



# Facsimile Cover Sheet

	1	2	3
To:	License Assistance Team		
Company:	USNRC		
Fax:	610-337-5269		

From: **Kevin Kalb**  
Company: **ECS MID-ATLANTIC, LLC**  
**166 Windy Hill Lane**  
**Winchester, VA 22602**  
Phone: **(540)-667-3750**  
Fax: **(540)-667-3730**

45-30874-01  
030-36489

Date: 5/2/14

ECS Job/Proposal No.:

Project Name:

Pages including this cover: 19

ECS Use Only	
<input type="checkbox"/>	Rtn. to Sender
<input type="checkbox"/>	FS File
<input type="checkbox"/>	Work File
<input type="checkbox"/>	Billing File
<input type="checkbox"/>	Prop. File
Sent By: _____	

Originals:  will  will not follow via mail

### Comments:

Control #583718

Per request here is the updated USNRC Form 313 for license renewal.

Thank you.

REC'D IN LAT 5/2/14

NIOSIRGNI MATERIALS-002

9-2

### United States Nuclear Regulatory Commission Form 313

<b>NRC FORM 313</b> (1-2012) 10 CFR 30.22, 33, 34.25, 36.29 and 40	<b>U.S. NUCLEAR REGULATORY COMMISSION</b>	<b>APPROVED BY OMB: NO. 3150-0120</b>	<b>EXPIRES: (03/31/2012)</b>
<b>APPLICATION FOR MATERIALS LICENSE</b>		Estimated burden per response to comply with this mandatory collection request: 4.3 hours. Submitting the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Do not consider requesting burden to make to the Information Services Branch (1-875-333) U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by internet e-mail to: <a href="mailto:InfoServices@nrc.gov">InfoServices@nrc.gov</a> and to the Desk Officer, Office of Information and Regulatory Affairs, NECRS-10222, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a request is used to impose an information collection that has not already 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.**

<b>APPLICATION FOR DISTRIBUTION OF (XLMPT) 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 20545-0001	<b>IF YOU ARE LOCATED IN:</b>  ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:  MATERIALS LICENSING BRANCH U.S. NUCLEAR REGULATORY COMMISSION, REGION II 2443 WARRENVILLE ROAD, SUITE 240 Lisle, IL 60532-4352
<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,  SEND APPLICATIONS TO:  LICENSING ASSISTANCE TEAM DIVISION OF NUCLEAR MATERIALS SAFETY U.S. NUCLEAR REGULATORY COMMISSION, REGION I 475 ALLENDALE ROAD KING OF PRUSSIA, PA 19386-1815	<b>IF YOU ARE LOCATED IN:</b>  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 76011-6511

**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>1 THIS IS AN APPLICATION FOR (CHECK APPROPRIATE ITEM):</b>  <input type="checkbox"/> A NEW LICENSE <input type="checkbox"/> B AMENDMENT TO LICENSE NUMBER _____ <input checked="" type="checkbox"/> C RENEWAL OF LICENSE NUMBER <u>45-30874-01</u>		<b>2 NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)</b>  ECS Mid-Atlantic, LLC 166 Windy Hill Lane Winchester, VA 22602	
<b>3 ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED</b>  ECS Mid-Atlantic, LLC 166 Windy Hill Lane Winchester, VA 22602		<b>4 NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION</b>  Kevin P. Kalb  <b>TELEPHONE NUMBER</b>  W: 540-667-3750      C: 540-355-7600	
<b>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>			
<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>7 INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE</b>		<b>8 TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS</b>	
<b>9 FACILITIES AND EQUIPMENT</b>		<b>10 RADIATION SAFETY PROGRAM</b>	
<b>11 WASTE MANAGEMENT</b>		<b>12 LICENSE FEES (See 10 CFR 370 and Section 170.31)</b> FEE CATEGORY _____ AMOUNT ENCLOSED <u>3</u>	
<b>13 CERTIFICATION (Made by completing by person): THE APPLICANT DEMONSTRATES 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, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF. <b>WARNING: 18 U.S.C. SECTION 1001(ACT OF JUNE 25, 1958) (18 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>			
<b>CERTIFYING OFFICER - TYPE (PRINTED NAME AND TITLE)</b> John Kent - V.P./Office Mgr.		<b>SIGNATURE</b> 	<b>DATE</b> 5-1-14
<b>FOR NRC USE ONLY</b>			
<b>TYPE OF FEE</b>	<b>FEE LOG</b>	<b>FEE CATEGORY</b>	<b>AMOUNT RECEIVED</b>
			5
<b>APPROVED BY</b>		<b>CHECK NUMBER</b>	<b>COMMENTS</b>
		<b>DATE</b>	

NRC FORM 313 (1-2012)

A-1

583718

NUREG/FORM MATERIALS-002

20

May 02 14 09:16a

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 Registration Certificate	Specify Other Uses Not Listed on SSD Registration Certificate
X		Cesium-137	Gauge manufacturer or distributor and model number of the gauge: Troxler Series 3400 (12) Series 4640-B (1)	Specify activity per source and number of gauges requested. 18 activity 0.3CBq (8mCi) per source	Yes <input checked="" type="checkbox"/> Specific description of the gauge use: Measure Physical Properties of Materials	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Uses are: (Submit safety analysis supporting safe use) Measure Physical Properties of Materials
X		Americium-241	Gauge manufacturer or distributor and model number of the gauge: Troxler Series 3400 (12) Series 4640-B (1)	Specify activity per source and number of gauges requested. 18 1.48 GBq (40 mCi) per source	Yes <input checked="" type="checkbox"/> Specific description of the gauge use: Measure Physical Properties of Materials	<input type="checkbox"/> Not applicable <input checked="" type="checkbox"/> Uses are: (Submit safety analysis supporting safe use.) For measuring physical properties of materials.

Yes	No	Radionuclide	Manufacturer or Distributor Model No.	Quantity	Use as Listed on SSD Registration Certificate	Specify Other Uses Not Listed on SSD Registration Certificate
	X	Californium-252	Gauge manufacturer or distributor and model number of the gauge:	Specify activity per source and number of gauges requested.	Yes <input type="checkbox"/> Specific description of the gauge use:	<input checked="" type="checkbox"/> Not applicable  <input type="checkbox"/> Uses are:  (Submit safety analysis supporting safe use.)
	X	Radium-226	Gauge manufacturer or distributor and model number of the gauge and number of gauges of each model that is being requested:	Specify activity per source and number of gauges requested.	Yes <input type="checkbox"/> Specific description of the gauge use:	<input checked="" type="checkbox"/> Not applicable  <input type="checkbox"/> Uses are:  (Submit safety analysis supporting safe use.)
	X	Other Isotope (Specify):	Gauge manufacturer or distributor and model number of the gauge:	Specify activity per source and number of gauges requested.	Yes <input type="checkbox"/> Specific description of the gauge use:	<input checked="" type="checkbox"/> Not applicable  <input type="checkbox"/> Uses are:  (Submit safety analysis supporting safe use.)
Is financial assurance required? If yes, submit evidence of financial assurance						

**RADIATION SAFETY PLAN**  
**ECS – Winchester**  
**(updated: April 2014)**

**General**

ECS Winchester owns and operates numerous portable nuclear gauges to determine the moisture content or density of a variety of engineered materials.

If used and maintained properly, these gauges present low exposure risk to the operator, other ECS employees, and the general public.

This plan is intended to be an integral component in the overall Safety Program to ensure that test instruments containing radioactive sources are properly stored, secured, used, transported, maintained, and controlled at all times.

1. It restates the key items from the relevant Nuclear Regulatory Commission (NRC), The Virginia Department of Health (VDH) and Department of Transportation (DOT) Regulations and finally the ECS Corporate Services Radiation Safety Program as they relate to portable nuclear gauges.
2. It summarizes all of the actions and responsibilities of managers and operators to confirm that the letter and the intent of the Corporate Services Radiation Safety Program are met.

**Radiation Safety Officer**

Use and possession of portable nuclear gauges is under the direction and supervision of the Winchester Radiation Safety Officer (RSO). As a designated and trained representative of the office manager, the RSO is the single point of accountability and responsibility between the NRC or the Commonwealth of Virginia and ECS Winchester. The RSO is responsible for implementation of this Radiation Safety Plan.

Typical duties of the RSO are listed below:

1. Ensures that all authorized users are properly trained and proficient in gauge use, cleaning, accountability controls, transportation, security, and emergency procedures. Schedules refresher and recurrent training as required, and maintains required training records.
2. Coordinates or completes formal semi-annual inventories, annual calibration, semi-annual leak tests, and annual audits. Actions are to be completed, documented, and archived in accordance with this Plan and the Corporate Services Radiation Safety Program.
3. Functions as a point of contact and gives assistance in case of an emergency. Notifies the NRC, VDH and ECS Corporate Services immediately of incidents or accidents that could result in a release of radioactive material.

4. Maintains and monitors individual exposure records of authorized users. Highlights restricted levels for minors and declared pregnant women, and investigates exposures in excess of ECS' administrative dose limit for a quarter.
5. Maintains copies of and ensures compliance with a current NRC, Virginia, and DOT regulations.
6. Ensures that individuals or agencies receiving or being shipped gauges for calibration, maintenance, or disposal are properly licensed for that activity. This includes commercial shippers being used to transport gauges.
7. Establishes controls and procedures to ensure a reasonable degree of security and accountability for all gauges at all times.

### **Individual Gauge Operator**

1. Before removing the gauge from its place of storage, checks to make sure that the gauge source is in the shielded, locked position, and the transport case is locked.
2. Signs the gauge out on the sign out sheet including the date(s) of use, name(s) of the authorized users who will be responsible for the gauge, and the jobsite(s) where the gauge will be used.
3. Completes a standardization check and the utilization log for the gauge being used.
4. Follows applicable Department of Transportation (DOT) requirements when transporting the gauge. This includes both proper blocking and bracing to prevent the shipping case from moving and the proper display of transportation documents.
5. Exercises required control over the gauge at all times and maintains constant surveillance. At no time is the gauge to be left unattended or in the possession of an unauthorized person. Always keep unauthorized persons away from the area where the gauge is to be used. Implements the required physical security provisions when the gauge is not under the direct control of the operator.
6. Assists operators of heavy equipment in seeing gauges and operators at construction sites. Reflective vests are required.
7. Understands that operator should not look under the gauge when the source rod is being lowered into the ground.
8. Does not touch the source rod with fingers, hands, or any part of the body, and always makes sure the source rod is in the shielded position and locked after each measurement is made.

9. When not being used for field measurements, returning the gauge to its storage/transportation case in a secured storage location. Ensure that two independent and proper locking systems separate from the transportation case lock are being used.
10. Wipes the gauge and case clean of any dirt, dust or mud prior to returning to the permanent storage location as soon as possible. Notifies the RSO of any maintenance issues/needs, and logs the gauge back in on the utilization log.
11. When using the equipment, wears the personnel monitoring device (dosimeter) assigned. Never wears another person's film badge. Never stores dosimeter near the gauge. When the operator is not using the equipment, the dosimeter will be kept in a radiation free, low heat area.
12. At all times, observes ALARA principles to minimize any dose received: As Low As Reasonably Achievable.
13. While the equipment is in the operator's possession, the operator will have the following documentation. Packets of these materials have been assembled and are stored with each gauge. Do not sign out a gauge if it's appropriate packet of documents is not complete; notify the RSO if documents are missing.
  - a. Copy of the "Bill of Lading." (current copies of the 5 "Bills of Lading" for the makes and models of gauges or hand are at pages V60-V64).
  - b. Copy of the Office's License.
  - c. Copy of this Radiation Safety Plan that includes emergency procedures and a telephone "call-down" list.
  - d. Copy of Letter of Authorization from the RSO.
  - e. Copy of the Gauge Operating Manual.
  - f. Copy of the Current Leak Test Certificate.

### Personnel Monitoring

As part of in-processing, all technicians who will likely be using test equipment utilizing sealed radioactive sources will be issued an individual dosimeter. The possession of a valid and current dosimeter is an absolute requirement for the use of a gauge.

The RSO will establish a management system to confirm that applicable individuals are issued dosimeters, that all dosimeters are exchanged quarterly, that individual exposure records are properly reviewed, that appropriate investigatory and explanatory documents are produced, and that understandable files are permanently maintained.

Some of the incidents or actions that need to be concisely addressed to support the integrity of our documentation include:

1. Investigation and corrective action if an employee exceeds the administrative dose limit of 250 mRem in any quarter.
2. Memo listing terminated employees to support why they are no longer on the monitoring program.
3. Memo indicating if terminated employees requested and were provided a copy of their exposure reports while employed by ECS Winchester.
4. Memo documenting lost or missing dosimeters to explain a break in the chronological sequence of reports.
5. Notation of current employees who are removed from the dosimeter program due to extended assignments not involving the use of portable nuclear gauges.
6. Documentation if female employees indicate that they are pregnant in order to cause review criteria to be modified.

### Storage

1. Portable nuclear gauges for the Winchester office are primarily stored in a locked nuclear storage cabinet at the ECS office. Nuclear density gauges may be stored at job-site storage locations **only** if approved in writing by the Radiation Safety Officer.
2. Portable nuclear gauges **shall not** be taken to an individual's home or stored in any other unapproved location to include being in a vehicle overnight.
3. Whenever job-site storage is desired or required, the project engineer for the particular site should make a written request to the RSO. The RSO will personally inspect such storage locations to ensure adequate control and security systems are in place and that the requirements of this Radiation Safety Plan are complied with. Approvals will be documented in detail to include photographs of security systems and required signs and notices.
4. When job-site storage is approved, the portable nuclear gauges can only be used at that site. They can not be further dispatched to other project locations.
5. Post required signs and notices adjacent to the storage area:
  - a. NRC Form – 3, Notice to Employees
  - b. A sign with "Caution-- Radioactive Material" and the international symbol.
  - c. A copy of the office's radiation license, radiation safety plan, and a copy of applicable regulations or a notice as to where these documents are located

## Control, Accountability, and Security

It is essential that individuals involved with portable nuclear gauges be aware of and comply with all of the requirements for the control, accountability, and security of portable nuclear gauges.

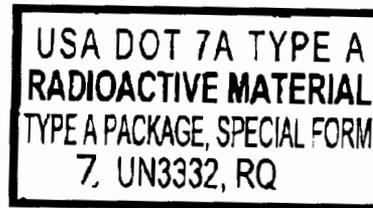
The actual or approximate location of each gauge should be known at all times. The use and transportation of gauges shall be done with full regard for the possibility of loss or damage to the gauge and in compliance with the use and transportation requirements of the DOT, VDH and the NRC. Additionally, documentation must be thorough regarding the disposition of each gauge and who is responsible for each gauge.

1. The first step in this process is the requirement for a daily inventory of gauges each morning.
  - a. This will be completed by the RSO or his or her representative.
  - b. All "on hand" gauges should be in their assigned position in the storage room and properly signed in. Gauge clip boards at vacant positions should clearly indicate gauges approved for job-site storage, gauges at approved agencies for calibration or repair, or other approved dispositions.
  - c. Any deficiencies noted will immediately brought to the attention of the RSO, and the Field Service Manager for investigation and resolution.
  
2. As gauges are signed out for the day, operators shall be extremely attentive in ensuring that proper procedures are complied with and that the required documentation is properly completed.
  - a. The operator must first gain access to the storage cabinet via a pass code and/or key. The required codes/keys will only be provided to operators who are authorized to use portable nuclear gauges and who possess and are wearing individual dosimeters.
  - b. The master sign out log which documents a day's activities will first be completed.
    1. This log records each gauge that is signed out by identification number, the name of the technician signing it out, the time it was obtained, the location or locations where the gauge will be used, and the estimated time of its return.
    2. One additional column is for signing in the gauge when it is actually returned.
    3. A set of sign out/in logs will be used for each calendar day.
  - c. The individual gauge utilization log shall also be completed.
  - d. Deviations from these procedures will not be tolerated.
  
3. To repeat what is stated in other sections of this plan, gauges shall be properly secured in vehicles while being transported and the vehicles will be locked when the driver is not with the vehicle.
  - a. To the maximum extent reasonable, unattended vehicles containing properly-secured portable nuclear gauges will be kept under surveillance.

- b. If surveillance of unattended vehicles is not practicable, the operator is expected to use a high degree of caution so as to park his or her vehicle in a reasonably secure area.
  - c. Proper security includes two independent locking systems that helps to prevent removal of the case containing the gauge by unauthorized individuals. One system must also help to prevent the case from being opened.
  - d. In addition to security requirements, transportation cases will be properly blocked and braced to prevent movement during shipping.
4. Control is also required while using portable nuclear gauges on job sites.
- a. Gauges shall **never** be left unattended on job sites for **any** reason unless they are properly secured in an approved location.
  - b. Operators should have gauges under constant visual control and be within 10 feet of a gauge.
  - c. Reasonable actions must be taken to alert heavy equipment operators as to the location of a gauge. This is essential to avoid gauges being damaged by heavy equipment. The wearing of reflective vests to increase visibility is mandatory.
  - d. When gauges are not being used for a short period of time, they shall be placed and locked in their approved shipping containers.
  - e. If the use of a gauge is complete, but the operator must remain on the site for other tasks, the gauge will be properly secured in its locked shipping container and properly locked in the operator's vehicle.
5. On return to the office the operator will:
- a. Confirm the cleanliness of the gauge and its case.
  - b. Inform the RSO of any maintenance issues that must be resolved.
  - c. Record the gauge as "returned" on the Master Sign Out/In Log.
  - d. Ensure the case is locked and the locked case is then locked in its storage cabinet.
6. The Master Sign Out/In Log for a given day and a visual inspection will be the means by which the RSO will conduct his or her daily inventory the next morning or the next duty day. These forms with any discrepancies noted and resolved will be retained for a minimum of three years.
7. Gauge Utilization Logs will be completed each day prior to a gauge being taken to a jobsite. All columns will be completed to include the "Standard Count" information.

### Local Transportation

1. During transportation, the equipment shall be fully secured in the transporting vehicle and located away from personnel.
  - a. When transported in a closed vehicle (car or van), the case shall be locked, the case will be locked to the vehicle and the vehicle will be locked when the operator is not with the vehicle.
  - b. When transported in an open bed vehicle (pick-up truck), the case shall be locked and the case securely fastened and locked to the truck bed during transport and when the operator is not with vehicle. Two independent locking systems are required to help prevent removal of the shipping container or the gauge by unauthorized persons.
  - c. Unless there is no reasonable alternative, nuclear gauges shall only be transported in the trunk of standard passenger vehicles or in the cargo area of SUVs.
2. In addition to security, the gauge in its transportation case will be properly blocked and braced to prevent movement.
3. The equipment will only be transported in an approved DOT Type A shipping container with all the required labels and markings (see diagram).



4. During transportation, the operator shall have Shipping Papers on the seat adjacent to the driver describing the radioactive material with the proper nomenclature. The operator shall also carry proof of completion of a current radiation safety class.
5. When shipping by common carrier, the package shall be in compliance with 49 CFR 170-179.

## Maintenance

1. Daily operator maintenance is limited to the exterior cleaning of the gauge as previously discussed. The operator will have received proper instruction on how to clean the gauge and will wear his/her assigned monitoring device when accomplishing this task.
2. No maintenance shall be performed in which the radioactive source is removed from the gauge. The gauge shall be returned to the manufacturer or an approved service center for this type of service.
3. The shipping case shall be periodically checked for damage, and to verify that all labels are present and readable.

## Records

The RSO shall maintain records sufficient to document implementation of the program and to demonstrate compliance with applicable requirements as described in appropriate Federal and state regulations. These records will be maintained for the duration specified in NRC regulations or as specified in this plan, whichever is longer.

The RSO should maintain a complete set of files documenting compliance with the requirements and intent of this Program.

1. Current required publications:
  - a. NUREG-1556, Vol. 1, Rev. 1
  - b. Federal regulations listed on page 4-1 of NUREG-1556
  - c. A copy of the current Corporate Services Radiation Safety Program.
2. Copy of current licenses and all previous amendments.
3. Individual gauge equipment folders. A separate folder shall be permanently maintained for each portable nuclear gauge that is or was in the office's inventory. At a minimum, the folder shall document the gauges history from acquisition to ultimate disposal. If desired, maintenance and calibration documents can be removed and destroyed three years after disposal. Required documents include:
  - a. The initial bill of sale and shipping documents.
  - b. All calibration reports.
  - c. All maintenance and/or repair records.
  - d. All leak test reports.
  - e. Copies of the gauge's ECS "Calibration Record" as required by the office's "Quality Systems Manual".
  - f. Daily standardization or "Standard Count" logs (ASTM D 6938).

- g. If applicable, disposal or transfer documentation.
4. Dosimetry records and any documentation on exposure limits being exceeded, on badges being replaced, and on terminated employees.
5. Shipping records confirming proper disposition of dosimeters.
6. RSO, user, and non-user training records (may be stored with individual training documentation) (3 years).
7. Calibration/leak test control records (3 years).
8. Certificate of Type A shipping container performance tests (current).
9. Annual audits to include reports of corrective action (3 years).
10. Copies of daily sign-out sheets showing gauge identification, operator signing out, time and date, destination(s), estimated time of return, and actual return time (3 years).
11. Copies of formal, semi-annual inventories (5 years).
12. Copies of shipping documents and authorizing licenses of all individuals or agencies receiving gauges for maintenance, calibration, or repair (3 years).
13. Copy of Sealed Source and Device (SSD) Registration Certificate (Permanent).
14. Documentation for approved, job-specific storage locations.

### **Training**

All training related to the control, use and transportation of portable nuclear gauges will comply with both the NRC and DOT requirements as summarized in the Corporate Services Radiation Safety Program. This training includes:

- a. Radiation safety for non-users. Addressed in Appendix IV of the Corporate Services Safety Program.
- b. Initial radiation safety and regulatory requirement training. This is required of all employees who will be using portable nuclear gauges prior to use.
- c. Annual refresher training is required for all authorized users.
- d. Recurrent Hazmat training. The DOT requires recurrent refresher training on the hazmat and security issues associated with transporting portable nuclear gauges every three years.
- e. RSO training: see Appendix D of NUREG-1556.

### **Emergency Response**

#### **1. Physical Damage**

- a. If any moving equipment is involved, stop equipment movement until the extent of contamination, if any, can be established.
- b. Cordon off an area with at least a 15 foot radius around the incident.

- c. Call the RSO immediately and keep everyone at least 15 feet away from the gauge.
- d. The RSO will visually check the gauge and use the survey meter to determine the extent of the damage to the source(s), source housing(s), and shielding. If the source(s), 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.
- e. If the integrity or location of the source(s) cannot be positively identified, the RSO will immediately notify the appropriate regulatory agency.
- f. The RSO shall follow the instructions of the regulatory agency.
- g. If the source rod is extended and bent, or the shield is damaged such that dose rates are likely to exceed those of an undamaged gauge, call the manufacturer for instructions before shipment.

2. Theft or Loss

- a. Immediately notify the RSO. The RSO will immediately notify the appropriate regulatory agency, the local police, and the Corporate Services RSO.

3. Fire

- a. Call the Fire Department (911).
- b. Take action appropriate with a fire to protect personnel.
- c. Notify the RSO
- d. The RSO (or the authorized user for off-site storage locations) remains available to advise the fire fighters as to the nature, locations, and potential hazards of the radioactive materials.

<u>Melting Points:</u>	<u>Degrees F</u>	<u>Degrees C</u>
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 degrees Fahrenheit at floor level to a high at the ceiling of 1400 to 1800 degrees Fahrenheit. 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.

4. Call Down List

Emergency Telephone Numbers

Kevin P. Kalb – RSO:  
Winchester, RSO

Work (540) 667-3750  
Cell (540) 355-7600

John Kent  
Winchester, Branch Manager:

Work (540) 667-3750  
Cell (540) 974-5248

Steven J. Crouch- RSO:  
Charlottesville RSO

Work (434) 973-3232  
Cell (434) 872-3522

Ronald Newman- Corporate Services RSO: Work (336) 856-1750 ext. 1607  
Cell (336) 362-3210

Police or Fire: 911

NRC Operations Center (24 Hour): (301) 816-5100  
NRC Region I: (800) 432-1156

**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
<p><b>7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE—RADIATION SAFETY OFFICER</b></p> <p>Name: <u>Kevin Kalb</u></p>	<p>Provide documentation of the training of the proposed RSO.</p>	<p>Submit applicable documentation.</p>	
<p><b>8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS</b></p>	<p>Before using licensed materials, authorized users will have successfully completed one of the training courses described in the "Criteria" part of the section titled "Training for Individuals Working in or Frequenting Restricted Areas" in NUREG-1556, Vol. 1, Rev. 2.</p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p><b>9. FACILITIES AND EQUIPMENT</b></p>	<p>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, Emergency, and Security Procedures" below.</p>	<p><b>Need Not Be Submitted with Application</b></p>	
<p><b>10.1 RADIATION SAFETY PROGRAM—AUDIT PROGRAM</b></p>	<p>The applicant is <i>not</i> required to, and should not, submit its audit program to the NRC for review during the licensing phase. The audit program will be reviewed during NRC inspections.</p>	<p><b>Need Not Be Submitted with Application</b></p>	
<p><b>10.2 RADIATION SAFETY PROGRAM—SURVEY INSTRUMENTS</b></p>	<p>We will either possess and use, or have access to and use, a radiation survey meter that meets the criteria in the section titled "Radiation Safety Program—Instruments" in NUREG-1556, Vol. 1, Rev. 2, "Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Portable Gauge Licenses," in the event of an incident.</p>	<p><input checked="" type="checkbox"/></p>	<p><input type="checkbox"/></p>

Item No. and Title	Suggested Response	Yes	Alternative Procedures Attached
10.3 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"/>
10.4 RADIATION SAFETY PROGRAM—OCCUPATIONAL DOSIMETRY	<p>We will maintain, for inspection by the NRC, documentation demonstrating that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10 percent of the allowable limits in 10 CFR Part 20.</p> <p style="text-align: center;">OR</p> <p>We will provide dosimetry processed and evaluated by an NVLAP-approved processor that is exchanged at a frequency recommended by the processor.</p>	<input checked="" type="checkbox"/>          <input checked="" type="checkbox"/>	<input type="checkbox"/>
10.5 RADIATION SAFETY PROGRAM—PUBLIC DOSE	The applicant is <i>not</i> required to submit a response to the public dose section in a license application. This matter will be examined during an inspection.		<b>Need Not Be Submitted with Application</b>
10.6 RADIATION SAFETY PROGRAM—OPERATING, EMERGENCY, AND SECURITY PROCEDURES	<p>We will implement and maintain the operating and emergency procedures in Appendix G to NUREG-1556, Vol. 1, Rev. 2, "Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Portable Gauge Licenses," and will develop, implement and maintain security procedures using information in Appendix G. Copies of these procedures will be provided to all gauge users and at each job site.</p> <p style="text-align: center;">OR</p> <p>Operating, emergency, and security procedures will be developed, implemented, and maintained and consistent with the criteria in the section titled "Radiation Safety Program—Operating, Emergency, and Security Procedures" in NUREG-1556, Vol. 1, Rev. 2, "Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Portable Gauge Licenses."</p>	<input type="checkbox"/>          <input checked="" type="checkbox"/>	<input type="checkbox"/>

Item No. and Title	Suggested Response	Yes	Alternative Procedures Attached
10.7 RADIATION SAFETY PROGRAM—LEAK TEST	Leak tests will be performed at intervals approved by the NRC or an Agreement State and specified in the SSD registration certificate. Leak tests will be performed by an organization licensed by the NRC or an Agreement State to provide leak testing services to other licensees or using a leak test kit supplied by an organization licensed by the 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 I supporting a request to perform the collection of leak test samples and sample analysis is attached.
10.8 RADIATION SAFETY PROGRAM—MAINTENANCE	<p><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.</p> <p><i>Nonroutine Maintenance</i> We will send the gauge to the manufacturer or other person authorized by the NRC or an Agreement State to perform nonroutine maintenance or repair operations that require detaching the source or source rod from the gauge.</p>	<input checked="" type="checkbox"/>  <input checked="" type="checkbox"/>	<input type="checkbox"/>  <input type="checkbox"/> The information listed in Appendix F supporting a request to perform nonroutine maintenance in house is attached.
10.9 RADIATION SAFETY PROGRAM—TRANSPORTATION	The applicant is <i>not</i> required to submit its response about transportation during the licensing process. 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 about waste management during the licensing process. However, the licensee should establish and include waste disposal procedures in its radiation safety program.		Need Not Be Submitted with Application