

National Aeronautics and
Space Administration
Goddard Space Flight Center
Greenbelt, MD 20771



September 22, 2006

Reply to Attn of: 250

Licensing Assistance Team
Division of Nuclear Materials Safety
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Br. 2

03004539

Subject: Amendment of License No. 19-05748-02 and 19-05748-03

Enclosed you will find two copies of NRC Form 313 requesting an amendment of our Byproduct Materials License #19-05748-02 and License #19-05748-03. Please replace Tad M. Blanchard with Daniel S. Simpson as the full time Radiation Safety Officer for NASA's Goddard Space Flight Center. Mr. Simpson has over 17 years of professional experience in radiation safety, including NRC licenses of broadscope and irradiators.

If you have any questions, please call Patrick Hancock at (301) 286-5605 or our Radiation Safety Officer at (301) 286-0280.

A handwritten signature in black ink, appearing to read "Armando M. Lopez". The signature is stylized with large loops and a long horizontal stroke.

Armando M. Lopez
Chief, Safety and Environmental Division

Enclosure

RECEIVED
REGION 1
2006 SEP 26 AM 10: 28

139462
NMSS/PCNI MATERIALS

APPLICATION FOR MATERIAL LICENSE

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.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
 OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
 U.S. NUCLEAR REGULATORY COMMISSION
 WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
 DIVISION OF NUCLEAR MATERIALS SAFETY
 U.S. NUCLEAR REGULATORY COMMISSION, REGION I
 475 ALLENDALE ROAD
 KING OF PRUSSIA, PA 19406-1415

IF YOU ARE LOCATED IN:

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

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
 U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
 611 RYAN PLAZA DRIVE, SUITE 400
 ARLINGTON, TX 76011-4005

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.

| | | | |
|---|--|--|-----------------|
| 1. THIS IS AN APPLICATION FOR (Check appropriate item) <input type="checkbox"/> A. NEW LICENSE <input checked="" type="checkbox"/> B. AMENDMENT TO LICENSE NUMBER <u>19-05748-02</u> <input type="checkbox"/> C. RENEWAL OF LICENSE NUMBER _____ | | 2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code) National Aeronautics and Space Administration (NASA) Goddard Space Flight Center/Code 250.2 8800 Greenbelt Road Building 22, Room 070J Greenbelt, MD 20771-0001 | |
| 3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED NASA, Goddard Space Flight Center, Greenbelt, MD; Wallops Flight Facility, Wallops Island, VA and at temporary job sites of the licensee anywhere in the US. In addition, specific licensed material may be used and stored at temporary job sites on board ships in US coastal waters, at sea, and in inland waters. | | 4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION Daniel S. Simpson TELEPHONE NUMBER (301) 286-0280 | |
| 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. | | | |
| 5. RADIOACTIVE MATERIAL a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time. | | 6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED. | |
| 7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE. | | 8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS. | |
| 9. FACILITIES AND EQUIPMENT. | | 10. RADIATION SAFETY PROGRAM. | |
| 11. WASTE MANAGEMENT. | | 12. LICENSE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY EXEMPT AMOUNT ENCLOSED \$ 0.00 | |
| 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, 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. | | | |
| CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE Armando M. Lopez, Chief, Safety and Environmental Division | | SIGNATURE  | DATE 9/22/06 |

FOR NRC USE ONLY

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

Amendment to NRC Materials License 19-05748-02 and License 19-05748-03 (ITEM 7)

(Ref: NUREG 1556, Volume 11, Paragraph 8.7.3: Applicant Responses)

Submit the name of the proposed Radiation Safety Officer (RSO):

Response

Daniel S. Simpson

Describe the training and experience for the proposed RSO that demonstrates the individual is qualified to perform the duties required under the license:

Response

Mr. Simpson has 17 years of experience with the Radiation Protection Programs during his 21 years in the United States Navy. He has previously performed duties of a Radiation Safety Officer at other NRC Broadscope Licensees facilities. Mr. Simpson's complete resume is shown in Appendix A.

Submit a statement delineating the RSO's duties and responsibilities:

Response

The RSO performs preliminary reviews of new uses and users of licensed radioactive materials prior to the formal review by the Radiation Safety Committee (RSC). The RSO is responsible for area monitoring and surveying all areas in which radioactive material is used or stored. The RSO will maintain oversight of radioactive material orders, receiving, surveying and delivery of byproduct material. The RSO will maintain HAZMAT training to perform the packaging, labeling, surveying and processing of all shipments of byproduct material leaving the Center. The RSO will oversee the personnel and area monitoring program which will include the determination of the need for and evaluation of bioassays, monitoring personnel exposure records and otherwise developing action limits for exposures approaching maximum permissible limits. The RSO will provide training of all radioactive material users. The RSO will provide oversight and control over the waste disposal program. The RSO will be responsible for insuring that accurate inventory and leak testing is performed on sealed sources. The RSO will provide oversight and assist with decontamination procedures. The RSO will investigate incidents and respond to emergencies. The RSO will perform audits of all areas of use and individuals who are authorized to use byproduct and licensed materials and maintain all required Radiation Protection Program records. The RSO will allocate all of his time to the NASA-GSFC Radiation Protection Program to ensure compliance with the responsibilities as outlined in NUREG 1556, Volume 11, Section 8.7.3.

Submit a Radiation Safety Officer Delegation of Authority signed by the licensee's executive management:

Response

See Appendix B: Delegation of Authority letter. The RSO will be available 24 hours per day for responses to inquiries, incidents or emergencies. Response time to the facility during an emergency should not exceed 2 hours. During any absence of the RSO, Mr. Patrick A. Hancock shall fulfill the position of in-house representative and will serve as the point of contact. Mr. Hancock shall assist in implementing and assuring compliance with regulatory requirements and license commitments.

APPENDIX A:

Daniel Simpson's Resume

Daniel S. Simpson

WORK EXPERIENCE

Armed Forces Radiobiology Research Institute
Bethesda, Maryland

5/2006 - 8/2006

Supervisory Health Physicist

As the Radiation Safety Officer (RSO), provided expert consultation on health physics issues to varying levels of employees working with sources of ionizing radiation in a large Department of Defense Research and Development Facility.

As the resident expert on radiological matters, advised researchers, general radiation workers, and upper management on the interpretation, intent, or impact of key radiation materials, technology, programs, legislations, court decisions, and scientific findings.

Planned, directed and conducted special studies and surveys for researchers using radioactive material for medical and biosafety research. This included solution of highly sensitive problems dealing with radiological health hazards associated with sensitive government protocols.

The only individual in the Department of Defense to service as Radiation Safety Officer for THREE distinctly different Nuclear Regulatory Commission (NRC) licensed programs involving an array of sophisticated and complex radioactive sources and systems.

The first license was for a medium-sized 1.0-MW research reactor that generates neutrons and gamma rays for radiation experiments.

The second license was for a cobalt-60 irradiation facility which contains more than 450,000 Curies of cobalt, providing researchers large uniform gamma-ray fields with a wide range of exposure configurations.

The third license was a Broad Scope use of radioisotopes by researchers for various experimental analyses.

Oversaw the safety aspects of the Linear Accelerator (LINAC), Industrial X-Ray machine and the medical X-Ray machines.

**PERSONAL INFORMATION WAS REMOVED
BY NRC. NO COPY OF THIS INFORMATION
WAS RETAINED BY THE NRC.**

Daniel S. Simpson

Corbin Company
Bethesda, Maryland

2/2006 - 5/2006

Radiation Safety Consultant

After retiring from the Navy, become a consultant for the Corbin Company where I oversaw the radiation safety programs for the Armed Forces Radiobiology Research Institute, a triservice Research and Development laboratory, which conducts research in the field of radiobiology and related matters essential to the operational and medical support of the U.S. Department of Defense and the military services.

Radiation Physicist

Advised senior researchers on the most unusual, complex and critical problems identified during my review of experimental procedures and during emergency responses involving radioactive materials identified on three NRC radiological licenses

Armed Forces Radiobiology Research Institute
Bethesda, Maryland

8/2003 - 2/2006

Head, Safety and Health Department

Oversee the Safety programs for Armed Forces Radiobiology Research Institute, a triservice Research and Development laboratory, which conducts research in the field of radiobiology and related matters essential to the operational and medical support of the U.S. Department of Defense and the military services.

Radiation Physicist

The Radiation Safety Officer (RSO) providing leadership and guidance on the full range of radiation safety matters related to the Institute's use and testing of radioactive material, including matters related to the Environment, to the radioactive waste that is generated, and ensuring the Institute's remains in compliance with its three Nuclear Regulatory Commission (NRC) radiological licenses. The first license is for a medium-sized 1.0-MW research reactor that generates neutrons and gamma rays for radiation experiments and is a primary source at Armed Forces Radiobiology Research Institute. The second license is the cobalt-60 Irradiation Facility which contains more than 450,000 curies of cobalt, providing researchers large uniform gamma-ray fields with a wide range of exposure configurations. The third license is a broad scope use of radioisotopes by researchers for various experimental analyses. In addition, oversee the safety aspects of the linear accelerator (LINAC), industrial X-Ray machine and the Medical X-Ray machines used by the Veterinary Sciences Department (VSD).

Daniel S. Simpson

Consulted with research scientists to resolve complex and unprecedented issues arising from research protocols, new equipment capabilities, applications and environmental aspects. Conducted on-site audits of the researchers' protocols to ensure that they were in compliance with all relevant regulations and laws.

Advised radiation workers on all aspects of health physics, including disaster planning for accidents involving radiation exposure and radioactive contamination, and design criteria for renewal of their protocols.

Conducted radiation safety lectures and demonstrations for all personnel ranging with audiences of one-on-one to groups in the hundreds. Also, instructed these same personnel in the use of monitoring equipment, safety laboratory practices, decontamination methods and the process to get radiation levels as low as reasonably achievable (ALARA).

Evaluation of radar units that were to be installed on United States Navy submarines resulted in a cost avoidance of approximately \$2 million dollars.

Site inspections and program review of TWELVE facilities located worldwide in a limited timeframe for the Defense Threat Reduction Agency ensured that mission requirements were not compromised for a number of Joint and Tri-Service campaigns.

**Naval Medical Research Center
Silver Spring, Maryland**

5/2000 - 7/2003

Director of Safety

As a technical authority in health physics, have simultaneously headed up the radiation safety programs for both the Navy's, Army's and the Department of Defense's primary research facilities and had oversight for the radiation safety programs at SEVEN research labs located worldwide. At these locations performed critical review of scientific and technical procedures, methodologies, inspections, and investigations for scientific and regulatory policy implication, and impact on overall scientific activities and priorities, in areas that required extensive interpretation. This interpretation was in the area of balancing all the regulatory requirements associated with local, military, state, foreign and federal requirements.

Presented reviews, conclusions, and recommendations to upper management and radiation safety committees on authorization and license requests, emissions permitting, research protocols, environmental impact statement, inspection reports, inspection data and analytical evidence, scientific and technical data for consideration on all regulatory actions.

Provided expert authoritative advice on (and directed) investigations, monitoring, surveys and testing to identify the existence and extent of release, the source and nature of the

Daniel S. Simpson

radiological substance(s) involved, and the threat or danger to employees, public health, or the environment.

Reviewed the adequacy of over 300 protocols for design of studies, sample size considerations, training and medical surveillance requirements, and methodology.

Conducted administrative review of over 1500 laboratory records and inspection reports that had listed using radioactive materials. This review assessed and determined if there was any evidence of violations of federal regulations, which required administrative action.

Reviewed and evaluated all proposals for the non-human use of radioactive material within the command and makes recommendations to users on appropriate protection measures. Over saw the Radiation Safety Committee that provided technical advice to the command on radiation safety for personnel and facilities, reviewed infractions of safety procedures, and provides consultation on non-ionizing radiation. Coordinated with the Walter Reed Army Medical Center (WRAMC) Radiation Protection Program, providing input to the WRAMC Radiation Control Committee, and ensured that WRAIR/NMRC had functional representation on the Radiation Control Committee.

Played a lead role in policy development for both the Army and Navy's radiation safety programs and provided technical assistance/feedback to policy makers in the Department of Defense on the specific research being conducted.

**Naval Undersea Medical Institute
Groton, CT**

1/1997 - 4/2000

Head, Health Physics Department

Made recommendation on all the organization guidelines that affected radiation programs, which were important to meeting the organization's mission.

Prepared and processed all the documentation for the renewal of each of the radioactive licenses that belong to the organization.

Reviewed health physics reports and documentation in the areas of radiation inspections, investigations, and laboratory analyses to evaluate overall impacts on the organization.

As a project manager, developed new approaches to dealing with critical problems on a Naval Submarine that were highly unstructured and interconnected, and involved both difficult technology and complex human relations and programmatic issues.

Provided advice to upper management and senior technical experts on complicated and unusual problems. This advice included evaluation of radiation hazards and a

Daniel S. Simpson

development of new hypotheses related to radioactive exposure to Navy personnel assigned to submarines.

Provided expert evaluation of imminent health threats from incidents involving radioactive materials associated with Naval submarines and shipyard maintenance upkeep.

Was consistently called upon by field activities as the subject matter expert in radiation health.

Have completed over 200 hours of didactic training in radiation safety and protection as required by 10 CFR 35.50(b)(1)(i).

United States Navy
Various Locations, Various Locations

6/1988 - 12/1996

Radiation Health Officer

- Qualified as a Nuclear Plant Reactor Operator under the United States Nuclear Regulatory Commission
- Researched and developed a submersible cylinder to be used in a cobalt-60 water-well irradiator. Dose mapping was performed used dye dosimeters.

Organized and facilitated the following courses:

- Industrial Radiation Safety Officer course
- X-Ray Radiation Safety Officer course
- Radiographic Safety course

Worked with the following programs:

- Naval Nuclear Reactors
- Naval Nuclear Weapons
- Industrial Radiography
- Naval Medicine

EDUCATION

University of Mass-Lowell, Lowell, MA

Master's Degree - 12/1996, 44 Semester Hours, Major: Health Physics

David Lipscomb College, Nashville, TN

Bachelor's Degree - 6/1982, 198 Quarter Hours, Major: Chemistry, Minor: Math

Daniel S. Simpson

JOB RELATED TRAINING

Nuclear, Radiation & High Yield Explosives course, fall 2005

Chemical Warfare & Emergency Management course, spring 2005

Biological Terrorism & Homeland Security course, fall 2004

DOT & NRC requirements for shipping and receiving radioactive materials, 2004

J.L. Shepherd Model 81 Co-60 Panoramic Irradiator operator certified, 2004

Steris VHP 1000 Generator Safety Training Course, Silver Spring, MD 2003

Radiological Systems Performance Evaluation Course, Bethesda, MD, 1998

Commercial Radiation Safety Officer Course (40 hours), Radiation Safety Associates, Inc, Hartford, CT, 1998

Medical Effects of Ionizing Radiation, Groton, CT, 1997, 2004

Laser Safety & Measurement Workshop, Virginia Beach, VA, 1997

Certified Reactor Operator for a 1 MW research reactor, Lowell, MA, 1996

Mammography X-Ray Survey course, Virginia Beach, VA, 1994

Nuclear Regulatory Commission Radiographic Safety Officer course, Amersham, MA, 1993

Nuclear Regulatory Commission Radiation Safety Officer course (6 weeks), Oakridge, TN, 1992

Radiographic Safety course, Yorktown, VA, 1991

Naval Radiation Safety Officer Course, Yorktown, VA, 1991

Emergency Medical Technician, Annapolis, MD 1985

AFFILIATIONS

American Academy of Health Physics Associate Member
Health Physics Society Associate Member

Daniel S. Simpson

ADDITIONAL INFORMATION

UMASS-572-Radiation Biology, 3 Semester hours
UMASS-506-Nuclear Instrumentation, 4 Semester hours
UMASS-501/502-Radiation Safety and Control, 8 Semester hours
UMASS-555-Physics of Radiation, 4 Semester hours
UMASS-532-Nuclear Radiation Shielding, 3 Semester hours
UMASS-516-Internal Radiation Dosimetry, 3 Semester hours
UMASS-531-Radiation Dosimetry, 3 Semester hours
UMASS-683-Advanced Reactor HP Intern, 6 Semester hours
DLC-Calculus, 12 quarter hours
DLC-Chemistry, 24 quarter hours

Completed one year radiation safety experience under the supervision of the Radiation Safety Officer for the Naval Medical Clinic, Groton CT to fulfill 10 CFR 35.50(b)(1)(ii) requirement.

Have completed over 200 hours of didactic training as in radiation safety and protection as required by 10 CFR 35.50(b)(1)(i)

National Registry of Radiation Protection Technologists, Certified 13 August 2005

Certified by the Radiation Safety Academy for DOT & NRC Hazardous Materials Class 7 Radioactive Materials requirements for Shipping and Receiving Radioactive Materials on 14 September 2004

APPENDIX B:

Delegation of Authority Letter

National Aeronautics and
Space Administration
Goddard Space Flight Center
Greenbelt, MD 20771



August 28, 2006

Reply to Attn. of: 250

FROM: 250/Chief, Safety & Environmental Division
TO: 250.2/Mr. Daniel Simpson
SUBJECT: Delegation of Authority for Radiation Safety Officer

You have been appointed as the Goddard Space Flight Center Radiation Safety Officer. You are responsible for managing the radiation safety program; identifying radiation safety problems; initiating, recommending, or providing corrective actions; verifying implementation of corrective actions; and ensuring compliance with regulations and Nuclear Regulatory Commission (NRC) license requirements for the use of byproduct material. You are delegated the authority necessary to meet these responsibilities.

You have the authority to immediately stop any operations involving the use of byproduct material in which the health and safety may be compromised or may result in non-compliance with NRC requirements.

A handwritten signature in black ink, appearing to read "Armando M. Lopez, Jr.", written over a circular stamp that contains the text "ORIGINAL ACQUIRED BY".

Armando M. Lopez, Jr.

cc:
250/Mr. Hancock
250.2/Mr. Blanchard

This is to acknowledge the receipt of your letter/application dated

9/22/2006, and to inform you that the initial processing which includes an administrative review has been performed.

Amendments 19-05748-02/19-05748-03 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

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** 139462/139463
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.