



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE
KANSAS STREET
BUILDING 42
NATICK, MA 01760-5007

December 18, 2010

Office of the Commander

Br. 2

RECEIVED
REGION 1
2010 DEC 28 AM 11:34

Licensing Assistance Team
Division of Nuclear Materials Safety
U.S. Nuclear Regulatory Commission Region 1
475 Allendale Road
King of Prussia, PA 19406-1415

Dear Sir/Ma'am:

03036434

We would like to request that one amendment be made to Nuclear Regulatory Commission Materials License 20-30847-01. We request that Mr. Jeffrey F. Oliver (USARIEM's Safety Officer) be made USARIEM's Radiation Safety Officer (RSO) to replace the current RSO, Michael D. Blaha. Mr. Blaha may remain on the license as an authorized user.

Attached to this amendment request you will find documentation outlining Mr. Oliver's training and work experience. Mr. Oliver attended the 40-hour radiation Safety Officer Course offered by Radiation Safety Academy (September 2009) and has since been working with Mr. Blaha to help manage USARIEM's Radiation Safety Program.

I can be reached at (508) 233-4811 for additional information.

Sincerely,

Gaston P. Bathalon
Colonel, US Army
Commanding

Enclosure

574146
NMSS/RGN1 MATERIALS-002

NRC FORM 313 (3-2009) 10 CFR 30, 32, 33, 34, 35, 36, 39, and 40	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB: NO. 3150-0120 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 Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to 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.	EXPIRES: 3/31/2012			
APPLICATION FOR MATERIALS 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: OFFICE OF FEDERAL & STATE MATERIALS AND ENVIRONMENTAL MANAGEMENT PROGRAMS DIVISION OF MATERIALS SAFETY AND STATE AGREEMENTS U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555-0001		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				
ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS: IF YOU ARE LOCATED IN: 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, 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: 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, SEND APPLICATIONS TO: NUCLEAR MATERIALS LICENSING BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION IV 612 E. LAMAR BOULEVARD, SUITE 400 ARLINGTON, TX 76011-4125				
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>20-30847-01</u> <input type="checkbox"/> C. RENEWAL OF LICENSE NUMBER _____		2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code) COL Gaston P. Bathalon, Commander USARIEM Kansas Street, Bldg. 42 Natick, MA 01760				
3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED USARIEM Kansas Street, Bldg. 42 Natick, MA 01760		4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION COL Gaston P. Bathalon TELEPHONE NUMBER <p style="text-align: center;">(508) 233-4811</p>				
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) <table style="width:100%; border: none;"> <tr> <td style="border: none;">FEE CATEGORY</td> <td style="border: none;">AMOUNT ENCLOSED</td> <td style="border: none;">\$</td> </tr> </table>		FEE CATEGORY	AMOUNT ENCLOSED	\$
FEE CATEGORY	AMOUNT ENCLOSED	\$				
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 COL Gaston P. Bathalon, Commander USARIEM		SIGNATURE 	DATE 20 DEC 10			
FOR NRC USE ONLY						
TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS	
			\$			
APPROVED BY				DATE		

Items 5 – 12 for NRC Form 313

5. Radioactive Material: Same as listed on Original License # 20-30847-01.
6. Purpose for which licensed material will be used: Same as listed on Original License # 20-30847-01.
7. Individual responsible for Radiation Safety Program and their training experience: Mr. Jeffrey F. Oliver. Mr. Oliver's experience is detailed in the amendment memorandum.
8. Training for individuals working in or frequenting restricted areas: Bi-annual training will be performed by our RSO for individuals likely to receive an annual radiation dose in excess of 100mREM.
9. Facilities and Equipment: Gamma counter (Perkin Elmer 10 channel Wizard).
10. Radiation Safety Program: Same as listed on Original License #20-30847-01, but with change of RSO name.
11. Waste Management: Same as listed on Original License #20-30847-01.
12. License Fees Category: Same as listed on Original License #20-30847-01.

RADIOACTIVE MATERIAL

<u>Element and Mass Number</u>	<u>Chemical and/or Physical Form</u>	<u>Maximum Activity</u>
Hydrogen – 3	Any	100 mCi
Carbon – 14	Any	100 mCi
Phosphorus – 32	Any	10 mCi
Phosphorus – 33	Any	10 mCi
Sulphur – 35	Any	10 mCi

PURPOSE(S) for WHICH LICENSED MATERIAL WILL BE USED

Research and development in laboratory analysis, exploration or experimentation; or the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, materials, and processes to include substrate analysis. This may include the internal or external administration of byproduct material, or the radiation therefrom into cell cultures and/or animal models. This **will not include** the administration of radioactive material to human beings.

**INDIVIDUALS RESPONSIBLE for RADIATION SAFETY and THEIR
TRAINING EXPERIENCE**

Mr. Jeffrey F. Oliver, U.S. Army Research Institute of Environmental Medicine, Radiation Safety Officer (RSO)

Vocational Experience with Radiation:

Alternate Radiation Safety Officer, September 2009 – Present, U.S. Army Research Institute of Environmental Medicine

FAX: 508 233-5298 **email: Jeffrey.oliver5@us.army.mil**

Radiation Training, Formal Courses:

Radiation Safety Officer Course – Radiation Safety Academy, Gaithersberg, MD (40Hrs, Sept 2009)

Experience/Training:

USARIEM Safety Officer – Responsible for all safety programs (2008-present).

RCRA-Manifesting (40CFR262.20) 11/9/1998

Hazardous Waste Operations-40 hour (29CFR1910.120(e)(3)I) 9/14-18/1998

RCRA-Manifesting (40CFR262.20) 8/23/1999

RCRA/DOT Hazardous Waste Management Training (40CFR265.16 & 49CFR172.704) 9/29/2000

OSHA Training for Confined Space Entry & Rescue (29CFR1910.146 & 29CFR1926.956) 10/23/2000

#501 Trainer Course in Occupational Safety & Health Standards for General Industry(1/1/2002)(2.5CEUs)

#521 OSHA Guide to Voluntary Compliance in the Industrial Hygiene Area 6/28/2002 (2.5 CEU's)

#2225 OSHA Respiratory Protection 6/10/2004 (1.5 CEU's)

#7845 OSHA Recordkeeping Rule 7/23/2004 (0.4 CEU's)

OSHA General Industry Occupational Safety and Health Standards 11/ 7-10/2005 (3.0 CEU's)

#503 Update for OSHA General Industry Outreach Trainers 4/14/2006 (1.7 CEU's)

OSHA Construction Outreach (10-hour) 4/22/2006

The Essentials of OSHA Compliance 1/12/2007 (1.2 CEU's)

Biosafety & Biosecurity for Research Laboratories 3/28-29-2007

OSHA 8-hour Hazardous Waste and Emergency Operations Refresher (29CFR1910.120) 4/3/2007

NCOS-7205 OSHA Health Hazard Awareness 5/16/2008 (0.7 CEU's)

DoD Information Assurance Awareness 8/2009

Privacy Act and HIPPA Operations Training 9/15/2009

Respiratory Protection Training 2009

Environmental, Safety and Health Training 2009
Regulatory Compliance Training 2009
Radiation Safety Officer with LSC Fundamentals 9/25/2009 (40 Hrs, CM Approval #09-212)
Personally Identifiable Information Version 1.0 9/30/2009
Environmental Management System (EMS) Internal Auditor Training 10/5-6/2009
Composite Risk Management Civilian Basic 11/17/2009
Bloodborne Pathogens 11/23/2009
Laboratory Safety 11/23/2009
Commanders Safety Course 12/31/2009
Military Briefings 1/1/2010
FEMA Emergency Planning IS-00235 2/4/2010 (1.0 IACET CEU)
Radiation Safety (The Basics) 3/26/2010
FEMA Radiological Emergency Management IS-00003 3/30/2010 (1.0 IACET CEU)
Annual EMS Training Awareness 4/6/2010
Privacy Act and HIPPA Operations Refresher 3/2010
FEMA Introduction to the Incident Command System, ICS – 100 5/25/2010 (0.3 IACET CEU)
FEMA ICS for Single Resources and Initial Action Incidents, ICS – 200 5/28/2010 (0.3 IACET CEU)
Hazardous Waste Management Refresher 6/16/2010
Anti Terrorist Level 1 Awareness Training 6/22/2010
Information Assurance Awareness Training 6/24/2010
DoD Information Assurance Awareness Training 6/28/2010
MEMA Incident Command System 300 (ICS-300) Training 7/7-8-9/2010
Safety Committee Member Training (MRMC Course) 7/12/2010
The Supervisor's Safety Course 12/10/2010
FEMA National Response Framework, An Introduction IS-00800.b (0.3 IACET CEU) 15/12/2010
System Safety in Systems Engineering CLE009 Section 888 (CLPs: 3.5) 12/16/2010

Mr. Michael D. Blaha, U.S. Army Research Institute of Environmental Medicine, Authorized User of radionuclides under NRC license #20-30847-01

Vocational Experience with Radiation:

Radiation Safety Officer September 2009 - Present
U.S. Army Research Institute of Environmental Medicine
FAX: 508 233-5298 email: michael.blaha@us.army.mil

Education:

1972 B.S. (Biology), C.W. Post College, L.I.U.
1989 M.S. Food/Nutrition, Framingham State College
1983 – Present Research Biologist, United States Army Research Institute of
Environmental Medicine, Natick, Massachusetts

Radiation Training, Formal Courses:

Radiation Safety Officer Course – Radiation Safety Academy, Gaithersberg, MD (40Hrs, Sept 2009)

Also, college coursework related to radionuclides: Physics (1 yr), Biochemistry (1 ½ yr), Nutritional Biochemistry (Food Irradiation).

Radiation-Related Experience:

On-the-job training and experience since 1975 with the following radionuclides:

P³² exchange determinations

C¹⁴

H³

S³⁵

I¹²⁵

[All of the above were µCi activities as part of laboratory assays or kits]

As Lab Manager for 20 years I have trained numerous military and civilian employees in how to safely handle and conduct assays involving radionuclides.

Attended approximately 12 annual Radiation Safety Training sessions run by Paul Angelis, the Radiation Safety Officer.

Had been a participating member of the Natick Soldier System's Center's Radiation Safety Committee from 1994-2004, a group tasked with upholding the NRC license requirements for all Principal Users and Radiation Workers at the Natick Facility.

Have an outstanding safety record and reputation for fastidious work.

**TRAINING for INDIVIDUALS WORKING IN OR FREQUENTING
RESTRICTED AREAS**

Individuals who receive, transfer, store or use radioactive materials and are likely to receive in a year an occupational dose in excess of 100 mREM (1mSv), shall **bi-annually** be trained of the precautions or procedures to minimize exposure, health protection problems associated with exposure to radioactive materials and the purposes and functions of protective devices employed. **Bi-annual training** will be IAW NRC Regulatory Guide 8.29 (Instruction Concerning Risks from Occupational Radiation Exposure) for their protection from exposure to ionizing radiation. Training will be before duties with or in the vicinity of radioactive materials and will be re-instructed whenever there is a significant change in duties, regulations or terms of NRC License. **Bi-annual training will be conducted by Mr. Jeffrey Oliver, Radiation Safety Officer. Training may be assessed by course content exams.**

This training will also include:

Waste Management, see Reference NRC Form 313 Item #10, section 13.

Installation's ALARA Policy, see Reference NRC Form 313 Item #10, section 6, and their appropriate response to an unusual occurrence or emergency that may involve radioactive material contamination with or without injuries, see Reference NRC Form 313 Item #10, Appendix B.

FACILITIES and EQUIPMENT**Facilities:**

Locations within the U.S. Army Research Institute of Environmental Medicine (USARIEM) where radioactive materials are stored or used are conventional chemical, biological, and physical science laboratories. Laboratories are equipped with laboratory hoods where necessary, lockable refrigerators or freezers for storage of radioactive materials, sinks connected to the municipal sanitary sewerage system, impervious laboratory bench top working areas, etc. There are no changes in the locations and characteristics of the laboratories where radioactive materials will be stored or used or in the receiving area for the Institute.

Low Level Radioactive Waste (LLRW) is held in a LLRW secure enclosure, located on the Penthouse fourth floor of USARIEM.

Radiation Detection Instrumentation:

Portable Survey Instruments

<u>Manufacturer</u>	<u>Model #</u>	<u>Qty</u>	<u>Radiation Measured</u>
Eberline Instrument Corp	E-530	2	Gamma Monitor

We reserve the right to upgrade our survey instruments as necessary.

Radiation Laboratory (counting room) Instrumentation

<u>Manufacturer</u>	<u>Model #</u>	<u>Detector</u>	<u>Radiation Measured</u>
Packard	1900 TR	Tri CarbLiquid Scintillation Analyzer	Beta
Perkin Elmer	Wizard	End-well Type (10) Thailium activated sodium Iodide crystal	Gamma

We will use instruments that meet the radiation monitoring instrument specifications published in Appendix M to NUREG-1556, Volume 7.

Calibration Frequency:

Portable Survey Instruments will be calibrated at least annually commercially, after a repair or as determined necessary by the RSO. Radiation Laboratory instruments will be calibrated as required for usage. See Reference NRC Form 313 Item #10, Appendix C.

Monitoring and Radioactive Contamination.

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 10CFR 20 or we will monitor individuals in accordance with the criteria in the section entitled "Radiation Safety Program-Occupational Dose" in NUREG-1556, Volume 7".

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, Volume 7. Leak tests will be performed at the intervals approved by the NRC and specified in the Sealed Source and Device Registration Certificate. Leak tests will be performed by an organization authorized by NRC to provide leak testing services to other licensees or using a leak test kit supplied by an organization authorized by NRC to provide leak test kits to other licensees and according to the sealed source or plated foil manufacturer's (distributor's) and kit supplier's instruction. As an alternative, we will implement the model leak test program published in Appendix R to NUREG-1556, Volume 7.

We will develop and maintain procedures for ensuring material accountability.

Emergency Procedures.

The procedures for safe use, including security of material, and emergencies have been developed. These procedures may be revised only if 1) changes are reviewed and approved by the licensee management and the RSO in writing; 2) the staff is provided training in the revised procedures prior to the implementation; 3) the changes are in compliance with the NRC regulations and the license; and 4) the changes do not degrade the effectiveness of the program.

Mr. Jeffrey F. Oliver
USARIEM Radiation Safety Officer

Reference NRC Form 313 Item #11.

WASTE MANAGEMENT

We will use the model Decay-in-Storage and Disposal of Liquids into Sanitary Sewer model waste procedures that are published in Appendix T to NUREG-1556, Volume 7.

AUTHORIZED USERS

1) Jeffrey F. Oliver

Radiation Training, Formal Courses:

Radiation Safety Officer Course – Radiation Safety Academy, Gaithersberg, MD (40Hrs, Sept 2009)

Radiation Safety (The Basics) 3/26/2010

2) Michael D. Blaha

Radiation Training, Formal Courses:

Radiation Safety Officer Course – Radiation Safety Academy, Gaithersberg, MD (40Hrs, Sept 2009)

Also, college coursework related to radionuclides: Physics (1 yr), Biochemistry (1 ½ yr), Nutritional Biochemistry (Food Irradiation).

Radiation-Related Experience:

On-the-job training and experience since 1975 with the following radionuclides:

P^{32} exchange determinations

C^{14}

H^3

S^{35}

I^{125}

[All of the above were μ Ci activities as part of laboratory assays or kits]

As Lab Manager for 20 years I have trained numerous military and civilian employees in how to safely handle and conduct assays involving radionuclides.

Attended approximately 12 annual Radiation Safety Training sessions run by Paul Angelis, a previous Radiation Safety Officer.

Had been a participating member of the Natick Soldier System's Center's Radiation Safety Committee from 1994-2004, a group tasked with upholding the NRC license requirements for all Principal Users and Radiation Workers at the Natick Facility.

Have an outstanding safety record and reputation for fastidious work.

3) Bradley C. Nindl, Ph.D.

Training in Radiation, Formal Courses:

1) Principles and Practices of Radiation Use and Protection – The Pennsylvania State University Graduate Course 1995

2) Soldier System Command Annual Radiation Safety Course

3) Iodine – 125 (used in Radioimmunoassays, uCi amounts)

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

12/20/2010, and to inform you that the initial processing which includes an administrative review has been performed.

Amendment (20-30847-01)
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

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** 574146.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.