



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
UNITED STATES MILITARY ACADEMY  
WEST POINT, NY 10996

MADN-PNE

11 February 2021

MEMORANDUM FOR U.S. Nuclear Regulatory Commission - Region I, ATTN: LAT,  
2100 Renaissance Blvd., Suite 100, King of Prussia, PA 19406-2713

SUBJECT: Amendment to US Nuclear Regulatory Commission License BML 31-02102-02, Docket  
No. 030-00897

1. Request that US Nuclear Regulatory Commission License BML 31-02102-02 issued to the Department of Physics and Nuclear Engineering, US Military Academy, be amended as follows: Designate Mr. Jacek Teller as an Authorized User. The Radiation Safety Committee (RSC) reviewed his training and experience and approved him on 11 February 2021. See enclosure 2 for his training and experience.
2. The United States Military Academy (USMA) is a public undergraduate educational institution, accredited by the Middle States Association of Colleges and Schools, offering programs of instruction leading to the bachelor's degree. The USMA is an activity of the United States Army and is supported by appropriated funds. As such it meets the definition of a "nonprofit educational institution" (10 CFR 171.5) and should be exempted from any fees (10 CFR 171.11(b)(1)).
3. Point of contact for licensing in the Department of Physics is Dr. Daniel Schultz, Radiation Safety Officer, (216) 905-2066, or daniel.schultz@westpoint.edu.

Encl

1. NRC Form 313
2. Mr. Teller T&E

HARTKEJOHN.P  
AUL1092654407

Digitally signed by JOHN HARTKE  
DN: cn=JOHN HARTKE, o=USMA, ou=USMA, email=JOHN.HARTKE@USMA.MIL

**JOHN HARTKE**  
COL, PR, USMA  
Head of the Department of Physics and  
Nuclear Engineering

REC RG 1 03 08 \* 21 PM 12:38

MADN-PNE

SUBJECT: Amendment to US Nuclear Regulatory Commission License BML 31-02102-02, Docket No. 030-00897

## TRAINING AND RADIOISOTOPE EXPERIENCE

JONATHAN D. BAKER

### Education.

B.S. in Chemistry from the United States Military Academy, West Point, NY, [REDACTED]

M.S. in Physics from University of Alabama in Huntsville (UAH), Huntsville, AL, [REDACTED]

Ph.D. in Nuclear Engineering, University of Tennessee (UTK), Knoxville, TN [REDACTED]

**Training.** Department of Energy Radiation Worker II certified at Oak Ridge National Lab (ORNL) [REDACTED] RGD custodian with hands-on training and experience at ORNL doing research for my PhD.

Category A: Radiation Protection Principles

Category B: Characteristics of Ionizing Radiation

Category C: Units of Radiation Dose and Quantities

Category D: Radiation Detection Instrumentation

Category E: Biological Hazards of Exposure to Radiation

Category F: Hands-on Use of Radioactive Materials

<i>CATEGORY</i>	<i>LOCATION OF TRAINING</i>	<i>DATE/DURATION</i>	<i>TYPE OF TRAINING</i>
A, B, C, D, E	FA52 NCP Course, Kirtland AFB, NM	[REDACTED]	Classes
A, B, C, D, E	D/Nuclear Engineering, UTK	[REDACTED]	Classes
A, B, C, D, E	Oak Ridge National Labs	[REDACTED]	Classes & Laboratory
A, B, C, D, E, F	D/Physics, USMA, West Point, NY	[REDACTED]	Classes & Laboratory

### Experience with Isotopes

<i>ISOTOPE</i>	<i>MAXIMUM ACTIVITY</i>	<i>DATE/DURATION</i>	<i>TYPE OF EXPERIENCE</i>
Co-60	4.4 mCi	[REDACTED]	Training & testing
Cs-137	0.9 Ci	[REDACTED]	Training & testing
PuBe	1 Ci	[REDACTED]	Training & testing
Am-241	0.1 $\mu$ Ci	[REDACTED]	Training & testing
Natural Uranium	2500 kg	[REDACTED]	Training & testing

**NRC FORM 313**  
(05-2012)  
10 CFR 30, 32, 33,  
34, 35, 36, 39, and 40

**U.S. NUCLEAR REGULATORY COMMISSION**

**APPROVED BY OMB: NO. 3150-0120**

**EXPIRES: (05/31/2016)**

**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 Information Services 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.**

**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

**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  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PA 19406-2713

**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, 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  
1600 E. LAMAR BOULEVARD  
ARLINGTON, TX 76011-4511

**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)

A. NEW LICENSE

B. AMENDMENT TO LICENSE NUMBER 31-02102-02

C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)

United States Military Academy  
Department of Physics and Nuclear Engineering  
Room 480, Bartlett Hall, Building 753  
West Point NY 10996-1790

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

United States Military Academy  
Building 753, Bartlett Hall  
West Point NY 10996-1790

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Dr. Daniel B. Schultz

BUSINESS TELEPHONE NUMBER	BUSINESS CELLULAR TELEPHONE NUMBER
(845) 938-5009	
BUSINESS EMAIL ADDRESS	
daniel.schultz@westpoint.edu	

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.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

9. FACILITIES AND EQUIPMENT.

11. WASTE MANAGEMENT.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

10. RADIATION SAFETY PROGRAM.

12. LICENSE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY	AMOUNT ENCLOSED \$
Exempt	

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	SIGNATURE	DATE
John Hartke, Department Head		12 Feb 2014

**FOR NRC USE ONLY**

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

## TRAINING AND RADIOISOTOPE EXPERIENCE

### JACEK TELLER

#### Education.

B.S. in Physics from East Carolina University, Greenville, NC, [REDACTED]  
M.A. in Mathematics from East Carolina University, Greenville, NC, [REDACTED]  
In progress: Ph.D. in Biomedical Physics from East Carolina University, Greenville, NC.  
120 semester hours completed, including the following courses:

PHYS 6700 Health Physics  
PHYS 7370 Biological Effects of Radiation  
PHYS 6710 Nuclear Medicine Physics  
PHYS 6718 Therapeutic Radiological Physics  
PHYS 7740 Special Problems in Radiation Dosimetry Modeling  
PHYS 6750 Risk Assessment, Communication, Regulations  
PHYS 7730 Radiation Instrumentation

#### Training.

Training and experience at ECU, under the supervision of Dr. Jefferson Shinpaugh, in accelerator laboratory safety, and in the pedagogical use of a neutron howitzer and exempt sources.

Training at USMA, under the supervision of Dr. Daniel Schultz, in radiological safety in all laboratory spaces. Laboratory spaces include the following equipment: x-ray machines, subcritical assembly, neutron howitzer, exempt sources, mobile shielding, radiation detectors, and radiation monitoring devices. Relevant regulations, and shipping of radiological materials were included in the training.

Completed "Introduction to Radiation" training course (online) through ORAU.

Completed Packaging and Shipping Class 7 (Radioactive) Material course (virtual) through Plexus Scientific.

Category A: Radiation Protection Principles  
Category B: Characteristics of Ionizing Radiation  
Category C: Units of Radiation Dose and Quantities  
Category D: Radiation Detection Instrumentation  
Category E: Biological Hazards of Exposure to Radiation  
Category F: Hands-on Use of Radioactive Materials

<b>CATEGORY</b>	<b>LOCATION OF TRAINING</b>	<b>DATE/DURATION</b>	<b>TYPE OF TRAINING</b>
A, B, C, D, E, F	D/Physics, ECU, Greenville, NC	2004-2020	Classes & Laboratory
A, B, C, D, E, F	D/PaNE, USMA, West Point, NY	2020-present	Classes & Laboratory
A, B, C, D, E	ORAU, online	2020	Classes
A, B, C, D, E	Plexus Scientific, virtual	2020	Classes

#### Experience with Isotopes.

<b>ISOTOPE</b>	<b>MAXIMUM ACTIVITY</b>	<b>DATE/DURATION</b>	<b>TYPE OF EXPERIENCE</b>
Natural Uranium	2500 kg	2020-present	Light Water Moderated Subcritical Assembly
Pu-239/Be-9	1.0-5.0 Ci Pu-239	2013-present	Sealed neutron source

Cs-137	0.89 Ci	2020-present	Detection experiments
Cs-137	15 mCi	2020-present	Detection experiments
Co-60	4.3 mCi	2020-present	Detection experiments
Various isotopes with atomic numbers 1 through 95	Exempt-level activity	2013-present	Check/button sources