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August 24, 2015

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Licensing Assistance Team  
Division of Nuclear Materials Safety  
U. S. Nuclear Regulatory Commission Region 1  
2100 Renaissance Blvd. Suite 100  
King of Prussia, PA 19406-2713

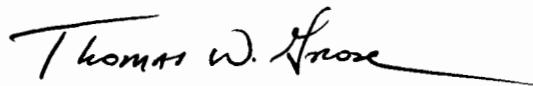
To: Licensing Assistance Team,

03006569

Please note our completed "Application for Materials License" and four (4), additional supplemental sheets which we have completed in an effort to renew our Materials License No. 45-07112-01. I hope that The Team finds our application and supplemental information complete and to your satisfaction.

If clarification of enclosed material is required or supplemental information necessary, please do not hesitate to contact me and we will attempt to answer questions or supply the necessary information directly.

Sincerely,



Thomas W. Grose

Director Safety & Environmental Prgms/RSO



**APPLICATION FOR MATERIALS  
LICENSE**

Estimated burden per response to comply with this mandatory collection request: 4.3 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the FOIA, Privacy, and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

**INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW. \*AMENDMENTS/RENEWALS THAT INCREASE THE SCOPE OF THE EXISTING LICENSE TO A NEW OR HIGHER FEE CATEGORY WILL REQUIRE A FEE.**

<p><b>APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:</b></p> <p>OFFICE OF FEDERAL &amp; STATE MATERIALS AND ENVIRONMENTAL MANAGEMENT PROGRAMS DIVISION OF MATERIALS SAFETY AND STATE AGREEMENTS U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555-0001</p> <p><b>ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:</b></p> <p><b>IF YOU ARE LOCATED IN:</b></p> <p>ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,</p> <p><b>SEND APPLICATIONS TO:</b></p> <p>LICENSING ASSISTANCE TEAM DIVISION OF NUCLEAR MATERIALS SAFETY U.S. NUCLEAR REGULATORY COMMISSION, REGION I 2100 RENAISSANCE BOULEVARD, SUITE 100 KING OF PRUSSIA, PA 19406-2713</p>	<p><b>IF YOU ARE LOCATED IN:</b></p> <p><b>ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:</b></p> <p>MATERIALS LICENSING BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION III 2443 WARRENVILLE ROAD, SUITE 210 LISLE, IL 60532-4352</p> <p><b>ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING,</b></p> <p><b>SEND APPLICATIONS TO:</b></p> <p>NUCLEAR MATERIALS LICENSING BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION IV 1600 E. LAMAR BOULEVARD ARLINGTON, TX 76011-4511</p>
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**PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.**

<p>1. THIS IS AN APPLICATION FOR (Check appropriate item)</p> <p><input type="checkbox"/> A. NEW LICENSE</p> <p><input type="checkbox"/> B. AMENDMENT TO LICENSE NUMBER</p> <p><input checked="" type="checkbox"/> C. RENEWAL OF LICENSE NUMBER <u>45-07112-012</u></p>	<p>2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)</p> <p>College of William and Mary Virginia Institute of Marine Science P.O. Box 1346 Gloucester Point, Virginia 23062</p>				
<p>3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED</p> <p>College of William and Mary Virginia Institute of Marine Science P.O. Box 1346 Gloucester Point, Virginia 23062</p>	<p>4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION</p> <p>Mr. Thomas W. Grose RSO</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">BUSINESS TELEPHONE NUMBER (804) 684-7152</td> <td style="width:50%;">BUSINESS CELLULAR TELEPHONE NUMBER (804) 815-5080</td> </tr> <tr> <td colspan="2">BUSINESS EMAIL ADDRESS <a href="mailto:twgrose@vims.edu">twgrose@vims.edu</a></td> </tr> </table>	BUSINESS TELEPHONE NUMBER (804) 684-7152	BUSINESS CELLULAR TELEPHONE NUMBER (804) 815-5080	BUSINESS EMAIL ADDRESS <a href="mailto:twgrose@vims.edu">twgrose@vims.edu</a>	
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SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

<p>5. RADIOACTIVE MATERIAL</p> <p>a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.</p>	<p>6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.</p>
<p>8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.</p>	<p>7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.</p>
<p>10. RADIATION SAFETY PROGRAM.</p>	<p>9. FACILITIES AND EQUIPMENT.</p>
<p>12. LICENSE FEES (Fees required only for new applications, with few exceptions*) (See 10 CFR 170 and Section 170.31)</p>	<p>11. WASTE MANAGEMENT.</p>

FEE CATEGORY	Not Applicable	AMOUNT ENCLOSED \$	0.00
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13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 37, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

<p>CERTIFYING OFFICER – TYPED/PRINTED NAME AND TITLE</p> <p>Thomas W. Grose Director Safety &amp; Environmental Programs/RSO</p>	<p>SIGNATURE</p> <p><i>Thomas W. Grose</i></p>	<p>DATE</p> <p>8-24-2015</p>
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**FOR NRC USE ONLY**

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	

Continuation of NRC Form 313

5. Radioactive Material:

a. Element & Mass Number	b. Chemical and/or Phys. Form	c. Max. Amt.
Hydrogen 3	Any	50 millicurie
Carbon 14	Any	75 millicurie
Phosphorus 33	Any	5 millicurie

6. Purpose for which Licensed Material will be Used:

Research and development as defined in 10 CFR 30.4.

7. Individual(s) responsible for Radiation Safety Program and Their Training Experience.

Thomas W. Grose is the Radiation Safety Officer (RSO) and has been since 1994. I possess a BS in Biology and a MS in Environmental Health/Industrial Hygiene. My initial radiation safety training was received in the mid-1980's as a Radiological Control Technician under the NAV-SEA-389-0288 program during which I attended training at Norfolk Naval Shipyard (NNSY). After completing 18 months of classroom and practical training I tested and qualified as a Certified Radiological Control Technician. I worked aboard nuclear powered submarines and surface craft in reactor compartments and nuclear spaces, and within land based nuclear repair facilities supervising all types of ship repair activities on nuclear propulsion equipment and performed environmental testing for radionuclides throughout NNSY in the air, soil and water. I was promoted to Instructor status after approximately 2 years as a Certified Technician and taught Radiation Safety to U.S. Navy, NNSY Civil Service and NNSY Contract employees. Since that time I have attended several 40 hour RSO and Advanced RSO training classes offered by Harvard University, University of North Carolina and Radiation Safety Associates classes over the years while employed as the RSO at the College of William & Mary/Virginia Institute of Marine Science (VIMS).

8. Training for Individuals Working in or Frequenting Restricted Areas

As Radiation Safety Officer, Thomas W. Grose is responsible for conducting the training for individuals working or frequenting Restricted Areas on the VIMS campus. Training is conducted in accord with 10 CFR 19.12 and individuals are

trained in accord with their respective duties and responsibilities. Personnel such as Housekeeping Staff, Maintenance personnel and Security Officers attend a basic introductory class in which the RSO discusses and demonstrates basic principles about radioactive material (RAM), the security issues in regard to RAM and Restricted Areas (RAs) in which RAM may be used or stored. The signs, symbols, labels and colors consistent with the designation of RAM are discussed and demonstrated in addition to the typical locations and designations where these may be used to warn of the presence of RAM. General precautions and restricted behaviors are discussed in regard to RAM and RAs, as well as, the basic responsibilities of these personnel should they discover a violation of safety or security associated with RAs or RAM. In addition, the RSO conducts a tour of several RAs for these employees to point out typical signage, work areas, types of equipment and RAM waste containers with particular emphasis on those areas and things that should be avoided. Basic emergency response procedures and responsibilities are reviewed as pertinent to these employees with emphasis upon contacting the RSO and their immediate Supervisors should they note something amiss and to “stand-by” and prevent others from becoming involved in the situation until the arrival of the RSO or their Supervisor. Periodic refresher training is held for these employees.

Authorized User’s (AUs) undergo significantly more training than those personnel who do not perform research directly with RAM. Typical training for AUs consists of 12-15 hours of lecture on principles of RAM, including protective measures, characteristics of ionizing radiation, dose and quantities of RAM, various detection type instruments including hand held and analytical laboratory instruments, the biological hazards of exposure to RAM with special emphasis on the types AUs use in research. Practical training includes safe handling and manipulation techniques, security practices for RAM, how to respond to a SPILL, the various types of RAM waste and how to secure and label them and how to assist the RSO in case of an incident or security breach involving RAM. A written exam must be taken and passed and a practical hands-on recovery of a spill clean-up and recovery.

## 9. Facilities and Equipment

Typical shipboard equipment (as supplied by the Research Organization ex. National Science Foundation) would include a secure laboratory facility specifically designated for RAM Research and include cabinetry, sink(s), non-porous work surfaces, a liquid scintillation counter (usually a Wallac or Beckman

May 19, 2005, to questions asked in NRC correspondence dated May 19, 2005, Docket No. 03006569, Control No. 136667.

Our current use of radioisotopes for research has declined significantly over the years and continues on the same track. We once were authorized to use thirteen (13) different radioisotopes and had thirteen (13) Principal Investigators. Our license now authorizes us to use three (3) radioisotopes and we have four (4) Principal Investigators of which only one (1) is actively conducting research with radioisotopes at this time.

#### 11. Waste Management

Radioactive waste is generally picked up by the RSO or a designated representative from laboratory accumulation areas and segregated into combustible solids, metal or glass, flammable, non-flammable, and aqueous liquids. The RAM waste is packaged in the appropriate type of container, weighted or volume determined and then appropriately labeled with all the pertinent information assigned to the labels and containers as required by law and regulation. The containers are closed and sealed in the appropriate manner and stored in a secure Restricted Area until picked up by a licensed RAM/Hazardous Waste Contractor to transfer the waste offsite to an appropriate disposal/recycle facility. We do not dispose of waste by any other method except by "decay in storage" when applicable.

This is to acknowledge the receipt of your letter application dated

8/24/15, and to inform you that the initial processing which includes an administrative review has been performed.

Renewal (45-07112-01) There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

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A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 588858.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.