to handle the radioactive waste if access to a licensed burial facility is lost?