



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

October 20, 2006

Docket No. 03004545
Control No. 139101

License No. 19-08330-02

COL Patricia K. Lillis-Hearne, MC
Director
Armed Forces Radiobiology Research Institute
Uniformed Services University of the Health Sciences
8901 Wisconsin Avenue
Bethesda, MD 20889-5603

**SUBJECT: ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE, REQUEST FOR
ADDITIONAL INFORMATION CONCERNING FINANCIAL ASSURANCE
DOCUMENTS, CONTROL NO. 139101**

Dear COL Lillis-Hearne:

This is in reference to your letter dated October 3, 2006 providing financial assurance for decommissioning for Nuclear Regulatory Commission License No. 19-08330-02. In order to continue our review, we need the following additional information:

1. The description of the facility, as stated in the Facility Description summary of the Decommissioning Funding Plan (DFP), and as submitted in Item 9 of the renewal application dated June 28, 2004, does not provide sufficient detail regarding the laboratories (and any other areas) where special nuclear materials are (were) used. Based on a review of Item 2 of the DFP, it appears that only a limited number of laboratories are considered. Please provide the approximate number of laboratories or other areas considered in the DFP, the approximate dimensions of the areas, and specify if they are located in one building or in multiple buildings.
2. The "Additional Comments" section of the DFP stated, in part, that minimal decontamination activities are expected to be necessary because of the routine practice of decontaminating areas to "unrestricted release limits" at the time of occurrence. Item 10.5, Section 6, "Surveying and Monitoring Procedures" of your renewal application states that your surveys will be sufficiently sensitive to detect 200 disintegrations per minute (dpm) per wipe for gross alpha and gross beta contamination, and Item 10.5, Section 7, "Contamination Control", committed to a removable contamination limit for alpha emitters of 22 dpm per 100 square-centimeters area (100 cm²) in unrestricted areas and 220 dpm/100 cm² in restricted areas. However, at the time of decommissioning, you will be required to meet the 10 CFR 20, Subpart E "Radiological Criteria for License Termination". The NRC calculated residual contamination levels that will meet the license termination criteria, known as "screening values" for the total residual contamination remaining on building surfaces. For the radionuclides listed in your DFP, the screening values are:

<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

If screening values are used to demonstrate that a facility meets the license termination criteria, the removable fraction cannot exceed 10% of the total residual contamination. The removable fraction of the screening value levels are substantially lower than your routine survey limits and your detect sensitivity requirements. Confirm if your DFP is based on decontaminating the facility to license termination criteria and performing surveys sufficiently sensitive to meet the NRC license termination criteria. If not, submit a revised DFP and cost estimate.

3. The labor costs listed in the DFP cost estimate include only project managers, health physicists, and health physics technicians. Confirm if these are the only categories of licensee and/or contractor staff you expect to be involved in decommissioning of the laboratories. If other categories of staff, such as clerical workers, laborers, laboratory technicians, craftsman, etcetera are needed, please revise the relevant sections of the DFP and cost estimate.
4. Item 1.d. of the DFP lists "procurement of special equipment" but does not describe the type of the equipment or its use. Please describe the type(s) of special equipment you expect to use, and its purpose.
5. Item 2 of the DFP listed only dismantling and cleaning as methods that will be used for decontamination, and did not describe the methods for cleaning. Confirm if these are the only methods of decontamination that you expect to perform, or provide a description of other expected decontamination activities (such as chemical or physical stripping of surfaces and grinding, scabbling or other abrasive activities). If additional equipment or supplies are needed for methods not previously considered, please revise those sections of the DFP and cost estimate.
6. Item 2 of the DFP lists hoods but not ventilation ducts as potentially requiring decontamination or dismantling. Explain why the ventilation ducts from the hoods are not expected to require decontamination or dismantling during decommissioning. Item 2 also lists floor spaces as potentially requiring decontamination, but not wall spaces. Explain why wall spaces were not considered. If additional areas should be included, please revise the DFP and cost estimate.
7. Items 2, 3, 4, and 6 of the DFP do not appear to include non-labor costs such as packing materials, packaging, personal protective equipment, laboratory materials and activities (for analysis of samples, etcetera), or other miscellaneous costs such as fees and insurance. Confirm if these costs were included; if not, please revise the relevant sections of the DFP and cost estimate.
8. Item 7 states, in part, that the DFP cost estimate will be reviewed and updated every 5 years. Please note that 10 CFR 30.35(e) was revised in 2003 to require that cost

estimates be adjusted at intervals not to exceed 3 years. Confirm that you will adjust your cost estimate at intervals not to exceed 3 years.

9. If revisions in the DFP result in a cost estimate that is different than already provided, a new Statement of Intent and a new Certification of Financial Assurance must be submitted. If so, you may submit the revised DFP and cost estimate for review, and commit to obtaining the new Statement of Intent and the new Certificate of Financial Assurance after the new cost estimate is determined to be acceptable.

Current NRC regulations and guidance are included on the NRC's website at www.nrc.gov; select **Nuclear Materials; Medical, Academic, and Industrial Uses of Nuclear Material**; then **Toolkit Index Page**. Or you may obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-888-293-6498. The GPO is open from 7:00 a.m. to 8:00 p.m. EST, Monday through Friday (except Federal holidays).

We will continue our review upon receipt of this information. Please reply to my attention at the Region I Office and refer to Mail Control No. 139101. If you have any technical questions regarding this deficiency letter, please call me at (610) 337-5040.

Sincerely,

Original signed by Elizabeth Ullrich

Betsy Ullrich
Senior Health Physicist
Commercial and R&D Branch
Division of Nuclear Materials Safety

cc:
SFC Regina L. Miller, Radiation Safety Officer

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