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**To:** [twgrose@vims.edu](mailto:twgrose@vims.edu)  
**Cc:** [Miller, John](#)  
**Subject:** Renewal of U.S. NRC License No. 45-07112-01, MCN 588858  
**Date:** Monday, December 14, 2015 9:13:00 AM

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Docket No. 03006569  
License No. 45-07112-01  
Control No. 588858

Thomas W. Grose  
Director of Safety and Environmental Programs/Radiation Safety Officer  
College of William and Mary  
Virginia Institute of Marine Science (VIMS)  
P.O. Box 1346  
Gloucester Point, VA 23062

SUBJECT: COLLEGE OF WILLIAM AND MARY, REQUEST FOR ADDITIONAL INFORMATION  
CONCERNING APPLICATION FOR RENEWAL OF LICENSE, CONTROL NO. 588858

Dear Mr. Grose:

Please acknowledge receipt of this communication.

This is in reference to your application dated August 24, 2015 requesting to renew Nuclear Regulatory Commission License No. 45-07112-01. In order to continue our review, we need the following additional information:

1. In item number 3 of the application it asks for the address where licensed material will be used or possessed. Section 8.3 of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," instructs licensees to provide a location of use that specifies a street address and indicates that a post office box is not acceptable. However, in reviewing your recent inspection it was noted that since Virginia is now an Agreement State your license only covers material being used on research vessels operating in areas under NRC jurisdiction. If this is an accurate description of your locations of use, please confirm it in your response or revise as necessary.
2. As stated in Section 8.7.2 of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," provide a list of the proposed authorized users with the types and quantities of licensed materials to be used. Provide information demonstrating that each proposed user is qualified by training and experience to use the requested licensed materials. If the proposed user is currently named on the license, no qualifications need to be submitted.

3. Section 8.8 of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," provides licensees guidance on developing responses to item 8 on the application. As indicated in this guidance, please provide the following:
  - a. Confirm that the training provided to individuals frequenting restricted areas will be provided before they are required to access these areas and indicate the frequency with which re-training is provided.
  - b. Indicate when the training is provided for authorized users; i.e. initial training prior to granting authorization. Provide a description of the exam and its pass rate. In addition, indicate the frequency required for re-training and a general description of this training.
4. Section 8.9 of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," provides guidance to licensees on submitting responses to Item 9 regarding their Facilities and Equipment. Please provide the following information:
  - a. 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.
  - b. 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.
5. Section 8.10.2 of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," describes the information that licensees should provide in their application with regard to radiation monitoring instruments. Please provide a description of the instrumentation that will be used to perform required surveys and the following statement, "We will use instruments that meet the radiation monitoring instrument specifications published in Appendix M to 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. We reserve the right to upgrade our survey instruments as necessary."
6. Section 8.10.3 of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," describes the information that licensees should provide in their application with regard to material receipt and accountability. Please indicate whether you possess any sealed sources. If you will possess sealed sources, provide the following:
  - a. A statement that: "Physical inventories will be conducted at intervals not to exceed 6 months for all sealed sources and devices received and possessed under the license."
  - b. A description of the procedure for ensuring material accountability. Include

information about receipt of material that may need to be sent to another institution if your researcher is meeting a research vessel at a location other than at VIMS. Address the security of the material prior to the researcher's arrival.

- c. Please provide your leak test procedures. Appendix R of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," contains model leak test procedures and may be helpful to you in developing your response. If you elect to have another person perform the leak test, please submit the name of the person and the applicable U.S. Nuclear Regulatory Commission or Agreement State license number.
7. As stated in Section 8.10.4 of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," provide the following commitment: "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 in 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 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. Your application did not address general rules for safe and secure use of radioisotopes. Please confirm that you will develop general rules for safe and secure use of radioisotopes. Appendix P of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," provides general topics for safe and secure use of radioisotopes that may be helpful in developing your procedures.
9. Your application did not address emergency procedures. Please confirm that you will develop and post emergency procedures. Appendix P of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," provides model emergency procedures and may be helpful in developing your procedures.
10. Section 8.10.7 of NUREG 1556 Vol. 7, "Consolidated Guidance About Materials, Licenses Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope," describes the information that licensees should provide in their applications regarding surveys. Please provide a description of your survey program and state that: "We will survey our facility and maintain contamination levels in accordance with the survey frequencies and contamination levels published in Appendix Q to 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.
11. The waste management procedures you submitted were for your laboratories at VIMS which

are no longer covered by this license. 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 VIMS 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.

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. Please reply to my attention by letter or facsimile (610) 337-5269, at the Region I Office and refer to Mail Control No. 588858. 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 communication.

Regards,

*Robin L. Elliott*

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