



ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE
 8901 WISCONSIN AVENUE
 BETHESDA, MARYLAND 20889-5603



15 December 2006

License No. 19-08330-02
 Control No. 139101

03004545

M516
Q-5

Betsy Ullrich
 Commercial and R&D Branch Division of Nuclear
 Materials Safety
 475 Allendale Road
 King of Prussia, PA 19406-1415

2006 DEC 26 PM 2:00
 RECEIVED
 REGION 1

Dear Ms. Ullrich:

This is in reference to your letter dated 20 October 2006, subject: Armed Forces Radiobiology Research Institute, Request for Additional Information Concerning Financial Assurance Documents, Control No. 139101. The following additional information is provided in response to your request:

1.
 - a. Up to a 100 μ Ci quantity of Uranium 233 in nitrate solution form is stored and used in Room 1334 (500 cm x 560 cm x 252 cm-height) and in Room 1332 (490 cm x 520 cm x 270 cm-height), Building 45, at the AFRRI. Up to 6 μ Ci each of Plutonium 239 and Plutonium 240, in liquid solution, mixed with Cesium 134 and Cesium 137 is also kept in Room 1332. Room 1334 is set up as a sample measurement room having an inductively coupled plasma mass spectrometer and Room 1332 is primarily used as a sample prep area and a storage location and where a vent hood and locking storage cabinet are located.
 - b. Plutonium 239 foils of up to 8 mCi each were stored in a Hot Cell located in Room 2166 (150 cm x 244 cm x 244 cm-height), Building 42. The AFRRI no longer possesses any Pu-239 foils. These were sources in solid form.
2. The following screening values will be used to demonstrate that the AFRRI meets the license termination criteria found in 10 CFR 20, Subpart E "Radiological Criteria for License Termination".

<u>Radionuclide</u>	<u>screening value, building surfaces</u>
uranium 233	88.6 dpm/100 cm ²
uranium 235	97.6 dpm/100 cm ²
plutonium 238	30.6 dpm/100 cm ²
plutonium 239	27.9 dpm/100 cm ²

139101

NRCC/RONI MATERIALS-002

The removable fraction will not exceed 10% of the total residual contamination. We also confirm that the Institute's DFP will include meeting the criteria specified in this letter of response and will be based on decontaminating the AFRRI facility to license termination criteria. Surveys performed will be sufficiently sensitive to meet the NRC license termination criteria.

3. We confirm that the estimated labor costs listed in the DFP cost estimate include only project managers, health physicists, and health physics technicians. We believe these are the only categories of licensee and/or contractor staff that we expect to be involved in decommissioning of the laboratories. The labor costs provided include non-labor costs such as personal protective equipment, laboratory materials and activities (for analysis of samples, etcetera), and other miscellaneous costs such as fees and insurance necessary to perform the required tasks.
4. It is difficult to predict the exact type of technology that will be available at the time of decommissioning, since it could well be many years into the future. It is expected that the project would require procurement of special equipment of the type best suited for the detection/screening and radiological measurement of Uranium 233 and Plutonium 239 and 240 isotopes.
5. Cleaning methods use will be those that are acceptable to the NRC under existing criteria for License decommissioning practices. We confirm that dismantling and cleaning are the only methods of decontamination necessary to be performed. It is not expected that activities such as chemical or physical stripping of surfaces and grinding or other abrasive activities will be necessary to achieve license termination criteria found in 10 CFR 20, Subpart E "Radiological Criteria for License Termination".
6.
 - a. The type of special nuclear material held by the AFRRI is used under a ventilation hood where it is not expected to affect ventilation ducts. The special nuclear material is not of a volatile nature and does not represent an airborne hazard such that it would be passed into the ventilation ducts. As an added measure of safety the ventilation ducts connected to the vent hoods will be surveyed to assure their inner surfaces meet license termination criteria found in 10 CFR 20, Subpart E "Radiological Criteria for License Termination". It is not expected that this additional task will cause a significant increase the original DFP cost estimate given with the DFP dated 2 October 2006.
 - b. We concur that wall spaces were not specifically mentioned in the initial DFP, dated 2 October 2006, however, all walls were considered in that DFP's cost estimates and understood to be inclusive with the floor plans and the work time estimates required for those spaces. Wall spaces will be surveyed and decontaminated, if necessary, in the same way as the floor spaces. The criteria of paragraph 2 above will be applied for all wall spaces in order to meet license termination criteria. Since the initial cost estimate included consideration of the wall spaces for each of the rooms identified in this letter, there are not any additional areas that need to be added, and therefore, a revision of the DFP and cost estimate should not be required.

15 December 2006

7. Although non-labor costs such as packing materials, packaging, personal protective equipment, laboratory materials and activities, and other miscellaneous costs such as fees and insurance were not specifically detailed in the original DFP cost estimates, dated 2 October 2006, they were incorporated into the total labor costs estimates as was previously indicated in paragraph 3 above.
8. As per 10 CFR 30.35(e) the AFRRRI will review cost estimates of the DFP and make adjustments at intervals not to exceed 3 years.
9. In consideration of our response, we believe a revision the DFP may is not needed and the cost estimates that we provided in our 2 October 2006 DFP cost estimate submission are representative of the costs required to perform decommissioning of AFRRRI areas where special nuclear materials were used or stored. Therefore we respectfully request that the Statement of Intent and the Certification of Financial Assurance, which was provided to your office with our 2 October 2006 DFP, be considered as sufficient in meeting requirements for Decommissioning and Financial Assurance

If you have additional questions or concerns regarding our response letter, please contact LTC Daniel Hamilton at (301) 295-2723 or SFC Regina Miller at (301) 295-9261.

Sincerely,



Patricia K. Lillis-Hearne, MC
Colonel, United States Army
Director

cc:
SFC Regina L. Miller, Radiation Safety Officer
LTC Daniel Hamilton
Mr. Stephen Miller