



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

August 23, 2007

Docket No. 040-09047
Control No. 140747

License No. STB-1579

Arthur Keith Rose, C.H.P.
Radiation Safety Officer
Department of the Army
U.S. Army Aviation and Missile Command
ATTN: AMSAM-SF
Redstone Arsenal, AL 35898-5130

SUBJECT: DEPARTMENT OF THE ARMY, REQUEST FOR ADDITIONAL INFORMATION CONCERNING APPLICATION FOR RENEWAL OF LICENSE, CONTROL NO. 140747

Dear Mr. Rose:

This is in reference to your application dated June 29, 2007 requesting to renew Nuclear Regulatory Commission License No. STB-1579. In order to continue our review, we need the following additional information:

1. In your letter, you request that the license not be subject to the license termination rules of 10 CFR 30.36, 40.42 and 70.38. This requires an exemption from those regulations. Exemption requests need the following minimum information: a description of the licensee-proposed exemption and the reason why it is needed; a description of specific compensatory safety measures that will provide a level of protection equivalent to the regulation for which the licensee-proposed exemption is being requested; and a discussion of reasonable alternatives that have been considered by the licensee.

However, based on our telephone conversation on August 8, 2007, I understand that you intended to request that the license have a term of 10 years. The length of the term of the license is established by NRC policy, and that term length is currently 10 years. The reference in 10 CFR 30.36, 40.42 and 70.38 to the term being 5 years from the current date was a one-time extension of all license expirations dates, with some exceptions. Based on this, I understand that you do not need an exemption from these regulations. If my understanding is incorrect, please inform me in writing, and provide the information requested above.

2. In your application, you did not request any authorized users to be listed on the license. Currently, the authorized users are yourself and individuals who have completed the training program described in the application dated February 23, 1994. Please submit a list of authorized users to be named on the license, along with their training and experience.

3. In Item 8, you state that training materials are at Enclosure 2. We did not receive an Enclosure 2 training materials with the application. Please submit the Enclosure 2 training materials.
4. Your application requests that maintenance activities authorized by this license be performed at a variety of locations. Confirm that you will maintain records of locations where such maintenance takes place, and any other information required for the associated radiation safety activities.
5. Describe the facilities that will be used for storage of radioactive waste.
6. Item 9 of your application states that you may use instruments that have not been calibrated with NIST traceable sources. 10 CFR 20.1501(b) states, "The licensee shall ensure that instruments and equipment used for quantitative radiation measurements (e.g., dose rate and effluent monitoring) are calibrated periodically for the radiation measured." Our guidance states that calibration should be done with NIST traceable sources. Confirm that you will not use these instruments for quantitative radiation measurements.
7. Item 10, "Radiation Safety Program" of your application, contains Sections I through IV, discusses the various characteristics and hazards associated with thorium and the magnesium-thorium alloy and the activities that you plan to perform.
 - a. These sections use reference values found in ICRP and NCRP documents, some of which are different from NRC regulatory limits. For example, the application states that the ICRP 30 recommended ingestion ALI for Th-232 is 8.1 microcuries; however, the 10 CFR Part 20 oral ingestion ALI for Th-232 is 0.7 microcuries. Confirm that you understand that you must meet the Annual Limits of Intake (ALI), effluent limits, and release criteria specified in 10 CFR Part 20, and that references to NCRP and ICRP recommended limits in this application are not accepted as replacement values for regulatory limits without submission of a request to, and explicit approval from, the NRC for an exemption to each applicable regulation.
 - b. Section IV(B) states the results of air samples are less than 10 CFR 20, Appendix B, Table 2 inhalation DAC value. Please submit the air sample data.
 - c. These sections refer to Enclosures 3, 4, and 5, however, we did not receive these enclosures. Please provide these enclosures.
 - d. The description of the methods used to clean areas and remove corrosion appear to generate wastes that may be considered mixed waste, and appear to generate liquid wastes. If mixed wastes are generated, provide an estimate of the total activity, total volume, and the time that such material will be held prior to disposal. If liquid wastes are generated, provide a description of such wastes (including handling, processing, and storage methods) in Item 11 of the application.
8. Item 10.V of your application does not address inventory, control, and accountability of licensed material. Describe your licensed material inventory, control and accountability program. Your inventory and control system should have the capability to assure that

licensed material possession limits are not exceeded and that material is accountable at any given time.

9. Item 10.V. of your application addresses monitoring for internal dose, but does not address external dose assessment. In accordance with NUREG-1556, Volume 7, provide a statement that “We have done a prospective evaluation and determined that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits of 10 CFR Part 20 or we will monitor individuals in accordance with the criteria in the section entitled ‘Radiation Safety Program - Occupational Dose’ in NUREG-1556, Volume 7, ‘Consolidated guidance About Materials Licensees: Program-Specific Guidance about Academic, Research and Development and Other Licenses of Limited Scope’” dated December 1999; OR, provide a description of an alternate method for demonstrating compliance with referenced regulations.
10. Item 10.V., “Radiation Safety Program” of your application states that the large nature of the chips and other materials removed during maintenance activities negate the need for routine surveys. Given the requirement that residual contamination from Th-232 not exceed 7 disintegrations per minute (dpm) per 100 square-centimeters (cm²) area, and that your procedures describe filing, brushing and sanding as mechanical methods of corrosion removal as well as chemical methods of corrosion removal, we believe that surveys are necessary to ensure that facilities contain no residual contamination above the limits for release for unrestricted use. Confirm that surveys will be performed routinely, and specify the frequency that radiation level and contamination surveys will be performed, and the criteria that will require remediation to be performed. If activities at a given location are infrequent, may be performed after each maintenance activity involving licensed materials to ensure that all chips, filings etc are retrieved.
11. Item 10.V. of your application does not include criteria for verifying that sites used for maintenance are suitable for release for unrestricted use. Describe the surveys you will require and the criteria you will use for release of facilities and equipment for unrestricted use, and that demonstrate the facilities meet the current guidance for compliance with 10 CFR Part 20, Subpart E, requirements. Confirm that surveys will be performed prior to release of those locations for unrestricted use. Confirm that facilities and equipment will not be released until the results of surveys are reviewed and approved by the Radiation Safety Officer. A copy of the NRC’s screening values for thorium is enclosed, which would meet the requirements in 10 CFR Part 20, Subpart E.

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; Regulations, Guidance, and Communications**. You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. 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. 140747. If you have any technical questions regarding this deficiency letter, please call Dennis Lawyer at (610) 337-5366 or me at (610) 337-5040.

A. Rose
Department of the Army

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In order to continue prompt review of your application, we request that you submit your response to this letter within 30 calendar days from the date of this letter.

Sincerely,

Original signed by Elizabeth Ullrich

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

Enclosure:

“Supplemental Information on the Implementation of the Final Rule on Radiological Criteria for License Termination”

DOCUMENT NAME: C:\FileNet\ML072360079.wpd

SUNSI Review Complete: DLawyer

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