American Ordnance
We do what we say.®

American Ordnance LLC
Milan Army Ammunition Plant
2280 Highway 104 West – Suite 2
Milan, TN 38358-3177
(731) 686-6675
(731) 686-6971 fax

August 25, 2014

Br. 2

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

Subject : U.S. Nuclear Regulatory Commission Materials License Renewal

Reference: NRC Materials License No. SUB-1355, Docket No. 040-08699

Dear Sir:

American Ordnance was notified that our U.S. Nuclear Regulatory Commission Material License would expire on 9-30-14. The purpose of this letter is to submit an application for renewal of the referenced NRC License. Enclosed you will find two (2) copies of a completed NRC FORM 313, supplemental information for items 5 -11, and training / experience of personnel listed on the application. We trust that this Form will provide the information required for License Renewal. It is our intent to submit this application 30 days prior to the expiration date so there will be no suspension of the referenced License. Your assistance in this matter is very much appreciated. Should additional assistance or information be necessary, the point of contact is Mr. James S. Koffman, Safety & Health Manager/RSO. His contact information is phone number 731-686-6675, Fax 731-686-6971, and e-mail jkoffman@aollc.biz. Thank you.

Sincerely,

Tom Moore

Tom L. Moore, P.E.
AMERICAN ORDNANCE LLC
Director of Facility Engineering

Encl

584/706

NRC FORM 313 (03-2014)
10 CFR 30, 32, 33, 34
35, 36, 37, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIALS LICENSE

APPROVED BY OMB: NO. 3150-0120 **EXPIRES: 05/31/2015**

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 FOIA, Privacy, and Information Collections 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.

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. *AMENDMENTS/RENEWALS THAT INCREASE THE SCOPE OF THE EXISTING LICENSE TO A NEW OR HIGHER FEE CATEGORY WILL REQUIRE A FEE.

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
- [x] C. RENEWAL OF LICENSE NUMBER: SUB-1355

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

American Ordnance LLC
Milan Army Ammunition Plant
2280 Highway 104 West, Suite 2
Milan, TN 38358-3177

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Milan Army Ammunition Plant
2280 Highway 104 West, Suite 1
Milan, Tn 38358-3176

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

James S. Koffman

BUSINESS TELEPHONE NUMBER	BUSINESS CELLULAR TELEPHONE NUMBER
(731) 686-6675	(731) 358-2586

BUSINESS EMAIL ADDRESS: jkoffman@aollc.biz

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 (Fees required only for new applications, with few exceptions*) *(See 10 CFR 170 and Section 170.31)*

FEE CATEGORY: 2B, 2F

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, 37, 39, AND 40, AND THAT ALL INFORMATION CONTANED 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 C RIMINAL 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
Tom L. Moore P.E. , Director of Facilities Engineering	Tom Moore	8/26/14

FOR NRC USE ONLY

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

8-25-14

ATTACHMENT

Renewal Application for Material License
SUB-1355
Docket Reference No. 040-08699

ITEM 5 – Radioiactive Material

A. Depleted Uranium (DU) - >99% U238

B. 1) Pre-manufactured DU Cores

2) Depleted Uranium Metal

C. 3 million kilograms or 6.6 million pounds

ITEM 6 – Purpose(s) for which Licenced Material will be used

1) Pre-Manufactured DU Cores – Used as staballoy penetrators in Military Munitions.

2) Depleted Uranium Metal – Used for shielding in X-ray Units.

Process in Which Source Material Will Be Used

1) The DU staballoy cores are utilized to provide high-density penetrators for armor-piercing cartridges intended to be fired from military weapons. At the present time, there are no active load, assembly, and pack (LAP) production operations in process at MLAAP. All production assembly equipment has been excessed and there is no production activity forecasted for the foreseeable future. All DU projectiles and complete rounds are being stored in approved buildings and being held for future use of the military. Firing of the cartridges for training or testing will not be performed by this licensee. Test and acceptance firing will be accomplished under a separate license only at authorized test ranges. Storage, receipt, and shipping operations are the primary activities related to the depleted uranium material at our installation at this time. Various types of penetrators, projectiles, and complete cartridges may be stored to include but not limited to the M774, M833, M872, M829, M900, etc.

It is possible that certain non-destructive testing, such as inspection by radiography, could be requested from time to time and we would perform such testing as needed. Manufacturing or processing of the staballoy penetrator will not be accomplished by the licensee. The penetrators are manufactured and projectiles are assembled by other private contractors.

Accountability of staballoy projectiles, penetrators and complete cartridge ammunition containing staballoy projectiles is accomplished by tally-in at the time of receipt and tally-out at the time of off-post shipment. The tally-in/tally-out is entered into computerized stock control records. Movement of material within the plant is accomplished with in-plant transfer/receipt. These are also entered into the computerized Stock Control records. Materials (projectiles) in the Industrial Account are inventoried annually. Should an error be discovered, an investigation is initiated which first includes record searches but can be increased to physical inventory.

Packaging of DU in storage is in accordance with Army drawings and specifications. The M774 is packaged one cartridge per cylindrical fiber container with two containers per wood box or crate. M833, M872, M829 and M900 series cartridges may be packaged in cylindrical metal containers which are placed on wood pallets. Other similar cartridges having different nomenclature and different dimensions and weights may be packaged and stored. Specified packaging will be in accordance with applicable NRC and DOT regulations.

DU projectiles with penetrators and boxed or palletized ammunition are stored in Earth Covered Magazines (ECM's) authorized by the Army for storage of finished ammunition. These ECM's are physically secure and low fire-risk storage facilities. The ECM's are clearly numbered and placarded with proper radiation signage. These igloos are not inhabited except during in-loading and out-loading of material. The stored DU items may remain in indefinite storage at the Milan Army Ammunition Plant or shipments may be made in incremental quantities. All out shipments will comply with applicable NRC and DOT regulations. Shipments will only be made to licensees having proper licenses or other authorization to receive source material. At the present time there is approximately 324,687 lbs. of Depleted Uranium stored in ECM's at the Milan Army Ammunition Plant.

As previously stated there are no LAP operations in process at MLAAP at this time. The primary activity involving the DU material is storage of the material in ECM's on the installation with an occasional out-shipment as requested. Normally, there should be no disassembly of the projectile assemblies. However in rare cases the following disassembly and demilitarization activities may need to be performed.

a. In case of damage to the sabot assembly, it is conceivable that, to dispose of rejected assemblies, they will be disassembled to yield the sub-projectile (sub-projectile contains the depleted uranium). No disassembly of the sub-projectile is anticipated, except as described below.

b. Rendering tracer inert (free of pyrotechnic material). In the event that assembled projectiles or sub-projectiles should be authorized for shipment to a facility that does not normally receive explosive or pyrotechnic materials, the tracer material which may have been installed by the licensee must be removed. The tracer is secured in place by the plug and disc assembly. The threads of the assembly are coated with an adhesive. After the adhesive cures, the assembly is extremely resistant to unscrewing by any conventional means. The plug/disc assembly and tracer are located in the fin (fin assembly). The fin is a

non-DU component attached by threads to the back part of the projectile which contains the DU penetrator. There is no contact between the tracer or plug/disc assembly and the DU penetrator. Past experience has shown that a practical way to render the tracer inert is to ignite it. Ignition of the tracer does not expose the DU penetrator to any heat or fire. To accomplish this, the sub-projectile is transported to an isolated area (Burning Ground) where the tracer is ignited with a torch and allowed to burn as in flight from a weapon to target.

c. Removal and replacement of the fin (non-DU component) may be necessary in case of damage to restore a projectile to serviceable status. Removal and replacement of the windshield could be required.

d. Non-destructive testing of sub-projectile is not planned, however, subjecting projectiles and sub-projectiles to such non-destructive testing as ultrasonic and radiographic inspection could be required to detect undesirable conditions prior to and after storing or shipping.

Any non-usable sub-projectile (penetrator) generated by above procedures would be suitably packaged and retained in secure storage pending dispostion. Such disposition will be in accordance with NRC regulations. Packaging will comply with NRC and DOT regulations. Anticipated disposition will be either return to projectile manufacturer or shipment to a NRC approved waste storage/disposal location.

Operators whose hands could come in contact with the exposed core (penetrator) are required to wear leather or rubber gloves as protection from Beta radiation. Operators handling DU projectiles are also required to wear TLD badges and finger rings. All personnel are required to wear safety approved eye protection.

2) The Depleted Uranium metal is used for shielding in Radiographic Inspection equipment. This DU was obtained through the procurement of commercially purchased X-Ray units and is typically part of the radiography unit. The DU metal is very dense and functions well as shielding for X-rays and to cone down the X-Ray beam and reduce or prevent scatter. If maintenance or disassembly generates any excess shielding material, it will be stored with the DU penetrators in the ECM's.

ITEM 7 - Individual(s) responsible for Radiation Safety Program and their training and experience.

Radiation Safety Officer – James S. Koffman

Alternate Radiation Safety Officer – Nick Kieler

Training Attached.

ITEM 8 - Training For Individuals Working in or Frequenting Restricted Areas

N/A. There are no restricted areas involved. However, initial training in radiation safety is provided to each individual employee prior to their initial work assignment in an environment which could possibly result in exposure to radiation. Training includes information on the hazards of radiation, atomic structure, radiation biology, safety precautions relative to their assigned duties, and the proper wearing of personal dosimetry monitoring devices. Personnel assigned the use of monitoring devices are trained in the use of required radiation survey instruments and applicable record keeping. The training is conducted by the Radiation Safety Officer or designated supervision trained/certified in the field.

ITEM 9 - Equipment, Facilities, Instrumentation and Calibration

1. Assembled projectiles which contain staballoy penetrators have penetrators that are completely or almost completely encased. Projectile assemblies have a small portion of DU at the rear end that is exposed until they are assembled into the cartridge case. Complete cartridges therefore do not have any exposed DU. Since we are only storing these items in ECM's and there are no active production operations, there is no generation of dust, fumes, mists or gases and no need for special ventilation equipment.

2. Present suppliers of assembled projectiles package them in enclosed pallet-crates so that removable contamination is highly unlikely. However, spot checks of incoming and outgoing shipments are made for determination of dose rate and contamination (monitoring to date has never discovered contamination).

3. Baseline surveys are conducted in inert storage areas, finished ammunition storage magazines, and Earth Covered Magazines to determine initial radiation background levels. After a DU storage areas is emptied, a follow up survey is performed to ensure there is no residual contamination or radiation levels.

4. Personnel monitoring by means of either whole body and finger ring thermoluminescent dosimeters (TLD's) or area monitoring will be conducted. **Presently, the wearing period for TLD's is quarterly.**

Radiation Detection Equipment and Calibration Procedures at Milan Army Ammunition Plant

1. Active Equipment at MAAP:

   a. 1 each - Ion Chamber Survey Meter , Eberline Model RO-3C capable of detecting beta and gamma radiation. Window: One mil Mylar, approx. 3.5 mg/cm.sq. Ranges 0-5, 50, 500, 5,000 mr/hr.

   b. 3 each - Rate Count Survey Meter, Eberline Model E140. Ranges: 0-600, 6,000, 60,000 cpm with Hand probe, Eberline Model HP-270 capable of detecting alpha, beta and gamma radiation. Window: 1.4 gm/cm.sq.

   c. 3 each - Rate Count Survey Meter, Eberline Model E140. Ranges: 0-600, 6,000, 60,000 cpm with Hand probe, Eberline Model HP-260 capable of detecting beta and gamma radiation. Window 1.5 to 2 mg/cm.sq.

2. Inactive Equipment at MLAAP:

   a. 1 each - Portable Ratemeter - Scaler, Eberline Model PRS-2 "RASCAL"

   b. 4 each - Ion Chamber Survey Meter , Eberline Model RO-3C capable of detecting beta and gamma radiation. Window: One mil Mylar, approx. 3.5 mg/cm.sq. Ranges 0-5, 50, 500, 5,000 mr/hr.

   c. 7 each - Ion Chamber Survey Meter , Eberline Model RO-3 capable of detecting beta and gamma radiation. Window: One mil Mylar, approx. 3.5 mg/cm.sq. Ranges 0-5, 50, 500, 5,000 mr/hr.

   d. 1 each - Ludlum Scaler Ratemeter, Model 2000

   e. 9 each – Rate Count Survey Meter, Eberline Model E140. Ranges: 0-600, 6,000, 60,000 cpm with Hand probe, Eberline Model HP-260 capable of detecting beta and gamma radiation. Window 1.5 to 2 mg/cm.sq.

   f. 3 each - Hand probe, Eberline Model HP-260 capable of detecting beta and gamma radiation. Window 1.5 to 2 mg/cm.sq. (not attached to survey meters)

   g. 1 each – Victoreen Personal Monitor, Prima 11B, Model 05-205

   h. 11 each - Dosimeter Area Monitors, Model 3096-3, Industrial X-ray Facility

   i. 15 each – Victoreen Area Monitors, Model 808, Industrial X-ray Facility

3. Calibration

   a. Active equipment described above under item 1 will be calibrated annually by Technical Services Group, Lawrenceville, GA or by other facilities having calibration capabilities traceable to the National Bureau of Standards.

   b. Inactive equipment described above under item 2 are stored and can be made available for use after calibration.

ITEM 10

Radiation Safety Program and Emergency Procedures

1. The overall responsibility for radiation safety as well as operational matters for American Ordnance LLC at Milan Army Ammunition Plant (MLAAP) is the duty of the Director of Facilities Engineering. The Radiation Safety Officer is responsible to the Director for the proper implementation of a safe and effective radiation protection program that will be in complete compliance with license conditions and applicable NRC regulations.

2. Facility buildings are masonry and steel construction which are quite fire resistant. Storage igloos (ECM's) are concrete and steel with dirt cover. Good housekeeping is continually stressed and enforced. No accumulation of unnecessary combustible materials are permitted in plant facilities and storage areas. No smoking or possession of fire producing devices (except by special safety permit for maintenance) are permitted in storage or operational buildings. Frequent safety motivational instructions are given. MLAAP has an outstanding safety record for recordable, lost time, and minor injuries with low incident rates and low fire damage. Many plant facilities have sprinkler systems and areas where open energetic material could be handled are equipped with automatic deluge systems in addition to conveniently located portable fire extinguishers. MLAAP has its own fire department on site.

3. In the event of a fire or explosion, all personnel will be immediately evacuated. Plant fire department located within two miles of assembly area is manned by experience highly trained firefighters 24 hours per day every day of the year. Fire department is automatically alerted by activation of deluge system either by heat, numerous pull rings, alarm boxes or may be alerted by phone. Fire fighters are provided updates on location of DU items and materials. They are trained in radiation safety and recognition of hazards. Fire department contains a "HAZMAT" vehicle and ambulance service. Ambulance personnel are EMT and paramedic qualified. MLAAP has a contract with Dr. Michael McAdoo and the Milan Medical Center to treat any injuries that occur on the installation. In the event of serious injury, personnel are transported to a local civilian hospital for treatment. All accidents are reported in accordance with applicable NRC regulations and U. S. Army regulations.

4. Personnel and area monitoring are conducted in accordance with NRC regulations. Appropriate monitoring devices are utilized. Thermoluminescent dosimeter (TLD) badges and rings are presently forwarded to U.S. Army Aviation Missile Command at Redstone Arsenal, AL certified laboratory for evaluation. Other certified laboratories may be utilized

in the future. All results are reviewed by the Radiation Safety Officer. All results are recorded in the employee's medical record. Results of past and present surveys and recorded doses clearly indicate that monitoring is not required for compliance with applicable NRC regulations. Personnel monitoring may be discontinued at the discretion of the licensee.

An existing Radiation Control Committee meets at prescribed intervals to evaluate radiation safety and procedures.

All required notices to employees are posted. All required reports to the NRC will be made.

ITEM 11

Waste Management

1. No waste such as that from grinding, milling, machining, etc. will be generated because none of these operations are conducted. Any projectiles and/or sub-projectiles not suitable for use in end items (cartridges) or any remaining on hand at the completion of the program will be disposed of in accordance with Army Regulation AR 385-11, which means they will be returned to a properly licensed projectile manufacturer for recycle or to a NRC approved waste storage location. No local disposal is authorized.

2. It is not anticipated that any radioactive contamination will be found as the result of wipe tests and monitoring of packaging materials, etc. In the event contaminated materials should be found in the form of paper, sponges, clothing, etc., such materials will be packaged in double thickness plastic bags, which will be properly tagged and labeled. The bags will be held in a secure area, properly identified with warning signs, until proper approval can be obtained to ship the contaminated material to a licensed waste management facility. Any parts, packing boxes, or machinery that cannot be adequately decontaminated will be similarly secured and retained. Any shipment of contaminated material will be in compliance with NRC and DOT regulations.

* NOTE - At the present time there are no depleted uranium ammunition assembly operations being conducted at our installation. All depleted uranium items are stored in earth covered magazines and secured with high security locks. The magazine storage area is surrounded by a perimeter fence and there is a security force on patrol 24 hours a day. The only activity involving DU items is an occasional out-shipment of ammunition to another installation.

RECORD OF TRAINING/EXPERIENCE

James S. Koffman Radiation Safety Officer

American Ordnance LLC

Milan Army Ammunition Plant

2280 Highway 104 West, Suite 2

Milan, TN 38358-3177

Subject of Training

a) Principles and practices of radiation protection.
b) Radioactivity, measurement, standardization, monitoring techniques, and instruments.
c) Mathematics and calculations used in radiation safety.
d) Biological effects of radiation.

Work History

2009 - Present	Safety and Health Manager/RSO	American Ordnance MLAAP
1994 - 2009	Senior Chemist, CHO	Environmental Lab MLAAP
1991 - 1994	Analytical/Environmental Chemist	Environmental Lab MLAAP
1985 - 1991	Industrial Hygienist/Safety Engineer	Safety Department MLAAP
1983 - 1985	Production/X-Ray/Lab Technician	Line V X-Ray Dept. MLAAP

Education / Experience

B.S. Degree – University of Memphis [redacted] – Magna Cum Laude – Major in Microbiology, Minor in Chemistry

Completed 1986 – U.S. Army Chemical School, Fort McClellan, AL – Radiological Safety Course (7K-F3) Class 003-86, 30 July – 19 August 1986 (Formal Course) – Distinguished Graduate

Completed 1986 – Radiological Response Team Course sponsored by Jackson State Community College at the Jackson Police Department in Jackson, TN.

Completed 1990 – Laser Safety Course at U.S. Army Materiel Command, Charlestown, IN.

Completed 2010 – Radiation Safety Training, Engelhardt & Associates, Inc., Oct. 11-13, 2010, St. Louis, MO.

Completed 1985 – Explosives Safety Course at U.S. Army Materiel Command, Charlestown, IN.

Completed 1986 – Industrial Hygiene Aspects of the Occupational Safety and Health Act Course at U.S. Army Materiel Command, Charlestown, IN.

1991-2003 – Completed numerous courses and seminars concerning analytical and instrumental analysis in the laboratory.

1984-1985 – Worked at MLAAP Industrial X-ray facility performing various duties including the operation of industrial X-ray equipment.

1986-2003 – Functioned as Alternate Radiation Safety Officer in the Radiation Protection Program at MLAAP.

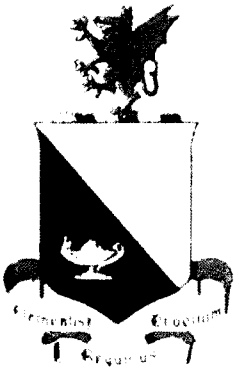
2003-Present – Currently serving as Radiation Safety Officer for American Ordnance LLC and the MLAAP.

Experience with Radiation (Actual use of radioisotopes or equivalent experience)

Isotope	Maximum Amount	Location	Duration	Type Use
Ind. X-ray	3 Mev	MLAAP	1984-1985	Radiography of munitions
Ni-63	15 millicuries	MLAAP	1991-2009	Detector in Gas Chromatographs
Cs-137	10 microcuries	MLAAP	2004-2014	Check source for Instruments
SR90-Y90	100 millicuries	Ft. McClellan Alabama	1986	Radiac UDM2 Calibrator Training
Pu-239	0.25 Microcuries	Ft. McClellan Alabama	1986	AN/UDM6 Calibrator Training
Au-198	unknown	Ft. McClellan Alabama	1986	Decon Training

United States Army

Chemical School



To all who shall see these presents, greeting.
This is to certify that

has successfully completed the

In Testimony Whereof, and by the authority vested in us, we do confer this

Diploma

Given at Fort McClellan, Alabama,
this day of , 19

Major General, USA
Commandant

Ft McCl Fm 1534-R
(22 May 80)

Certificate of Completion

awarded to

James Koffman

for participation in

Radiation Safety Training – St. Louis, MO
October 11-13, 2010

ENGELHARDT & ASSOCIATES, INC.
RADIATION COCNSULTANTS
930 Elm Grove Road, Suite ,
Elm Grove, WI 53122
Phone: 262-439-2111 Fax: 262-439-2112
E-mail: engel@chorus.net
www.radexperts.com

Susan J. Engelhardt, M.S.

Joshua Walkowicz, M.S., CHP

Ralph Grunewald, Ph.D.

Judith Grunewald, R.N., M.S.

Rapiscan®
systems
An OSI Systems Company

Certificate of Completion

Mr. James Koffman

has successfully completed

a training course for

500 Series Operator Training

Milan AAP, TN

Presented this 18th day of March, 2010

Gerald Layne
Field Service Engineer, Rapiscan Systems, Inc.

Continuing Education Unit Certificate

Presented to

JAMES S. KOFFMAN

For Satisfactorily Completing The Prescribed Work In

RADIOLOGICAL RESPONSE TEAM

Hours Attended 31 CEU's Awarded 3.1

Sponsored by

JACKSON STATE COMMUNITY COLLEGE

NICHOLAS M. KIELER, Health & Safety Manager, ARPO (Radioactive Materials)

B.S. Industrial Safety, Minor: Production Management, University of Wisconsin, Platteville, WI

4 hrs. – Radiological Monitoring Course, University of Wisconsin, Platteville, WI – Jan 1981

120 hrs. – Radiological Safety Course, U.S. Army Chemical School, Fort McClellan, AL – Feb 1988

24 hrs. – Radioactive Material Transportation Workshop, Oak Ridge, TN – Mar 1989

40 hrs. – Computer Based Occupational Radiation Protection, Fort Belvoir, VA – Jul 1989

40 hrs. – Environmental Monitoring, Fort Belvoir, VA – Jul 1989

32 hrs. – Transportation of Hazardous Chemicals and Radioactive Materials – Mar 1989

Employed by American Ordnance LLC (formerly Mason & Hanger) since 1983 to present. Involved with the Radiation Protection Program for fifteen (15) years. Appointed RPO in 1990. Supervised and conducted Radiographic source surveys, calibrated gamma and alpha instruments, conducted training for personnel involved in storage and assembly of depleted uranium, presented training to Installation Fire department and prepared procedures for receipt and shipment of radioactive materials. Experienced with Cs 137, Th 230, Co 60 and other radioactive material including U 238. Quantities of material ranged from 0.001 uCi to nearly 1000 Ci Co 60 radiographic sources.

United States Army Chemical School

Fort McClellan, Alabama

awards this

Diploma

to

NICHOLAS KIELER

THIS IS TO CERTIFY SUCCESSFUL COMPLETION OF THE

RADIOLOGICAL SAFETY COURSE
CLASS 002-89, 18-Jan-89 - 07-Feb-89

IN TESTIMONY WHEREOF, AND BY THE AUTHORITY VESTED

IN US, WE DO CONFER THIS DIPLOMA

THIS 7TH DAY OF FEBRUARY 1989

Major General
Commandant

Fm 1534-R (Rev 9 Jun 87) Previous edition obsolete

U.S. Army Materiel Command

Field Safety Activity
Charlestown, Indiana

This is to certify that

NICHOLAS M. KIELER

has successfully completed the

RADIOLOGICAL PROTECTION PROGRAM MANAGEMENT COURSE
(1.8 Continuing Education Units are awarded)

28 March 1991

C. J. CAMPBELL
DIRECTOR

XOS Form 149
17 Apr 85

Radioactive Materials Training Course

This is to certify that

NICHOLAS M. KIELER

has completed the Radioactive Materials Training Course covering the Hazardous Materials Regulations of the United States Department of Transportation on this 9TH *day of* MARCH, *19* 89 *at* OAK RIDGE, TN

Manager, Transportation Operations and Traffic

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

08/25/2014, and to inform you that the initial processing which includes an administrative review has been performed.

SUB-1355 (renewal)

☒ 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

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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** 584706
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader