



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PA 19406-2713

March 16, 2015

Docket No. 03030945
Control No. 585699

License No. 08-05938-13

David M. Peters
Radiation Safety Officer
Smithsonian Institution
Office of Safety, Health, and Environmental Management
Suite 7106, MRC 514
P.O. Box 37012
Washington, DC 20013-7012

SUBJECT: SMITHSONIAN INSTITUTION, REQUEST FOR ADDITIONAL INFORMATION
CONCERNING APPLICATION FOR RENEWAL OF LICENSE, CONTROL NO.
585699

Dear Mr. Peters:

This is in reference to your application dated December 22, 2014, requesting to renew Nuclear Regulatory Commission License No. 08-05938-13. In order to continue our review, we need the following additional information:

1. Item No. 3 of NRC's Form No. 313, "Application for Material License," requires the applicant to provide the addresses where licensed material will be used or possessed. Item No. 3 of your application does not list the following locations, which are listed on your current license as authorized locations of use: Hughes Danbury Optical System/Lexington, 10 Maguire Road, Lexington, Massachusetts; National Technical Systems/Boxborough, 1146 Massachusetts Avenue, Boxborough, Massachusetts; Parker Chomerics, 77A Dragon Court, Woburn, Massachusetts; Hughes Danbury Optical Systems/Danbury, 100 Wooster Heights Road, Danbury, Connecticut.

Please confirm that the application you submitted includes all of the locations you wish to have listed on the license. If it is your intention to remove these locations from the license, state that only sealed sources were used, confirm that the sources were leak tested and that none were ever found to be leaking

2. Item No. 3 of your application lists the Smithsonian Conservation Biology Institute at Route 522, Front Royal, VA. Your current license lists this address as the Smithsonian Conservation and Research Center. Is the Smithsonian Conservation Biology Institute the same facility as listed on the license as the Conservation and Research Center? Please provide the name of the facility at Route 522, Front Royal, VA.
3. 10 CFR 30.32(g) states, in part, that an application for a specific license to use byproduct material in the form of a sealed source or in a device that contains the sealed source must either (i) Identify the source of device by manufacturer and model number as registered with the Commission or an Agreement State; or (ii) Contain the information

identified in 32.210(c). Item 5 of your application listed several "legacy" sealed sources in which the manufacturers name and the sealed source approval by the NRC or an Agreement State (Sealed Source and Device Evaluation) is not available. Additional information is needed to authorize the legacy sealed sources.

Please refer to 10 CFR 30.32(g)(2), and respond providing as much information as is available on the legacy sources. Note that 30.32(g)(2)(ii) requires sufficient additional information to demonstrate reasonable assurance that the radiation safety properties of the source or device are adequate to protect health and minimize danger to life and property. Such information must include a description of the source or devices, a description of radiation safety features, the intended use and associated operating experience, and the leak test history. Some of this information was included in your application. Please respond with the additional information required by 10 CFR 30.32 regarding the legacy sources.

4. Section 8.5, Item No. 5, of NUREG-1556, Volume 7, "Program-Specific Guidance about Academic, Research and Development, and Other Licenses of Limited Scope Including Gas Chromatographs and X-Ray Fluorescence Analyzers" (NUREG-1556, Volume 7), requests that the applicant provide the requested possession limit for materials requested. In Item No. 5 of your application, the units of activity for the following maximum possession limits appear to be in error: Items M and N list activity units in microcuries and Items P and V list units in millicuries. Please confirm the maximum possession limits requested for the materials in Item 5 of the application and respond.
5. Section 8.7.2 of NUREG-1556, Volume 7, states that the applicant must provide the name of each proposed authorized user (AU) with the types and quantities of licensed material to be used. Item No. 7 of your application lists the authorized users; however, Steven Monfort and David Wildt are AU's on your current license and you did not include them in your application. Confirm that you wish to remove these individuals from the license as AU's.
6. Section 8.8 of NUREG-1556, Volume 7, states that the applicant must provide a description of the radiation safety training program, including topics covered, groups of workers, assessment of training, qualifications of instructors, and the method and frequency of training. Your application did not provide the frequency of training to be provided to individuals working in or frequenting restricted areas. Please provide the frequency of the training you will provide to these individuals.
7. We noticed that Item 9 of your application states that the portable fume hood in Building 24 is for use with radium-226. Your license does not authorize, and you have not requested to perform activities such as repair, maintenance or refurbishment of items containing radium-226. Please confirm that the radium-226 is only to be stored in the portable fume hood. If other activities are planned using radium-226 in the fume hood, please provide a description of the activities and include the individuals authorized and the individual training requirements for such activities.

8. Section 6 of NUREG-1556, Volume 7, states that the applicant must list the specific use or purpose of each radioisotope. Item 9 of your application states that iodinations are performed using millicuries quantities of I-125 in the veterinary hospital. Please state whether you will, or will not, use radioisotopes in animals. If radioactive materials will be used with animals, include a description of the animal handling housing facilities. NUREG-1556, Volume 7, Appendix H provides additional information on the use of byproduct materials in laboratory animals that you may find useful.
9. Condition 17 of the above listed NRC license requires the conduct of a physical inventory every six months, or at other intervals approved by the NRC, to account for all sources and/or devices received and possessed under the license. In Item 10 of your application, you requested NRC's approval of an alternate interval for conducting the physical inventory required by Condition 17. Specifically, you requested an alternate physical inventory interval for sources and/or devices received and possessed under the license which contain radium-226.

We noted that your letter dated February 27, 2015, in which you responded to a "Notice of Violation," you described in greater detail your proposed alternate interval for conducting physical inventories to account for all sources and/or devices containing radium-226. Please note that we intend to use your letter dated February 27, 2015, rather than the information provided in Item 10 of your renewal application, to review your request for an alternate physical inventory interval as it is more recent and contains additional information needed to review the request. Because the review process for such a request will likely cause a delay in the completion of your license renewal, we will respond to your request under a separate letter and, if approved, a separate license amendment will be initiated by our office. You do not need to respond to this item.

10. Item 5 of your application requests authorization for possession and use of a portable moisture-density gauge containing sealed sources of americium-241 and cesium-137. NUREG-1556, Volume 1, "Program-Specific Guidance About Portable Gauge Licenses" requires the applicant to provide specific information, which was not in your application. Please confirm the following:
 - a. Before using licensed materials, authorized users will have successfully completed one of the training courses described in Criteria in the section entitled "Training for Individuals Working In or Frequenting Restricted Areas" in NUREG-1556, Vol. 1, Rev 1, dated November 2001.
 - b. We will implement and maintain the operating, emergency, and security procedures in the NUREG-1556, Volume 1, [Errata: Appendix H, "Operating, Emergency, and Security Procedures"](#) dated July 5, 2005, and provide copies of the procedures to all gauge users and at each job site.

NOTE: The NUREG-1556, Volume 1, Errata document can be found on NRC's website at <http://pbadupws.nrc.gov/docs/ML0521/ML052130055.pdf>.
 - c. We will implement and maintain procedures for routine maintenance of our

gauges according to each manufacturer's recommendations and instructions.

- d. We will send the gauge to the manufacturer or other person authorized by NRC or an Agreement State to perform non-routine maintenance or repair operations that require the removal of the source or source rod from the gauge.

Current NRC regulations and guidance are included on the NRC's website at www.nrc.gov; select **Nuclear Materials; Med, Ind, & Academic Uses**; then **Licensee Toolkits, see our toolkit index page**. 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 8:00 a.m. to 5:30 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. 585699. If you have any technical questions regarding this deficiency letter, please call me at (610) 337-5040.

If we do not receive a reply from you within 30 calendar days from the date of this letter, we will assume that you do not wish to pursue your application.

Sincerely,

Original signed by Betsy Ullrich

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

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