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E-mail: [rettew@rettew.com](mailto:rettew@rettew.com) • Web site: [rettew.com](http://rettew.com)

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August 8, 2014

Licensing Assistance Team  
Division of Nuclear Materials Safety  
U. S. Nuclear Regulatory Commission, Region 1  
2100 Renaissance Boulevard, Suite 100  
King of Prussia, PA 19406-2713

Q2

03038757

37-35160-01

LL 35160

RE: Revised Application for Radioactive Material License

To Whom It May Concern:

Please find attached the revised Application for Radioactive Material License to the U.S. Nuclear Regulatory Commission (NRC). Please disregard the previously submitted application dated July 15, 2014. Please find below a list of items included with this package:

**Items for Application for Radioactive Material License:**

- Cover letter to NRC;
- Application for Radioactive Material License, including a word document that has Appendix B Items 5-11 written out;
- Radiation Safety Plan;
- Copies of Training Certificates for Radiation Safety Officer;
- Copy of Pennsylvania Radioactive Materials License, License No. PA - 1504
- Check for \$2,000.00 made payable to the U.S. Nuclear Regulatory Commission.

If you should have any questions or need additional information, please do not hesitate to contact me at (412) 446-1728 or at [jstipe@rettew.com](mailto:jstipe@rettew.com).

Sincerely,

John B. Stipe III, CPSS  
Director of Geosciences  
Shareholder, RETTEW

584428

NMSS/RGN1 MATERIALS-002



<b>NRC FORM 313</b> (03-2014) 10 CFR 30, 32, 33, 34 35, 36, 37, 39, and 40 	<b>U.S. NUCLEAR REGULATORY COMMISSION</b> <div style="text-align: center; font-size: 1.2em; font-weight: bold;">APPLICATION FOR MATERIALS LICENSE</div>																
<div style="display: flex; justify-content: space-between;"> <span><b>APPROVED BY OMB: NO. 3150-0120</b></span> <span><b>EXPIRES: 05/31/2015</b></span> </div> <p style="font-size: 0.8em;">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 <a href="mailto:Infocollections.Resource@nrc.gov">Infocollections.Resource@nrc.gov</a>, 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.</p>																	
<b>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.</b>																	
<b>APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:</b>  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  <b>ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:</b> <b>IF YOU ARE LOCATED IN:</b>  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,  <b>SEND APPLICATIONS TO:</b>  LICENSING ASSISTANCE TEAM DIVISION OF NUCLEAR MATERIALS SAFETY U.S. NUCLEAR REGULATORY COMMISSION, REGION I 2100 RENAISSANCE BOULEVARD, SUITE 100 KING OF PRUSSIA, PA 19408-2713	<b>IF YOU ARE LOCATED IN:</b>  ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, <b>SEND APPLICATIONS TO:</b>  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,  <b>SEND APPLICATIONS TO:</b>  NUCLEAR MATERIALS LICENSING BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION IV 1600 E. LAMAR BOULEVARD ARLINGTON, TX 76011-4511																
<b>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.</b>																	
<b>1. THIS IS AN APPLICATION FOR (Check appropriate item)</b>  <input checked="checked" type="checkbox"/> A. NEW LICENSE  <input type="checkbox"/> B. AMENDMENT TO LICENSE NUMBER _____  <input type="checkbox"/> C. RENEWAL OF LICENSE NUMBER _____	<b>2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)</b>  Rettew Associates, Inc. 4955 Stuebenville Pike, Suite 305 Pittsburgh, PA 15205																
<b>3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED</b>  Licensed material may be used, dispatched or stored at;  27 Trovato Street, Suite 1 Bridgeport, WV 26330.	<b>4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION</b> John B. Stipe III  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">BUSINESS TELEPHONE NUMBER (717) 394-3721</td> <td style="width: 50%;">BUSINESS CELLULAR TELEPHONE NUMBER (717) 808-1673</td> </tr> <tr> <td colspan="2">BUSINESS EMAIL ADDRESS <a href="mailto:jstipe@rettew.com">jstipe@rettew.com</a></td> </tr> </table>	BUSINESS TELEPHONE NUMBER (717) 394-3721	BUSINESS CELLULAR TELEPHONE NUMBER (717) 808-1673	BUSINESS EMAIL ADDRESS <a href="mailto:jstipe@rettew.com">jstipe@rettew.com</a>													
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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.																	
<b>5. RADIOACTIVE MATERIAL</b> a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.	<b>6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.</b>																
<b>8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.</b>	<b>7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.</b>																
<b>10. RADIATION SAFETY PROGRAM.</b>	<b>9. FACILITIES AND EQUIPMENT.</b>																
<b>11. WASTE MANAGEMENT.</b>	<b>12. LICENSE FEES (Fees required only for new applications, with few exceptions*) (See 10 CFR 170 and Section 170.31)</b>  <table style="width: 100%;"> <tr> <td style="width: 50%;">FEE CATEGORY</td> <td style="width: 20%; text-align: center;">3P</td> <td style="width: 30%;">AMOUNT ENCLOSED \$</td> <td style="width: 10%; text-align: center;">2,000.00</td> </tr> </table>	FEE CATEGORY	3P	AMOUNT ENCLOSED \$	2,000.00												
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<b>13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.</b>  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 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.																	
<b>CERTIFYING OFFICER - TYPE/PRINTED NAME AND TITLE</b>  John B. Stipe III, CPSS Director of Geoscience	<table style="width: 100%;"> <tr> <td style="width: 70%;"> <b>SIGNATURE</b>  </td> <td style="width: 30%;"> <b>DATE</b>          8-8-14       </td> </tr> </table>	<b>SIGNATURE</b> 	<b>DATE</b> 8-8-14														
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">TYPE OF FEE</th> <th style="width: 15%;">FEE LOG</th> <th style="width: 15%;">FEE CATEGORY</th> <th style="width: 15%;">AMOUNT RECEIVED</th> <th style="width: 15%;">CHECK NUMBER</th> <th style="width: 30%;">COMMENTS</th> </tr> <tr> <td colspan="3"></td> <td style="text-align: center;">\$</td> <td></td> <td></td> </tr> </table>	TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS				\$			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">APPROVED BY</td> <td style="width: 50%;">DATE</td> </tr> <tr> <td style="height: 40px;"></td> <td></td> </tr> </table>	APPROVED BY	DATE		
TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS												
			\$														
APPROVED BY	DATE																

# ITEMS 5 AND 6: MATERIALS TO BE POSSESSED AND PROPOSED USES

Yes	No	Radionuclide	Manufacturer or Distributor Model No.	Quantity	Use As Listed on SSD Certificate	Specify Other Uses Not Listed on SSD Certificate
✓		Cesium-137	Sealed source manufacturer or distributor and model number:  Device manufacturer or distributor and model number: <u>Cpn mc Series</u> <u>1 gauge</u>  <u>Troxler 3400 Series</u> <u>5 gauges</u>	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes <input checked="" type="checkbox"/> Specific description of the gauge use:      	<input type="checkbox"/> Not applicable  <input type="checkbox"/> Uses are:  (Submit safety analysis supporting safe use)
✓		Americium-241	Sealed source manufacturer or distributor and model number:  Device manufacturer or distributor and model number: <u>Troxler 3400 Series</u> <u>5 gauges</u>  <u>Cpn mc Series</u> <u>1 gauge</u>	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes <input checked="" type="checkbox"/> Specific description of the gauge use:      	<input type="checkbox"/> Not applicable  <input type="checkbox"/> Uses are:  (Submit safety analysis supporting safe use)

APPENDIX B

Yes	No	Radionuclide	Manufacturer or Distributor Model No.	Quantity	Use As Listed on SSD Certificate	Specify Other Uses Not Listed on SSD Certificate
	✓	Californium-252	Sealed source manufacturer or distributor and model number: _____ Device manufacturer or distributor and model number: _____	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes <input type="checkbox"/> Specific description of the gauge use: _____ _____ _____ _____ _____	<input type="checkbox"/> Not applicable _____ <input type="checkbox"/> Uses are: _____ (Submit safety analysis supporting safe use)
	✓	Other Isotope (Specify):	Sealed source manufacturer or distributor and model number: _____ Device manufacturer or distributor and model number: _____	Not to exceed either the maximum activity per source or maximum activity per device as specified in Sealed Source and Device Registration Certificate	Yes <input type="checkbox"/> Specific description of the gauge use: _____	<input type="checkbox"/> Not applicable _____ <input type="checkbox"/> Uses are: _____ (Submit safety analysis supporting safe use)
Financial Assurance Required and Evidence of Financial Assurance Provided						

# **ITEMS 7 THROUGH 11: TRAINING AND EXPERIENCE, FACILITIES AND EQUIPMENT, RADIATION SAFETY PROGRAM, AND WASTE DISPOSAL**

Item No. And Title	Suggested Response	Yes	Alternative Procedures Attached
<b>7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE - RADIATION SAFETY OFFICER</b>  Name: <u>LORI LEVINE</u>	Before obtaining licensed materials, the proposed RSO will have successfully completed one of the training courses described in Criteria in the section entitled "Individual(s) Responsible for Radiation Safety Program and Their Training and Experience - Radiation Safety Officer" in NUREG-1556, Vol. 1, Rev. 1, dated November 2001.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS</b>	Before using licensed materials, authorized users will have successfully completed one of the training course described in Criteria in the section entitled "Training for Individuals Working In or Frequenting Restricted Areas" in NUREG-1556, Vol. 1, Rev 1, dated November 2001.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>9. FACILITIES AND EQUIPMENT</b>	No information needs to be submitted in response to this item; key issues are addressed under "Radiation Safety Program - Public Dose" and "Radiation Safety Program - Operating and Emergency Procedures."	Separate Item 9 Response Need Not Be Submitted With Application	
<b>10. RADIATION SAFETY PROGRAM - AUDIT PROGRAM</b>	The applicant is <i>not</i> required to, and should not, submit its audit program to NRC for review during the licensing phase.	Need Not Be Submitted With Application	
<b>10. RADIATION SAFETY PROGRAM - TERMINATION OF ACTIVITIES</b>	The applicant is <i>not</i> required to submit a response to the termination of activities section during the initial application. However, when the license expires when the licensee ceases operation, NRC Form 314 must be submitted.	Need Not Be Submitted With Application	
<b>10. RADIATION SAFETY PROGRAM - SURVEY INSTRUMENTS</b>	We will either possess and use, or have access to and use, a radiation survey meter that meets the Criteria in the section entitled "Radiation Safety Program - Instruments" in NUREG-1556, Vol. 1, Rev. 1, dated November 2001.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

APPENDIX B

Item No. And Title	Suggested Response	Yes	Alternative Procedures Attached
10. RADIATION SAFETY PROGRAM – MATERIAL RECEIPT AND ACCOUNTABILITY	Physical inventories will be conducted at intervals not to exceed 6 months, to account for all sealed sources and devices received and possessed under the license.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. RADIATION SAFETY PROGRAM – OCCUPATIONAL DOSIMETRY	Either we will maintain, for inspection by NRC, documentation demonstrating that unmonitored individuals are not likely to receive a radiation dose in excess of 10 percent of the allowable limits in 10 CFR Part 20, or we will provide dosimetry processed and evaluated by an NVLAP-approved processor that is exchanged at a frequency recommended by the processor.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. RADIATION SAFETY PROGRAM – PUBLIC DOSE	The applicant is <i>not</i> required to submit a response to the public dose section during the licensing phase. This matter will be examined during an inspection.	Need Not Be Submitted With Application	
10. RADIATION SAFETY PROGRAM – OPERATING AND EMERGENCY PROCEDURES	We will implement and maintain the operating and emergency procedures in Appendix H of NUREG-1556, Vol. 1, Rev. 1, dated November 2001, and provide copies of these procedures to all gauge users and at each job site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	OR Operating and emergency procedures will be developed, implemented, and maintained and will meet the criteria in the section entitled "Radiation Safety Program – Operating and Emergency Procedures" in NUREG-1556, Vol. 1, Rev. 1, dated November 2001.	<input type="checkbox"/>	
10. RADIATION SAFETY PROGRAM – LEAK TEST	Leak tests will be performed at intervals approved by NRC or an Agreement State and specified in the Sealed Source and Device Registration Sheet. Leak tests will be performed by an organization authorized by NRC or an Agreement State to provide leak testing services for other licensees or using a leak test kit supplied by an organization authorized by NRC or an Agreement State to provide leak test kits to other licensees and according to the kit supplier's instructions.	<input checked="" type="checkbox"/>	<input type="checkbox"/> The information in Appendix J supporting a request to perform leak testing and sample analysis is attached.



Item No. And Title	Suggested Response	Yes	Alternative Procedures Attached
10. RADIATION SAFETY PROGRAM – MAINTENANCE	<i>Routine Cleaning and Lubrication</i> We will implement and maintain procedures for routine maintenance of our gauges according to each manufacturer's recommendations and instructions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<i>Non-Routine Maintenance</i> We will send the gauge to the manufacturer or other person authorized by NRC or an Agreement State to perform non-routine maintenance or repair operations that require the removal of the source or source rod from the gauge.	<input checked="" type="checkbox"/>	<input type="checkbox"/> The information listed in Appendix G supporting a request to perform non-routine maintenance in-house is attached.
10. RADIATION SAFETY PROGRAM – TRANSPORTATION	The applicant is <i>not</i> required to submit its response to transportation during the licensing process. However, this issue will be reviewed during inspection.	Need Not Be Submitted With Application	
11. WASTE MANAGEMENT – GAUGE DISPOSAL AND TRANSFER	The applicant is <i>not</i> required to submit a response to waste management during the licensing process. However, the licensee should develop, implement, and maintain gauge transfer and disposal procedures in its radiation protection program.	Need Not Be Submitted With Application	



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## RADIATION SAFETY PLAN

Per 10 CFR 20.1101(a). Each licensee shall develop, document, and implement a radiation protection program commensurate with the scope and extent to licensed activities.

### General

This Radiation Safety Plan covers the procedures for the safe and proper use and possession of radioactive material as contained in portable moisture/density gauges used to measure soil and other materials. When handled in accordance with this plan, the radioactive materials present no hazard to the licensee's employees, customers, or the general public.

### Radiation Safety Officer

All use and possession is under the direction and supervision of the Radiation Safety Officer (RSO — Lori C. Levine). The RSO is a single point of accountability and responsibility between the Regulatory Agency and the Licensee. The RSO is responsible for all aspects of the Radiation Safety Plan, including the following specific duties:

- To ensure that all terms and conditions of the license are being complied with and that the information contained is up-to-date and accurate.
- To ensure that the equipment is leak tested at the required intervals.
- To ensure that the equipment is only used by the operators authorized by the RSO, and that they use the equipment in accordance with the relevant regulations. This will include wearing of a suitable personnel monitoring device.
- To maintain records as required by the license and the regulations.
- To ensure that all equipment is properly secured against unauthorized removal at all times.
- To serve as point of contact and give assistance in case of an emergency such as equipment damage in the field, theft, or fire and to notify the proper authorities in case of an emergency.
- To ensure that all operators have read and understand this Radiation Safety Plan.
- To arrange appropriate training for all operators.
- To provide annual refresher training to all gauge operators on operating and emergency procedures, transportation requirements, changes in applicable regulations or licensee conditions, and correction of deficiencies identified by the RSO.
- To post all required signs and notices at gauge storage location:
  - Post document RH-2364, Notice to Employees
  - Label storage cabinet with "Caution, Radioactive Material" sign.
  - Post notice of where a copy of the organization's license, operating and emergency procedures, safety plan, and a copy of state and federal regulation are located.





### Operation

- We will implement and maintain the operating and emergency procedures in Appendix H of the NUREG-1556, Vol. 1, Rev. 1, dated November 2001, and provide copies of these procedures to all gauge users and at each job site.
- Before using licensed materials, authorized users will have successfully completed one of the training courses described in Criteria in the section entitled "Training for Individuals Working In or Frequenting Restricted Areas" in NUREG-1556, Vol. 1, Rev. 1, dated November 2001.
- The operator will exercise suitable control over the gauge at all times. At no time is it to be left unattended or in the possession of an unauthorized person.
- The operator will keep the source in the "safe" or stored position when not in use (this includes from one test location to another).
- The operator will stand no more than 10 feet from the gauge while a test is in progress.
- The operator will ensure that no equipment or vehicles are within 20 feet of where a gauge is being used to take a test unless they are shut down.
- The operator will keep all unauthorized persons out of the operating area. Suggested distance is 15 feet.
- When not being used for field measurements, the gauge will be locked and returned to its storage/transportation case.
- When testing is complete, the gauge will be returned to its permanent place of storage as soon as possible.
- When using or transporting the equipment, the operator will wear the personnel monitoring device assigned. When the operator is not using or transporting the equipment, the monitoring device will be kept in a radiation free, low heat area.
- At all times operators will observe ALARA principles to minimize any dose received:
  - As Low As Reasonably Achievable
- While equipment is in the operators possession, the operator will have a:
  - Copy of the License
  - Copy of the Radiation Safety Plan with Emergency Procedures and Telephone Call Down List
  - Copy of Letter/Card of Authorization from RSO
  - Copy of Gauge Operating Manual and
  - Copy of the current Leak Test Certificate
- If an accident occurs with the vehicle while transporting the gauge, follow conditions under Emergency procedures.
- Any and all accidents are to be reported to the NRC Operations Center – (301) 816-5100.

### Transportation

- During transportation, the equipment shall be fully secured in the transporting vehicle and located away from personnel. When transported in a closed vehicle (car or van), the case will be locked and the vehicle will be locked when the operator is not with the vehicle. When transported in an open bed vehicle (pick-up truck), the case will be locked and the case securely fastened and locked to the truck bed when the operator is not with the vehicle.

- The equipment will only be transported in an approved DOT shipping container with all the required labels and markings.
- During transportation the operator will have Shipping Papers on the seat adjacent to the driver or in a holder which is mounted to the inside of the door on the driver's side of the vehicle describing the radioactive material with the proper nomenclature.
- When an open bed vehicle is parked overnight at a hotel or motel, the operator shall cover the case in the secured transport position or lock the case in the cab of the vehicle.
- When shipping by common carrier, the package shall be in compliance with 49 CFR 170179

#### Storage

- The gauge shall be stored in a locked cabinet, in an area detached from the office, where only occasional personnel use is anticipated.
- The gauge storage location shall be posted with a "Caution Radioactive Material" sign and all other appropriate radiation warning signs.
- The gauge shall be secured against unauthorized removal by two lock and key mechanisms.
- The facility where the gauge shall be stored is locked and secured during non-working hours.
- The office manager has the name, address, and phone number of the RSO and his designated alternate who can be contacted in case of emergency.
- If the gauge is going to be stored overnight in a vehicle the following conditions must be met:
  - Approval by the RSO will be necessary.
  - Vehicle must be locked and display the appropriate radiation warning signs.
  - Vehicle must be kept at same location as where certified operator is staying.
  - At no time shall the gauge be taken inside a private residence or a hotel/motel room overnight.

#### Maintenance

- Periodic maintenance will include cleaning of the gauge. The operator will have received proper instruction on how to clean the gauge and will wear the assigned monitoring device.
- No maintenance will be performed in which the radioactive source is removed from the gauge. The gauge will be returned to the manufacturer or an approved service center for this type of service.
- A leak test will be performed annually (or at the interval specified in the license) using an approved leak test kit provided by CTS or equivalent, and in accordance with the gauge manufacturer's instructions. The operator will have received proper instruction on how to leak test the gauge and will wear the assigned monitoring device.
- The shipping case will be periodically checked for integrity and to verify that all labels are present and readable.

### Records

Records will consist of:

- Radioactive Material License
- Personnel Dosimetry Reports
- Leak Tests Certificates
- Training Certification
- Gauge Inventory
- Check-out/Check-in Log

*A check out log will be attached to storage area. Information on log will include model and serial number of gauge, important phone numbers in the event of malfunction or accident with the gauge, operator checking out gauge, date checked out, destination, estimated return date, and actual date of return.*

### Training

All operators will complete a manufacturer's Operator's Training Course or an approved equivalent. Operators will be given special training as required for their individual work assignments.

## Emergency Procedures

### Call Down List

RSO: Work: (412) 446-1728 Home: (xxx) xxx-xxxx	Police: Business: (304) 842-8218 Emergency: 911
Radiologic Health: (304) 356-4303	Fire: Business: (304) 842-8252 Emergency: 911
NRC Operations Center: (301) 816-5100	

### Physical Damage

- If any moving equipment is involved, stop its movement, until the extent of contamination, if any, can be established.
- Cordon off the area around the incident. An area with a radius of fifteen (15) feet will be sufficient.
- Visually inspect the gauge to determine the extent of the damage to the source, source housing, and shielding. If the source, source housing, and shielding are intact and functional, the gauge can be removed from the site, returned to the shipping container, and shipped to the manufacturer for repair or replacement.
- If the integrity or location of the source cannot be positively identified, at the earliest possible time, when the situation is under control, contact the RSO. Describe the

conditions and follow the instructions of the RSO. The RSO will immediately notify the appropriate agency.

- The RSO shall follow the instructions of the regulatory agency.
- If the source rod is bent and extended, or the shielding is damaged such that dose rates are likely to exceed those of an undamaged gauge, call the manufacturer for instructions before shipment.

#### Theft or Lose

Immediately notify the RSO. The RSO will immediately notify the appropriate regulatory agency and the police.

#### Fire

- Call the Fire Department - (304) 842-8252.
- Take action appropriate with a fire to protect personal.
- Notify the RSO.
- Notify the NRC Operations Center – (301) 816-5100.
- Stand by to advise the fire fighters as to the nature, locations, and potential hazards of the radioactive materials. Supply them with an information packet consisting of the facility layout and a data sheet of the equipment including a photograph. Be sure to include any other important information, e.g. explosives, guard dogs, etc.

#### Melting

Points:	F	C
Stainless Steel	2550	1400
Carbide	2000	1090
Aluminum	1005	540
Lead	620	327
Polyethylene	257	125

Temperatures in an industrial fire will normally range from 500 F at floor level to a high at the ceiling of 1400 to 1800 F. The polyethylene and lead would melt in most fires, the aluminum only in a severe fire. The stainless steel capsule would not reach its melting point.

#### Disposal/Decommissioning

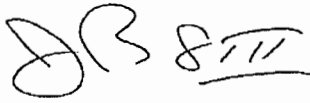
- Disposal will only be performed by transferring to a property licensed organization.
- The regulatory agency will be notified 30 or more days in advance of any relocation of the storage area. Formal decommissioning will not be required. Provided leak tests are current.

### **RADIATION SAFETY PLAN**

The radiation safety plan will be implemented at all times. A copy of these procedures shall be maintained in the licensee's radioactive materials license file, and another copy in the shipping case of the nuclear gauge at all times.

Page 6 of 6  
August 8, 2014  
RETTEW

Sincerely,

A handwritten signature in black ink, appearing to read "JB Stipe III". The signature is stylized with a large "J" and "B" followed by "Stipe III".

John B. Stipe III, CPSS  
Director of Geosciences  
Shareholder, RETTEW

Date 08/08/14

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**RETTEW**

# Certificate of Completion

This is to certify that: Lori C. Levine

Has completed a Radiation Safety Officer course and the use of portable density / moisture devices, (Nuclear Density / Moisture Gauge), as per U.S. NRC NUREG 1556, vol.1, rev 1 and Agreement State requirements. To include initial Haz-Mat training required by IATA and U.S. Department of Transportation, 49 CFR, 172, Sub H and security awareness during transportation.

This training presentation by: Willie Cline / CTS, Inc. RSO

*Willie Cline*

## Cline's Technical Services, Inc.

10883 Cincinnati Zanesville Road – Amanda, Ohio 43102-Ph: 740-969-2720, Fax: 740-969-2122

[www.clinetechnicalservices.com](http://www.clinetechnicalservices.com)

course content on page 2 of certificate

**For Nuclear Gauge Radiation Safety Officer.**



# **Contents of Course**

## **Principles and Practices of Radiation Protection**

Theory, terminology, and practical explanation of Radioactive Materials, License requirements, Storage, Transportation (to include HAZ-MAT training required by US DOT 49 CFR, 172, sub H and security awareness) and Emergency Procedures to be used with portable nuclear devices of "soil, agriculture, roof, asphalt and other construction gauges" using small (not more than 300 millicurie) sources in sealed capsules.

## **Radioactive Measurement Standardization and Monitoring Techniques and Instruments**

Demonstration of radiation levels typical with use of small, portable devices using conventional survey meter. Concentration on Inverse Square Law factors, effects of shielding, time, and distance in use of materials.

## **Mathematics and Calculation basic to use and measurement of Radioactivity**

Determination of typical radiation levels in mrem with distance of a typical portable "construction device", calculation of probable weekly radiation dose under a heavy work condition, and relation of that dose to the NRC maximum annual allowances for occupational use of radioactivity.

Establishment of relationship of this occupational dose to that obtained from normal life exposures of external radiation at sea level and high elevations, jet plain travel, normal health X-RAYS, ect.

## **Biological effect of Radiation**

General presentation of effects of low level radiation on the body with emphasis on the relationship of routine life style exposure (environmental, routine medical, smoking, etc.) to the added exposure from normal use of portable devices using millicurie sources.



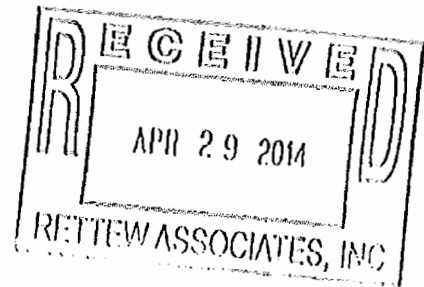
# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF RADIATION PROTECTION

April 21, 2014

Kevin R. Zeunert  
Project Manager/RSO  
Rettew Associates, Inc.  
4955 Steubenville Pike, Suite 305  
Pittsburgh, PA 15205



Re: Amendment of Pennsylvania Radioactive Materials License PA-1504

Dear Mr. Zeunert:

We are enclosing Amendment No.1 to Pennsylvania Radioactive Materials License PA-1504 in response to correspondence dated April 9, 2014. This amendment adds one Troxler 3400 series gauge and one Troxler 3411-B gauge to the license.

Please forward the enclosed material appropriately.

Please note that the Commonwealth of Pennsylvania has "incorporated by reference" the NRC radiation protection regulations contained in 10 CFR Parts 19-150.

If there are any questions regarding this letter, I can be contacted at (717) 787-3720.

Thank you for your cooperation.

Sincerely,

John S. Chippo  
Chief

Radioactive Materials Section

Enclosure: PA-1504, Amendment No.1



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF RADIATION PROTECTION

**RADIOACTIVE MATERIALS LICENSE**

Page 1 of 3 Pages

License No. PA - 1504

Amendment No. 1

Pursuant to the Radiation Protection Act, the Act of July 10, 1984 (No. 147, P.L. 688)(35 P.S. §§ 7110.101 - 7110.703) and Title 25, Rules and Regulations, Article V, Radiological Health of the Pennsylvania Department of Environmental Protection, and in reliance on statements and representations heretofore Licensee to receive, acquire, possess, transfer, and use radioactive material listed below for the purposes and at the places designated below. This license shall be deemed subject to all applicable rules, regulations, or orders of the Pennsylvania Department of Environmental Protection now or hereafter in effect and to any conditions specified below.

<b>Licensee</b>		In accordance with correspondence dated April 9, 2014	
1. Rettew Associates, Inc.		3. License No. PA - 1504 is amended in its entirety as follows:	
2. 4955 Steubenville Pike, Suite 305 Pittsburgh, PA 15205		4. Expiration Date: January 31, 2024	
		5. Client ID: 306564    Program Code: 3121    Priority: 5	
<b>6. Byproduct, source, and/or special nuclear material</b>	<b>7. Chemical and/or physical form</b>	<b>8. Maximum amount that licensee may possess at any one time under this license</b>	
A. Cesium 137	A. Sealed sources (CPN Model CPN-131)	A. 10 millicuries per source, not to exceed 10 millicuries total	
B. Americium 241:Be	B. Sealed neutron sources (CPN Model CPN-131)	B. 50 millicuries per source, not to exceed 50 millicuries total	
C. Cesium 137	C. Sealed sources (Troxler drawing A-102112)	C. 9 millicuries per source, not to exceed 18 millicuries total	
D. Americium 241:Be	D. Sealed neutron sources (Troxler drawing A-102451)	D. 44 millicuries per source, not to exceed 88 millicuries	
<b>9. Authorized use:</b>			
A. and B. For use in CPN International Division of InstroTek, Inc. Model No. MC Series PORTAPROBE® portable gauging devices for measuring physical properties of materials.			
C. and D. For use in Troxler Model 3400 series and Troxler Model 3411-B portable gauges for measuring physical properties of materials.			

**CONDITIONS**

10. Licensed material may be used or stored only at the licensee's facilities located at ExtraSpace Storage No. 224, 110 Klsow Drive, Pittsburgh, PA 15205 and at temporary job sites in Pennsylvania. Authorization for use of radioactive materials at job sites under exclusive Federal jurisdiction or in Agreement States shall be obtained from the appropriate regulatory agency.
11. The Radiation Safety Officer for this license is: Kevin R. Zeunert.
12. Licensed material shall be used by, or under the supervision and in the physical presence of, individuals who have received the training described in the application to the Department of Environmental Protection dated November 4, 2013.



**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF RADIATION PROTECTION

**RADIOACTIVE MATERIALS LICENSE**

Page 2 of 3 Pages

License No. PA - 1504


Amendment No. 1

13. A copy of the latest sealed source leak test results and emergency procedures shall be available for inspection at temporary job sites.
14.
  - A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or equivalent regulations of an Agreement State.
  - B. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.
  - C. Sealed sources in storage need not be tested if they are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
  - D. The leak test shall be capable of detecting the presence of 0.005 microcurie (185 becquerels) of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie (185 becquerels) or more of removable contamination, a report shall be filed with the Department in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Department regulations.
  - E. Tests for leakage and/or contamination, limited to leak test sample collection, shall be performed by the licensee or by other persons specifically licensed by the NRC or Agreement State to perform such services. The licensee is not authorized to perform the analysis; analysis of leak test samples must be performed by persons specifically licensed by the NRC or an Agreement State to perform such services.
  - F. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.
15. Each portable gauge shall have a lock or lockable outer container to prevent un-authorized or accidental removal of the sealed source from its shielded position. The gauge or outer container shall be locked and secured from unauthorized access while in transport or not under the direct surveillance of an authorized user. Devices containing licensed material shall not be abandoned or discarded.
16. Sealed sources or source rods containing licensed material shall not be opened or sources removed from the source holders by the licensee.
17. The licensee shall conduct a physical inventory every 6 months, or at other intervals approved by the Department, to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory and shall include the radionuclides, quantities, manufacturer's name and model numbers and the date of the inventory.
18. The licensee shall immediately suspend operation of a device upon failure of, damage to, or an indication of a possible failure of, or damage to the source, source shielding, or any source rod, lock, on-off mechanism, shutter or safety indicator. The device may not be returned to service until it has been repaired by a person authorized by the NRC or an Agreement State to repair the device.



19. Any cleaning, maintenance or repair of the gauges that requires detaching the source or source rod from the gauge shall be performed only by the manufacturer or by other persons specifically licensed by the NRC or an Agreement State to perform such service.
20.
  - A. If the licensee uses unshielded sealed sources extended more than 3 feet below the surface, the licensee shall use surface casing that extends from the lowest depth to 12 inches above the surface and other appropriate procedures to reduce the probability of the source or probe becoming lodged below the surface. If it is not feasible to extend the casing 12 inches above the surface, the licensee shall implement procedure to ensure that the cased hole is free of obstruction before making measurements.
  - B. If a sealed source or a probe containing sealed sources becomes lodged below the surface and it becomes apparent that efforts to recover the sealed source or probe may not be successful, the licensee shall notify the Department of Environmental Protection and submit the report required by 10 CFR 30.50(b)(2) and (c). The licensee shall not abandon the sealed source or probe without obtaining the Department's prior written consent.
21. Under the provisions of 10 CFR 30.50(b)(2), any failure of the on-off mechanism (shutter) and indicator, if any, shall be reported to the Department within 24 hours of discovery by calling 717-787-2480. A written follow-up report shall be submitted in accordance with 10 CFR 30.50(c)(2) within 30 days.
22. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified and incorporated by reference in 10 CFR 30.35(d) for establishing financial assurance for decommissioning.
23. The licensee may transport licensed material, or deliver licensed material to a carrier for transport, in accordance 25 Pa Code Chapter 230, "Packaging and Transportation of Radioactive Material" and the provisions of 10 CFR Part 71 incorporated by reference.
24. Notwithstanding the requirements set forth in this license, the licensee shall comply with the regulations set forth in Title 25 of the Pennsylvania Code, Article V "Radiological Health" and the U.S. Nuclear Regulatory Commission, Title 10 Code of Federal Regulations Parts 19-150 incorporated by reference.
25. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. This license condition applies only to those procedures that are required to be submitted in accordance with the regulations. The Department of Environmental Protection's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.
  - A. Application dated November 4, 2013 (DEP)

For the Pennsylvania Department of Environmental Protection

  
John S. Clippo  
Bureau of Radiation Protection  
P. O. Box 8469  
Harrisburg, PA 17105-8469

Date: April 21, 2014