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NRC FORM 313
(10-2002)
10 CFR 30, 32, 33,
34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 10/31/2005

APPLICATION FOR MATERIAL LICENSE

Estimated burden per response to comply with this mandatory collection request: 7 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 Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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:

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:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

SAM NUNN ATLANTA FEDERAL CENTER
U. S. NUCLEAR REGULATORY COMMISSION, REGION II
61 FORSYTH STREET, S.W., SUITE 23T85
ATLANTA, GEORGIA 30303-8931

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.

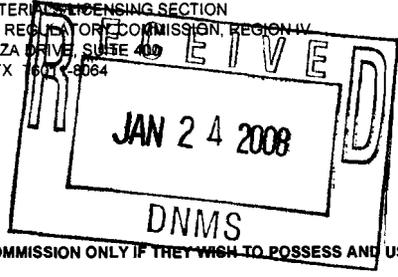
IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE RD.
LISLE, IL 60532-4351

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 SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 409
ARLINGTON, TX 76010-6064



1. THIS IS AN APPLICATION FOR (Check appropriate item)

A. NEW LICENSE

B. AMENDMENT TO LICENSE NUMBER 30-02405-10

C. RENEWAL OF LICENSE NUMBER _____

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

Department of the Army, Commander
White Sands Missile Range
ATTN: TEDT-WS-SV-NP
White Sands Missile Range, NM 88002-5158

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Building 21225 (SVAD Building)
Building 21230 (Gamma Range Building)
White Sands Missile Range
NM, 88002-5158

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Douglas C. McDonald

TELEPHONE NUMBER

(575) 678-1168

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

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	\$

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON 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, 38, 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

CERTIFYING OFFICER -- TYPED/PRINTED NAME AND TITLE
JOHN H. O'KUMA, Director, SVAD

SIGNATURE: *John H. O'Kuma*

DATE: **15 Jan 08**

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	
					No 471649

pc



DEPARTMENT OF THE ARMY
U.S. ARMY WHITE SANDS MISSILE RANGE
100 Headquarters Avenue
WHITE SANDS MISSILE RANGE, NEW MEXICO 88002-5000

RECEIVED
JAN 23 2008
DNMS

REPLY TO
ATTENTION OF

TEDT-WS-SV-NP

14 January 2008

MEMORANDUM FOR Nuclear Materials Licensing Branch, U.S. Nuclear Regulatory Commission, Region IV, ATTN: Rachel S. Browder, 611 Ryan Drive, Suite 400, Arlington, Texas 76011-4005

SUBJECT: Request for Amendment to Panoramic Irradiator License No. 30-02405-10

1. Reference U.S. Nuclear Regulatory Commission, Materials License, expiration date November 30, 2010, docket No. 030-09345, page 2, CONDITIONS Item 11.B. Radiation Safety Officer.
2. Due to the upcoming retirement of Douglas McDonald, Health Physicist and current Radiation Safety Officer, the Survivability, Vulnerability & Assessment Directorate (SVAD), is requesting that Mr. Frank L. Dunfrund, Health Physicist at SVAD be approved as the radiation Safety Officer for the Panoramic Irradiator License No. 30-02405-10.
3. Mr. Dunfrund's training and experience credentials are enclosed with this amendment request. His training at SVAD has included hands on as well as classroom training on the Gamma Range and Eldorado facilities and other ionizing radiation facilities at White Sands Missile Range.
4. Upon approval, Mr. Dunfrund will replace Mr. McDonald as the primary Radiation Safety Officer for the panoramic irradiator license No. 30-02405-10.
5. The point of contact is Douglas McDonald 575-678-1168.

FOR THE COMMANDER:

JOHN H. O'KUMA
Director, Survivability, Vulnerability and
Assessment Directorate

2 Encls
as

Item 8.

Frank L. Dunfrund, CHP

Work: (575) 678-2064
DSN: (314) 584-2064

Education

- 1972 B.S. in Mathematics (minor in Physics), University of Alaska, Fairbanks, Fairbanks, AK
- 1977 Prime Power Production Specialist Course with a Military Occupational Specialty of 52ES5, Health Physics Technician, US Army Nuclear Reactor Engineering Operator School, Ft. Belvoir, VA.

Certification Certified Health Physicist (by the American Board of Health Physics), since 1998

Experience

- April 2007 to present, **Health Physicist**, U.S. Army White Sands Test Center, White Sands Missile Range, NM.
- December 2005 to April 2007 **Health Physicist**, U.S Army Yuma Proving Ground, Yuma, AZ. Conducted historical review of field artillery rounds containing DU in preparation of decommissioning former test sites. Performed an internal dose calculation for an employee who inhaled depleted uranium dust.
- December 2000 to December 2005 **Radiation Safety Staff Officer and Radiation Program Manager**, Headquarters, U.S. Army Europe and 7th Army (USAREUR), Heidelberg, Germany, GS-1306-12 step 0 (paid as GS-1306-13 step 6).
- March of 1987 to December 2000 **Radiation Protection Officer (now known as the Radiation Safety Officer) and Radiation Safety Program Manager**, U.S. Army Yuma Proving Ground, Yuma, AZ. I was employed as a GS-1306-12 and was promoted to GS-1306-13 in April of 1992.
- March 1982 to March 1987 **Health Physicist**, U.S. Army Armament Research and Development Command, Picatinny Arsenal, NJ. I began as an intern, GS-1306-09, and was promoted to GS-1306-11 one year later.
- December 1980 to March 1982 **Prime Power Production Specialist, Health Physics Specialty**, U.S. Army Armament Research and Development Command, Picatinny Arsenal, NJ. I came to Picatinny as an Army E-6 with an MOS of 52ES5.
- 1977 to December 1980 **Instructor**, US Army Nuclear Reactor Engineering Operator School, Ft. Belvoir, VA. Taught Physics and occasionally engineering thermodynamics.
- 1977 **Health Physics Technician**, Health Physics (HP) class included six weeks of on-the-job training at Walter Reed Army Medical Center (WRAMC) working in the Forest Glenn Health Physics office. Responsibilities included surveys, inventories, packaging radioactive waste, and support to WRAMC radiation safety program and to the Radiobiology Institute. Duties at the Radiobiology Institute involved medical health physics, working with unsealed, human consumable radioactive materials such as iodine, tritiated thymidine, and working with oncology patients who were undergoing radiotherapy with gamma irradiating sources.

Publications/Conference Proceedings

- Blevins, E.E., Wenz, G.R., Aaserude, R.A., Oxenberg, T.P. and Dunfrund, F.L., 1996. Control of Radium Dials and Other Items Containing NORM in the U.S. Army, NORM/NARM: Regulation and Risk Assessment, 29th Midyear Topical Meeting of the Health Physics Society, Scottsdale, Arizona, pp. 161-164.
- Ebinger, M.H., Dunfrund, F.L. and Oxenberg, T.P., 1996. A Screening Model for Depleted Uranium Testing Using Environmental Radiation Monitoring Data, Abstracts of Papers Presented at the Forty-first Annual Meeting of the Health Physics Society. Health Physics. Williams and Wilkins, Seattle, pp. S65.
- Oxenberg, T.P., Herring, R.H. and Dunfrund, F.L., 1994. Recovery and Reuse of Depleted Uranium Penetrators to Reduce Radioactive Waste and Soil Contamination, 27th Midyear Topical Meeting of the Health Physics Society - Managing Radioactive and Mixed Wastes, Albany, NY.

Summary of Work Experience

As **Health Physicist** in the Survivability, Vulnerability Assessment Directorate I support the directorate's health physics program and am learning the directorate's health physics process doing the following:

- Providing health physics support for the JCBRAWM program counting alpha and beta samples in support of the Army RDTE effort to field a system to evaluate radiological, chemical, and biological safety of drinking water.
- Providing health physics support to the Applied Environmental Effects Directorate Radiographic Test Facility on an as needed basis.
- Assisting in the start up survey for the PI-538 and am writing the PI-538 ARA amendment to allow operation of the PI-538 in conjunction with the FBR.
- Providing professional health physics advice to the project engineers and health physics staff on an as requested basis. I provided a preliminary dose estimate on a TLD badge accidentally left in the FBR exposure cell during a run.
- Reviewing the longer lived activation products from FBR operations and making a list of elements that are detectable after components or systems are irradiated by neutrons.
- Providing assistance in the directorate radioactive material accountability system using the HP tracking database and releasing activated equipment after it is determined to be free of activation products and can safely be released for unrestricted use.
- Providing health physics support in shipping and receiving radioactive material, leak test of directorate radioactive sources, surveys for the building survey program, assisting in the radiac calibration program, the counting laboratory program, the worker training program, the TLD badge program as needed.
- Assisting in the collection and processing of environmental radiological monitoring samples.
- Assisting in the purchase of new radiac equipment and the purchase of new laboratory

counting systems to replace the existing outdated equipment.

- I am undergoing training on the health physics issues, duties, and responsibilities at the Gamma Range Facility, the FBR facility, and the REBA facility. I am reviewing the documentation, licenses, and getting hands-on training by SVAD health physics personnel.
- I attend the directorate new employee radiation hazard training focused mainly on directorate non-ionizing radiation hazards.
- I attend the White Sands Missile Range Radiation Safety Council interfacing with the garrison radiation safety staff.

As the **USARUER Radiation Safety Staff Officer**, I managed the USAREUR radiation safety program in Belgium, Germany, Italy, and the Netherlands. I oversaw the technical, operational, and administrative aspects of the USAREUR radiation safety program by doing the following:

- Serve as the USAREUR point of contact for HQ Department of the Army, the Surgeon General's Office, and the Nuclear Regulatory Commission on radiation matters, licensing, and regulatory compliance functions.
- Serve as secretary of the Army in Europe Radiation Safety Council.
- Monitor the transportation of radioactive materials for compliance with US and European law.
- Provide radiation safety assistance and guidance for the USAREUR Science Advisor and to US personnel deployed to Iraq, Iran, and Afghanistan on an as requested basis.
- Conduct staff assistance visits to assess compliance with US and Army regulatory requirements.
- Conduct accident investigations.
- Conduct special surveys of operations, procedures, and processes involving procurement, use, storage, transport, and disposal of radioactive material and radiation producing equipment.
- Oversee radiation safety training for radiation safety officers throughout Europe. Teach radiation safety classes on an as requested basis.
- Provide technical policy regarding the safe and proper use of new ionizing and non-ionizing emitters being fielded in Europe.
- Coordinate with staff agencies including the Judge Advocate General Office, Facility Engineers including the Environmental Office, and the Installation Management Agency, Europe.
- Review Army Radiation Authorization (ARA) applications for compliance with US and Army regulations and guidelines for completeness and make recommendations for command signature.
- Review new Army regulations and proposed changes to existing regulations.
- Coordinate with host nation radiation regulatory agencies through the host nation's local national advisors regarding Status of Forces Agreement issues.
- Assist Force Protection in bringing commercial off the shelf technology in to use in USAREUR to help upgrade the security of USAREUR installations.

As the **Radiation Protection Officer** (now known as the Radiation Safety Officer) for U.S Army Yuma Proving Ground, my duties were to provide health physics support for YPG's ionizing (depleted uranium (DU), industrial x-ray systems) and nonionizing (lasers, radars, radio, high intensity light sources) radiation programs.

- Health physics support was provided for tactical and non-tactical equipment as well as civilian prototypes not yet part of the Army equipment system.
- Maintained NRC license SMB-1411 for firing DU anti-tank ammunition, NRC license 02-09128-02 for a Troxler Soil Moisture-Density gage, ARA A-02-02-05 for test firing nuclear artillery rounds containing depleted uranium, and ARA 02-02-06 for development of weapons systems to shoot down helicopters.
- Trained Army and contractor personnel in radiation safety and radiation compliance requirements.
 - Laboratory health physics technicians' education and training included the fundamentals of health physics, mathematics and equations applicable to health physics and counting laboratory operations, and laboratory quality control and quality assurance operations.
 - Radiation workers' education and training included the characteristics and proper use of portable survey meters including use of the Test Measurement and Diagnostic Equipment (TMDE) calibration program.
- Prepared, applied for, and maintained amendment and renewal applications for ARAs and NRC licenses to obtain changes in the use of ionizing radiation in order to meet changing test requirements.
- Prepared command group correspondence and provided technical and professional advice to users regarding health physics issues.
- Served as recorder for the radiation safety committee.
- Wrote the radiation safety program chapter of YPG Regulation 385-1.
- Served as the Contracting Office Technical Representative (COTR) for the Environmental Radiation Monitoring Plan (ERM).
 - Oversaw the technical, radiation related aspects, of the YPG ERM reviewing contractor performance for contract compliance and for quality assurance and quality control issues for both the NRC and DOE DU impact areas.
 - Initiated a research and development (R&D) program to assess the corrosion, location, and migration of DU on YPG ranges. The R&D program permitted YPG to use outside environment expertise from Los Alamos National Laboratory and the University of New Mexico to evaluate the environmental impact of YPG operations that would not have been otherwise available.
- Served as the laser safety officer for tactical and non-tactical lasers and provided LSO support for Precision Aircraft Tracking systems, fielded fire control and targeting laser systems on Army equipment, and for developmental laser systems being tested for suitability for use by the Army.
- Provided health physics support for the radio frequency program, which included microwave communications networks, ballistic tracking radars, and new radars being developed for adoption by the Army.

As a **health physicist** at Picatinny Arsenal, I provided health physics support to the industrial radiation program that included a 250 MeV Betatron, a Cf-252 source, and a flash x-ray system. I was a consultant to the Facility Engineers for design and construction of a depleted uranium metallographic laboratory and a depleted uranium melt-pour facility. I assisted the Radiation Safety Officer with the preparation of NRC license and ARA applications and responses to written regulatory requests. I maintained the survey records and the leak test records using the Army record keeping system.

As a **health physics technician** at Picatinny Arsenal, I managed the health physics laboratory, the calibration program for survey meters, and the work area survey program for NRC and

DOE work areas.

References.

Mr. Michael Willoughby, Chief, USAREUR Safety, telephone 011-49-6221-57-6284, DSN 314-270-6284, michael.willoughby@hq.hqusareur.army.mil.

Mr. Tony Brockington, Chief, Mission Integration Division, US Army Yuma Proving Ground, anthony.brockington@yuma.army.mil, (520) 328-2660, DSN 899-2660.

Mr. Lance Vander Zyl, Director, Tropic Test Center, US Army Yuma Proving Ground, lance.vanderzyl@yuma.army.mil, (520) 328-22124, DSN 899-2124.

Dr. Tanya Palmateer Oxenberg, ATEC Radiation Safety Staff Officer, US Army Developmental Test Command, tanya.oxenberg@us.army.mil, (410) 278-1309, DSN 298-1309.

Dr. Michael Ebinger, Los Alamos National Laboratory, Los Alamos, NM, mhe@15lan.lanl.gov, (505) 667-3147.

2-13-08

DATE

This is to acknowledge the receipt of your letter/application dated 2-13-08, and to inform you that the initial processing, which includes an administrative review, has been performed.

There were no administrative omissions. Your application will be 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:

The action you requested is normally processed within 90 days.

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** 471649.
When calling to inquire about this action, please refer to this mail control number.
You may call me at 817-860-8103.

Sincerely,

Colleen Murahan

Licensing Assistant

: (FOR LFMS USE)
: INFORMATION FROM LTS
: -----
:
: Program Code: 03521
: Status Code: 0
: Fee Category: 3G 2B 3P
: Exp. Date: 20101130
: Fee Comments: 170.11(A)(5)
: Decom Fin Assur Req: Y
:

BETWEEN:
License Fee Management Branch, ARM
and
Regional Licensing Sections

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
Applicant/Licensee: ARMY, DEPARTMENT OF THE
Received Date: 20080124
Docket No: 3009345
Control No.: 471649
License No.: 30-02405-10
Action Type: Amendment

2. FEE ATTACHED
Amount: _____
Check No.: /

3. COMMENTS

Signed Colleen Munnahan
Date 2-07-08

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /_/)

- 1. Fee Category and Amount: _____
- 2. Correct Fee Paid. Application may be processed for:
Amendment _____
Renewal _____
License _____
- 3. OTHER _____

Signed _____
Date _____

From: Origin ID: LRUA (505)678-1168
DOUGLAS MCDONALD
SVAD - WSMR
Building 21225

White Sands Missile , NM 88002

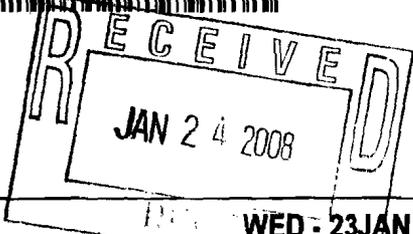


Ship Date: 22.JAN08
ActWgt: 1 LB
System#: 8192741/INET8011
Account#: S *****

Delivery Address Bar Code



Ref #
Invoice #
PO #
Dept #



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4
9
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SHIP TO: (817) 276-6555

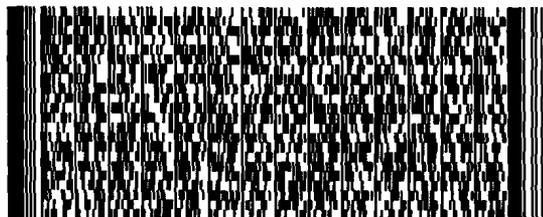
BILL THIRD PARTY

RACHEL BROWDER
US NRC REGION IV
611 RYAN DRIVE
SUITE 400
ARLINGTON, TX 76011

TRK#
0201

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WED - 23 JAN A1
PRIORITY OVERNIGHT



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