



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
612 EAST LAMAR BLVD, SUITE 400  
ARLINGTON, TEXAS 76011-4125

June 4, 2009

University of Alaska Fairbanks  
Environmental Health, Safety and Risk Management  
ATTN: Tracey Martinson, Ph.D.  
Radiation Safety Officer  
P.O. Box 758145  
Fairbanks, AK 99775-8145

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING THE  
INCINERATOR LOCATED AT THE ARCTIC HEALTH RESEARCH BUILDING

By letter dated July 30, 2008, you informed the NRC of your intention to decommission the incinerator located at the Arctic Health Research Building. The NRC has specific requirements as specified in 10 CFR 30.36 for decommissioning facilities and partial release of facilities or sites and for terminating licenses. Historically, the NRC classified facilities undergoing decommissioning by either the activities performed during operations or the types of licensed material possessed by the licensee. However, in 2003, the NRC developed a three-volume NUREG series, NUREG 1757, *Consolidated Decommissioning Guidance*, which provides guidance on developing a decommissioning plan (DP), performing final status surveys and generating a report, and implementing a financial assurance instrument or plan. The NUREG classified facilities into seven groups based on the amount of residual radioactivity, the location of the radioactive material, and the complexity of the activities requiring decommissioning or remediation of the building(s) or the soil.

If you meet any of the following conditions, you will be required to submit a Decommissioning Plan to NRC for review and approval prior to commencing decommissioning operations:

1. Although you could meet the screening criteria and have prerequisite expertise, equipment and facilities to remediate your facilities; however, you have not incorporated remediation procedures into your license. A license amendment is necessary to authorize the activities for decommissioning, and as such, you will need to submit a Decommissioning Plan.
2. Your facility has residual radiological contamination present in building surfaces and soils, but you can not meet, or choose not to use screening criteria, and the ground water is not contaminated. A site Decommissioning Plan is required and must characterize the location and extent of radiological contamination, land use, exposure pathways and critical group for the dose analysis.
3. Your facility has residual radiological contamination present in building surfaces and soils, and the ground water. You are able to demonstrate that residual radioactive material may remain at the site but within levels specified in NRC criteria for unrestricted use by applying site-specific criteria in a comprehensive dose analysis. A site Decommissioning Plan is required and must characterize the location and extent of radiological contamination, land use, exposure pathways and critical group for the dose analysis.

10 CFR 30.36(g)(1) also describes several cases when submission of a Decommissioning Plan is required, such as:

- Procedures would involve techniques not applied routinely during cleanup or maintenance operations;
- Workers would be entering areas not normally occupied where surface contamination and radiation levels are significantly higher than routinely encountered during operation;
- Procedures could result in significantly greater airborne concentrations of radioactive materials than are present during operation; or
- Procedures could result in significantly greater releases of radioactive material to the environment than those associated with operation.

The NRC staff has reviewed your letter dated July 30, 2008, and determined that the decommissioning activities for the incinerator at the Arctic Health Research Building meets the criteria of a Group 3 decommissioning activity, based on the incinerator operations and because University of Alaska, Fairbanks (UAF) would need to incorporate procedures into their license in order to remediate the incinerator stack themselves. Detailed information regarding the development of a DP is provided in NUREG 1757, Volume 1, Chapters 15-16, and in Appendix D.

However, UAF has the option to use a decommissioning service provider to perform the decommissioning remediation activities under the service provider's radioactive materials license. In this manner, the service provider typically does not take possession of the licensed material, but is authorized to handle, remediate, package and repackage wastes associated with the decommissioning activities. Since the service provider's procedures and quality assurance plan have already been reviewed and approved by license condition, then a DP is not required. The agreement between the licensee (i.e. UAF) and the service provider should specify which licensed activities will be performed under the service provider's license and supervision and which activities will be performed under UAF's license and supervision. The agreement should include a commitment by both parties to ensure safety and it should specify whether there are commitments by the service provider licensee to help the licensee clean up the temporary jobsite if there is an accident. The service provider should maintain records of information important to decommissioning and should transfer those records to the NRC licensee when decommissioning activities are complete. The service provider is typically required by license condition to notify their regulator 14 days prior to conducting activities under their license. The 14-day notification by the service provider is sufficient documentation to inform the regulator of the decommissioning activities.

If UAF chooses to perform the activities under their NRC radioactive materials license, then you would be required to submit a DP. Upon receipt of the DP, the NRC would announce the DP in the Federal Register, with an opportunity for hearing. Following the approval of the DP, the NRC would issue a second Federal Register notice to announce the approval of the DP by license amendment and the results of the NRC's environmental review. Following is the information necessary to include in the DP and to support an environmental review, if UAF chooses to perform the decommissioning activities under their license. For more specific information, please refer to the referenced chapter(s) in NUREG-1757, Volume 1, Revision 2, "Consolidated Decommissioning Guidance."

1. Provide a summary of the operating history of the incinerator.
2. Provide the current uses of the Arctic Health Research Building. The planned use of the facility once the incinerator has been removed.
3. Provide a summary of the current and potential uses of land in and around the Arctic Health Research Building.
4. Provide a scale drawing or map of the facility with the location of the incinerator.
5. Describe the methods, procedures and remediation techniques that UAF intends to use to demolish and/or remediate the incinerator and stack. (Chapter 17.1.1)
6. Provide a summary of the radiation protection methods and control procedures that will be employed during the different phases of survey and remediation of the incinerator and stack. (Chapter 17.1.1 & 17.3.1, as applicable.)
7. Provide a commitment to conduct decommissioning activities in accordance with written, approved procedures.
8. Describe the management organization overseeing the decommissioning activities. The description should include the audit and oversight of the decommissioning activities by the Radiation Safety Officer. (Chapter 17.2.1)
9. Describe any contractor support to the decommissioning activities. (Chapter 17.2.5)
10. Provide a commitment to ALARA during the decommissioning activities. (Chapter 17.4.1)
11. Provide a summary of the quality assurance program. Provide a commitment that the activities are conducted in accordance with the description of the licensee's quality assurance program. (Chapter 17.6)
12. Provide a summary of the methods and procedures used to ensure that only accurate and calibrated test and measurement equipment will be used during the decommissioning project. Describe any contracted laboratory and chain of custody used for sample analyses. (Chapter 17.6)
13. Provide the release criteria used as a basis for demonstrating the facility can be released for unrestricted use.
14. Provide the planned disposition of radioactive waste resulting from the remediation efforts.

Enclosed is standard information that is provided to support the final status survey that will have to be conducted as part of the release of the facility. When you reply to this letter, please identify the license, docket and control numbers specified below on your submittal. If you have questions, please contact me at 817-276-6552.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink that reads "Rachel S. Browder". The signature is written in a cursive style with a large, sweeping flourish at the end.

Rachel S. Browder, Health Physicist  
Nuclear Materials Safety Branch B

Docket: 030-01179  
License: 50-02430-07  
Control: 471939

Enclosure: Survey Information to Support  
Release of a Facility

## SURVEY INFORMATION TO SUPPORT RELEASE OF A FACILITY

In performing the decommissioning of its facility the licensee should first identify any areas in the facility that were involved in licensed material use by reviewing facility records and conducting a survey of the licensed material use area. This survey should be similar to the routine contamination surveys conducted under the licensee's radiological safety plan. The licensee should then remediate all surfaces in the areas at the facility that were involved in licensed material use or storage and dispose of all radioactive material and waste as discussed in the NRC regulations at 10 CFR 20 Subpart K.

If the licensee elects to demonstrate that its facility is suitable for unrestricted use by conducting a Final Status Survey, the licensee should design the survey so as to be of sufficient scope and quality to make this demonstration. In preparing for the Final Status Survey, the licensee should establish a method to identify individual measurement/sampling points, such as establishing reference grids on each surface in the indoor area that was involved in licensed material. At a minimum, the licensee's termination survey should consist of:

- 1) 100% scanning of all surfaces in the area at the facility where licensed material was used or stored using an appropriate radiation detection instrument (including scan sensitivity);
- 2) Evaluations for total and removable radioactive material at each area exhibiting elevated radiation levels or at a frequency of one wipe comprising 100 cm<sup>2</sup> per grid; and
- 3) Evaluations of radiation levels at one meter above surfaces.

Particular attention should be afforded any drains, air vents or other fixtures or equipment that may have become contaminated during licensed material use. This is especially significant in situations where renovations have occurred and potentially contaminated areas may be inaccessible under current conditions.

The information that should be submitted to the NRC to support the final status survey should consist of:

- 1) brief description of the remediation activities undertaken by the licensee;
- 2) detailed drawing of the licensed material use areas indicating the sampling locations;
- 3) table showing the results of the radiation levels and removable contamination surveys keyed to the detailed drawing (organized by survey unit);
- 4) training and qualifications of the individual(s) performing the decontamination and surveys; and
- 5) description of the type of equipment used by the licensee to evaluate the wipes and perform the surveys. This description should include all information required to determine the appropriateness of the equipment for determining the radiological status of the facility such as last calibration date, type of radiations detected, sensitivity of detection, efficiency, etc.