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Frederick National Laboratory for Cancer Research  
REC RG1 10 21 '19 AM 08:33

October 11, 2019

Licensing Assistance Team  
U.S. Nuclear Regulatory Commission, Region I  
2100 Renaissance Boulevard, Suite 100  
King of Prussia, PA 19406-2713.

03019755


**Reference:** License Number 19-21091-01 – Impending RSO Retirement – New RSO

The purpose of this correspondence is to communicate my impending retirement, effective Friday, November 1, 2019, and the reassignment of RSO responsibilities to Paul Marshall.


See attached Paul Marshall Qualifications.

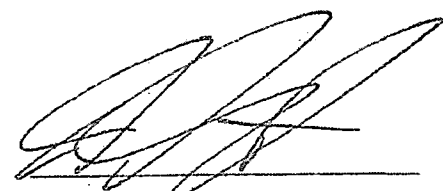
Please process this license amendment request as expediently as possible to ensure continued compliance with regulatory and License-specific Conditions.

V/R –

  
Jerry T. Moore  
Radiation Safety Officer  
Frederick National Laboratory for Cancer Research  
Leidos Biomedical Research, Inc.

Concurrences:

  
Kathy C. Terlesky, Ph.D.  
Chief Operating Officer  
Frederick National Laboratory for Cancer Research  
Leidos Biomedical Research, Inc.

  
Dwight V. Nissley, Ph.D.  
Radiation Safety Committee Chair  
Frederick National Laboratory for Cancer Research  
Leidos Biomedical Research, Inc.

*Leidos Biomed operates the Frederick National Laboratory for the National Cancer Institute.*

616959  
NMSS/RGN1 MATERIALS-002

<b>NRC FORM 313</b> (10-2019) 10 CFR 30.32, 33, 34, 35, 36, 37, 39, and 40	 <b>U.S. NUCLEAR REGULATORY COMMISSION</b>  <b>APPLICATION FOR MATERIALS LICENSE</b>	<b>APPROVED BY OMB: NO. 3150-0120</b> 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 Information Services Branch (T-5 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to <a href="mailto:InfoCollects.Resource@nrc.gov">InfoCollects.Resource@nrc.gov</a> , 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.	<b>EXPIRES: 10/31/2019</b>								
<b>INSTRUCTIONS: SEE THE CURRENT VOLUMES OF THE NUREG-1556 TECHNICAL REPORT SERIES ("CONSOLIDATED GUIDANCE ABOUT MATERIALS LICENSES") FOR DETAILED INSTRUCTIONS FOR COMPLETING THIS FORM: <a href="http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/">http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/</a>. SEND TWO COPIES OF THE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.</b>											
<b>APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:</b> MATERIALS SAFETY LICENSING BRANCH DIVISION OF MATERIAL SAFETY, STATE, TRIBAL AND RULEMAKING PROGRAMS OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555-0001  <b>ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:</b>  <b>IF YOU ARE LOCATED IN:</b> 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,  <b>SEND APPLICATIONS TO:</b> 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		<b>IF YOU ARE LOCATED IN:</b> ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:  MATERIALS LICENSING BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION III 2443 WARRENVILLE ROAD, SUITE 210 LISLE, IL 60532-4352  <b>IF YOU ARE LOCATED IN:</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>SEND APPLICATIONS TO:</b> NUCLEAR MATERIALS LICENSING BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION IV 1600 E. LAMAR BOULEVARD ARLINGTON, TX 76011-4511									
<b>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.</b>											
<b>1. THIS IS AN APPLICATION FOR (Check appropriate item)</b> <input type="checkbox"/> A. NEW LICENSE <input checked="" type="checkbox"/> B. AMENDMENT TO LICENSE NUMBER <u>19-21091-01</u> <input type="checkbox"/> C. RENEWAL OF LICENSE NUMBER _____		<b>2. NAME AND MAILING ADDRESS OF APPLICANT (Include zip code)</b> Jerry T. Moore (RSO) Leidos Biomedical - NCI at Frederick - PO Box B Frederick, Maryland 21702									
<b>3. ADDRESS WHERE LICENSED MATERIALS WILL BE USED OR POSSESSED</b> NCI at Frederick - PO Box B - 1050 Boyles Street Fort Detrick Frederick, Maryland 21702		<b>4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION</b> John Sater <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"><b>BUSINESS TELEPHONE NUMBER</b></td> <td style="width:50%;"><b>BUSINESS CELLULAR TELEPHONE NUMBER</b></td> </tr> <tr> <td style="text-align: center;">301-846-7336</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td colspan="2"><b>BUSINESS E-MAIL ADDRESS</b></td> </tr> <tr> <td colspan="2" style="text-align: center;">saterj@mail.nih.gov</td> </tr> </table>		<b>BUSINESS TELEPHONE NUMBER</b>	<b>BUSINESS CELLULAR TELEPHONE NUMBER</b>	301-846-7336	N/A	<b>BUSINESS E-MAIL ADDRESS</b>		saterj@mail.nih.gov	
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301-846-7336	N/A										
<b>BUSINESS E-MAIL ADDRESS</b>											
saterj@mail.nih.gov											
<b>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.</b>											
<b>5. RADIOACTIVE MATERIAL</b> a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.		<b>6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.</b>									
<b>8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.</b>		<b>7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE.</b>									
<b>10. RADIATION SAFETY PROGRAM.</b>		<b>9. FACILITIES AND EQUIPMENT.</b>									
<b>12. LICENSE FEES (Fees required only for new applications, with few exceptions*)</b> (See 10 CFR 170 and Section 170.31) *Amendments/Renewals that increase the scope of the existing license to a new or higher fee category will require a fee.		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"><b>FEE CATEGORY</b></td> <td style="width:30%; text-align: center;">N/A</td> <td style="width:20%;"><b>AMOUNT ENCLOSED \$</b></td> <td style="width:20%; text-align: center;">0.00</td> </tr> </table>		<b>FEE CATEGORY</b>	N/A	<b>AMOUNT ENCLOSED \$</b>	0.00				
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<b>PER THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (PUBLIC LAW 104-134), YOU ARE REQUIRED TO PROVIDE YOUR TAXPAYER IDENTIFICATION NUMBER. PROVIDE THIS INFORMATION BY COMPLETING NRC FORM 531: <a href="https://www.nrc.gov/reading-rm/doc-collections/forms/nrc531info.html">https://www.nrc.gov/reading-rm/doc-collections/forms/nrc531info.html</a>.</b>											
<b>13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.</b> 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.											
<b>CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE</b> Jerry T. Moore (RSO)		<b>SIGNATURE</b>  <b>DATE</b> 10/16/19									
<b>FOR NRC USE ONLY</b>											
<b>TYPE OF FEE</b>	<b>FEE LOG</b>	<b>FEE CATEGORY</b>	<b>AMOUNT RECEIVED</b>	<b>CHECK NUMBER</b>	<b>COMMENTS</b>						
			\$								
<b>APPROVED BY</b>				<b>DATE</b>							

## **Radiation Safety Officer (RSO) Qualifications Statement for Paul Marshall ~ For NRC/MDE RAM Licenses**

### Experience with types and quantities of materials listed on current NRC/MDE licenses.

Mr. Paul Marshall worked for Ecology Services, Inc., Columbia, MD, from 2002 through 2017 in various positions including LLRW Services Operations Manager and Radiological Decommissioning Services Operations Manager/Project Manager and was also a Vice President of the company. Mr. Marshall was listed as an authorized user under ESI Radioactive Materials (RAM) license MD-27-061-01 (issued by the Maryland Department of the Environment, Radiological Health Program) for radioanalytical and instrument calibration services, and under ESI RAM license MD-07-29-01 for LLRW/MW brokerage services and radiological decommissioning services. Mr. Marshall assisted company principal and RSO Tim Osborne in writing the latter license for ESI's LLRW storage facility in Curtis Bay, MD. Mr. Marshall led the effort to work with local community and trade organizations such that the required zoning variance was granted without issue. Mr. Marshall also wrote the RCRA Part B permit for this facility which allowed for the storage of Mixed Waste.

The types and quantities of radioactive materials on the ESI licenses exceed those of the current NCI at Frederick (NRC) and ATRF (MDE) licenses in both the diversity and quantity, except for the JL Shepherd Irradiators possessed under the current NRC License at Fort Detrick. The ESI licenses included transuranics and special nuclear material and the scope of services authorized included provision of waste management and decommissioning services that required high levels of radiation safety planning and project oversight. Mr. Marshall is experienced with irradiator structure, function and safety vis-à-vis various decommissioning projects he managed, a sample of which are listed below.

- Carnegie Mellon University blood irradiator source removal and disposal
- Yale University blood irradiator source removal and disposal
- Johnson & Johnson gamma-cell irradiator packaging and return to JL Shepherd
- NIST, various obsolete irradiators and calibration sources
  - Packaged several calibrators and irradiators into Type B cask for shipment to JL Shepherd
  - Removed Co-60 pencils from two NUMEG irradiators and packaged into shielded Type A drum for shipment to SWRI
  - Removal and packaging of numerous small sources for shipment and disposal at WCS
  - Removal and special form source encapsulation of two 1 Ci RaBe sources for disposal at US Ecology, Hanford, WA
- Removal, packaging and shipment to Barnwell, SC disposal site of the Rutgers University "Gamma-Greenhouse" Cesium source.

More recently, from 11/2017 through 8/2018 Mr. Marshall served as the Laser Safety Officer at the NCI at Frederick and FNLCR reporting to J.T. Moore, RSO. As LSO, Mr. Marshall managed the non-ionizing radiation program which encompassed lasers, magnetic fields, microwave and radio-frequency, and UV light. As part of the Radiation Safety Program he also performed package receipt and delivery, dosimetry distribution, and provided his expertise when requested for other day-to-day radiation safety issues.

### Education

Mr. Marshall has a B.S. in Biology, Chemistry minor, and a Master's Degree in General Administration.

### Training and Experience

Mr. Marshall received extensive training and experience on the job in his 15 years with Ecology Services, Inc. This training and experience are evidenced by his certification as a Registered Radiation Protection

Technologist (#16659) by the National Registry of Radiation Protection Technologists. Per the NRRPT web-site

*"A Radiation Protection Technologist is a person engaged in providing radiation protection to the radiation worker, the general public, and the environment from the effects of ionizing radiation. The Radiation Protection Technologist has a basic understanding of the natural laws of ionizing radiation, the mechanism of radiation damage, methods of detection, and hazards assessment. The Radiation Protection Technologists' tasks are accomplished by providing supervisory, administrative, and/or physical control, utilizing sound health physics principles in compliance with local and statutory requirements and accepted industry practices. The Radiation Protection Technologist mitigates hazards associated with radioactive material and ionizing radiation producing devices, always adhering to the "as low as reasonably achievable" philosophy."*

Mr. Marshall participated in a 40-hour course of instruction provided by Nevada Technical Associates leading up to his passing the NRRPT exam. Mr. Marshall is also a Certified Hazardous Materials Manager and routinely teaches the Radiation Safety portion of the CHMM exam prep course. He also possesses the Associate Safety Professional credential and will sit for the Certified Safety Professional exam in 2019. Finally, Mr. Marshall has participated annually in the Penn State Radiation Safety Roundtable for the past 15 years as well as numerous HPS annual and mid-year meetings and local HPS chapter meetings and activities, placing him within a strong network of radiation safety practitioners and RSO's.

As for the Gamma-Cell Irradiators possessed under the NRC NCI at Frederick RAM License..... Mr. Marshall has completed via self-study the Model Self-Shielded Irradiator Training Program specified in Appendix F of NUREG 1556 Vol. 5. He used the textbook "Basic Radiation Protection Technology" 6<sup>th</sup> edition by Daniel A. Gollnick along with the content of 10 CFR Parts 19, 20, 21 and 30 and NUREG-1566 Vol. 5 "Consolidated Guidance About Materials Licenses: Program Specific Guidance About Self-Shielded Irradiators", and NCI at Frederick RAM license, Radiation Safety Manual, policies, and procedures. Mr. Marshall will have the assistance of the Associate RSO, John Sater, who has over 25 years of experience working with the irradiators at the NCI Frederick. The Associate RSO will provide practical training specific to the NCI at Frederick irradiator operations and safety.

Finally, Mr. Marshall is enrolled in a 40-hour RSO training course offered by NV5 (aka Dade Moeller Training Academy) which he will complete in mid-November.



## ACKNOWLEDGEMENT - RECEIPT OF CORRESPONDENCE

## Name and Address of Applicant and/or Licensee

Jerry T. Moore  
Radiation Safety Officer  
Leidos Biomedical Research, Inc.  
NCI Campus at Frederick  
P.O. Box B  
Frederick, Maryland 21702-1201

## Date

November 13, 2019

## License Number(s)

19-21091-01

## Mail Control Number(s)

616959

## Licensing and/or Technical Reviewer or Branch

Commercial, Industrial, R&amp;D, and Academic Branch

This is to acknowledge receipt of your: ☒ Letter and/or ☐ Application Dated: 10/11/2019

The initial processing, which included an administrative review, has been performed.

☒ Amendment ☐ Termination ☐ New License ☐ Renewal☒ There were no administrative omissions identified during our initial review.☐ This is to acknowledge receipt of your application for renewal of the material(s) license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.☐ Your application for a new NRC license did not include your taxpayer identification number. Please fill out NRC Form 531, Request for Taxpayer Identification Number, located at the following link:  
<http://www.nrc.gov/reading-rm/doc-collections/forms/nrc531.pdf>

Send the completed NRC Form 531, by facsimile, to the following number: (301) 415-5387

☐ The following administrative omissions have been identified:

Your application has been assigned the above listed MAIL CONTROL NUMBER. When calling to inquire about this action, please refer to this control number. Your application has been forwarded to a technical reviewer. Please note that the technical review, which is normally completed within 180 days for a renewal application (90 days for all other requests), may identify additional omissions or require additional information. If you have any questions concerning the processing of your application, our contact information is listed below:

Select a location (Use keyboard arrows to select). . .