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**Subject:** Request for Additional Information License No. 06-01450-47, Control No. 589796  
**Date:** Friday, March 18, 2016 3:02:00 PM  
**Attachments:** [Portable Gauge AppH errata ML052130055 \(002\).pdf](#)

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Docket No. 03010576  
License No. 06-01450-47  
Control No. 589796

Jeffrey R. Seemann, Ph.D.  
Vice President for Research  
University of Connecticut  
Department of Environmental Health and Safety  
3102 Horsebarn Hill Road, Unit 4097  
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SUBJECT: UNIVERSITY OF CONNECTICUT, REQUEST FOR ADDITIONAL INFORMATION  
CONCERNING APPLICATION FOR RENEWAL OF LICENSE, CONTROL NO. 589796

Dear Dr. Seeman:

This is in reference to your application dated December 15, 2015 requesting to renew Nuclear Regulatory Commission License No. 06-01450-47. In order to continue our review, we need the following additional information:

1. Section 8.7.2, "Radiation Safety Committee" of NUREG 1556 Vol. 11 dated April 1999 Program Specific Guidance About Licenses of Broad Scope provides guidance to licensees for including information in applications with regard to their Radiation Safety Committees (RSC). Please address the following with respect to your RSC:
  - a. Confirm that the quorum, as you have defined it, will include a representative from each area of use from which specific issues will be discussed and any other member whose field of expertise is necessary for the discussion;
  - b. Provide the criteria used for selecting members for the committee.
2. Section 8.9, "Facilities and Equipment" of NUREG 1556 Vol. 11 dated April 1999 provides guidance to licensees for including information in applications with regard to how their RSC and/or RSO will review and evaluate facilities prior to their approval for use with licensed material. In your attachment 7.5 you provided forms that will be used to gather information for the review process for new Licensed Investigators (LI) but you did not provide the criteria against which the information will be evaluated. Please clarify what criteria will be used.
3. Section 8.9, "Facilities and Equipment" of NUREG 1556 Vol. 11 dated April 1999 Program Specific Guidance About Licenses of Broad Scope provides guidance to licensees for including information in applications with regard to facilities and equipment. Provide the following:

- a. Diagrams of the irradiator facility, the calibration facility and the storage location for the portable gauge(s).
  - b. Describe the area(s) assigned for the receipt, storage, and security of licensed materials prior to loading on the research vessel. If authorized users will be meeting a research vessel at a remote location and receiving materials prior to boarding at that location, describe what procedures are in place for securing materials upon receipt until the authorized user takes possession of them.
  - c. Provide a diagram of a typical laboratory that licensed material will be used in on board the research vessel.
  - d. Since the space will be released at the end of the cruise, describe the procedure used to release the laboratory including who performs the surveys, what instruments are used, who reviews the surveys, how they are documented (what information is recorded on the document) and where the records are maintained.
4. Section 8.10.3, "Material Receipt and Accountability" of NUREG 1556 Vol. 11 dated April 1999 Program Specific Guidance About Licenses of Broad Scope provides guidance to licensees for including information in applications with regard to their receipt, use, transfer, and disposal of licensed material.
- a. Describe your administrative controls and provisions relating to materials controls, accounting and security.
  - b. Confirm that physical inventories will be conducted at intervals not to exceed 6 months to account for all sealed sources and devices received and possessed under the license.
5. Section 8.10.4, "Occupational Dose" of NUREG 1556 Vol. 11 dated April 1999 Program Specific Guidance About Licenses of Broad Scope provides guidance to licensees for including information in applications with regard to their individual monitoring program.
- a. Please provide information on your monitoring program for pregnant workers and minors.
  - b. Your application did not specify the instrument used in your bioassay program for determining activity in the thyroid. Please specify your instrumentation and calibration procedures, including the type of phantom you will use.
6. Section 8.10.7, "Surveys" of NUREG 1556 Vol. 11 dated April 1999 Program Specific Guidance About Licenses of Broad Scope provides guidance to licensees for including information in applications with regard to their survey program. Specify the criteria used to set the type and frequency at which routine surveys for airborne licensed materials are performed (e.g., breathing zone and general work area air sampling, hood and room ventilation air flow rate measurement, and stack effluent sampling). Describe the instrumentation that will be used for sample collection and analysis, the calibration method and frequency for each, and specify the lower limit of detection and action levels for each.
7. Section 8.11, "Waste Management" of NUREG 1556 Vol. 11 dated April 1999 Program Specific Guidance About Licenses of Broad Scope provides guidance to licensees for including information in applications with regard to their waste management program.

Provide your procedures for disposal of radioactive waste which cover waste generated on board the research vessel and its disposition; i.e. is it shipped back to Avery Point for packing and shipping to a disposal site, or is it shipped directly for disposal from the cruise end point. Also please confirm that no ocean releases occur; otherwise provide procedures for these releases and a commitment that they will be within the limits set forth in 10 CFR Part 20.1301. Suggested guidance that may be useful for developing your procedures can be found in Section 8.11 or Appendix T of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," dated December 1999.

8. NUREG 1556 Vol. 1 Rev. 1 dated November 2001 Program Specific Guidance About Portable Gauge Licenses provides licensing guidance for portable gauge users. Please address the following items.
  - a. Section 8.8, "Training for Individuals Working in or Frequenting Restricted Areas" provides guidance concerning the training requirements for portable gauge users. Confirm that before using licensed materials, authorized users will have successfully completed one of the training courses described in Criteria of the section of the above referenced NUREG.
  - b. Section 8.10.7, "Operating and Emergency Procedures" provides guidance concerning operating and emergency procedure requirements. Confirm **one** of the following:
    - i. We will implement and maintain the operating and emergency procedures in Errata Appendix H, "Operating, Emergency, and Security Procedures," dated July 5, 2005, and provide copies of these procedures to all gauge users and at each job site. OR
    - ii. Operating and emergency procedures will be developed, implemented, and maintained and will meet the criteria in Errata Appendix H, "Operating, Emergency, and Security Procedures," dated July 5, 2005.(attached)
  - c. Section 8.10.9, "Maintenance" provides guidance concerning the maintenance requirements for portable gauges. Confirm the following:
    - i. We will implement and maintain procedures for the routine maintenance of our gauges according to each manufacturer's recommendations and instructions.
    - ii. 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 rod from the gauge.
9. NUREG 1556 Vol. 5 dated October 1998 Program Specific Guidance About Self-Shielded Irradiator Licenses provides licensing guidance to owners of irradiators. Please address the following items:
  - a. Section 8.7.2, "Authorized Users" provides guidance concerning the training and experience requirements for authorized users. Confirm that before using licensed materials, authorized users will receive the training described in Appendix G in NUREG 1556, Vol. 5, dated October 1998.

- b. Section 8.9, “Facilities and Equipment” provides guidance concerning the facility requirements adequate to protect health and minimize danger to life or property. Confirm that you will ensure that each area where a self-shielded irradiator is located corresponds to the “Conditions of Normal Use” and “Limitations and/or Other Considerations of Use” on the applicable irradiator’s Sealed Source and Device Registration Certificate; the floor beneath a self-shielded irradiator is adequate to support the weight of the irradiator; each self-shielded irradiator is secured to prevent unauthorized access or removal; and each area where a self-shielded irradiator is located is equipped with an automatically operated fire detection and control system (sprinkler, chemical, or gas) or the location of the area and other controls ensure a low-level radiation risk attributable to fires.
  
- c. Section 8.10.69, “Facilities and Equipment” provides guidance concerning operating and emergency procedures. Confirm that operating and emergency procedures will be developed, implemented, maintained and distributed and will meet the Criteria in the section entitled, “Radiation Safety Program – Operating and Emergency Procedures” in NUREG 1556, Vol. 5, Dated October 1998.
  
- d. Section 8.10.8, “Maintenance” provides guidance on irradiator maintenance. Confirm the following:
  - i. We will implement and maintain procedures for the routine maintenance of our self-shielded irradiators according to each manufacturer’s (or distributor’s) written recommendations and instructions.
  - ii. We will have the self-shielded irradiator’s manufacturer (or distributor’s) or other person authorized by NRC or an Agreement State perform non-routine maintenance.

Current NRC regulations and guidance are included on the NRC's website at [www.nrc.gov](http://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. Your reply must be an originally signed and dated letter. The letter may be scanned and submitted as a pdf document attached to an email; or it may be transmitted by facsimile to (610) 337-5269; or it may be sent by regular mail. Please reply to my attention at the Region I Office and refer to Mail Control No. 589796. If you have any technical questions regarding this deficiency letter, please call me at (610) 337-5076.

In order to continue a prompt review of your application please respond within 30 calendar days from the date of this letter.

Regards,

*Robin L. Elliott*

Health Physicist - Medical Branch

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