

Portable Gauges
Inspection Checklist

**Attachment 2.6-3
Vermont Department of Health
Radioactive Materials Program
Inspection Checklist**

Portable Gauges

Licensee: _____ **License No.:** _____

Licensee Contact:
Telephone Number:
Email Address:
Last Inspection Date:
Priority:

Location (Authorized Site): _____ **Inspection Date:** _____

Inspector: _____

Inspection Procedure(s) used: 83822, 87124, 86730, 86740, 87137

Inspection Objectives:

- To determine if licensed activities are being conducted in a manner that will protect the health and safety of workers and the general public.
- To determine if licensed activities are being conducted in accordance with Vermont Department of Health regulations.

Focus Elements:

1. Security and Control of Licensed Materials
2. Shielding of Licensed Materials
3. Comprehensive Safety Measures
4. Radiation Dosimetry Programs
5. Radiation Instrumentation and Surveys
6. Radiation Safety Training and Practices
7. Management Oversight and Program Scope
8. Licensed Activities Performed by Contracted Personnel

Inspection Site Address (authorized use or storage):

Type of Inspection:

- Announced Unannounced
 Initial Routine
 Other

Date of Last Inspection:

Amendments and Significant Program Changes (Review from last license renewal)

Amendment #: _____ Date: _____ Amendment Item(s): _____

Note:

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Program Inspection History	
<p>Is this an initial inspection?</p> <p>List previous open items of violations:</p> <p>Have previous violation(s) been properly corrected? If no, list those items not corrected with an explanation.</p> <p>List previous items of recommendations:</p> <p>Did licensee address previous recommendation(s)? If no, explain.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p>
Organization [Note: Request organization chart]	
<p>Briefly describe licensee organizational structure as it pertains to licensed activities. [L/C]</p>	
<p>Organizational structure meets requirements as identified on license.</p> <p>Radiation Safety Officer (RSO) identified on license. [L/C, 10 CFR 30.33(a)(3)]</p> <p>RSO fulfills his/her duties as required. [L/C, 10 CFR 30.33, 10 CFR 20.1101]</p> <p>To whom in the organization does the RSO report? _____</p> <p>The RSO has sufficient access to licensee's senior management?</p> <p>Has there been a change in RSO?</p> <p style="padding-left: 40px;">Does the new RSO meet the Department's training requirements?</p> <p>Has there been a change in the licensee contact person for the Department?</p> <p>Note: Confirm through discussions with management and licensee personnel whether changes have occurred in the licensee ownership, or in the RSO's authority or duties, that may impact the RSO's ability to safely conduct the licensee's radiation protection program. Identify all individuals in attendance at entrance meeting.</p> <p>Individual 1: Individual 2: Individual 3: Individual 4:</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Scope of Licensee Program	
<p>Has the mailing address changed? [10 CFR 30.32]</p> <p style="padding-left: 40px;">Has the company ownership changed? [10 CFR 30.34]</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

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Adequate audits are being implemented.						<input type="checkbox"/> Yes <input type="checkbox"/> No
Briefly describe the licensed material program (who, what, when, how.)						
Note: Request a copy of the licensee's most recent inventory of radioactive material.						
Manufacturer	Model #	Serial #	Isotope	Date of Last Leak Test	Receipt Date	Transfer Date
Does the licensee maintain a utilization log for each gauge? [L/C]						<input type="checkbox"/> Yes <input type="checkbox"/> No
Staff Training Program						
Training course for gauge users provided by manufacturer.						<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the licensee have an equivalent course approved by the Department?						<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, who is the trainer/instructor? _____						
Subjects/topics covered:						
Did the course exam consist of 25-50 questions/closed book and a passing grade of 70% or above?						<input type="checkbox"/> Yes <input type="checkbox"/> No
All trained authorized users have been approved in writing by the RSO. [L/C] Note: Attach list of authorized users.						<input type="checkbox"/> Yes <input type="checkbox"/> No
Documentation of training for authorized users is available for Department review.						<input type="checkbox"/> Yes <input type="checkbox"/> No
During Department inspection, workers were interviewed and observed using the gauge.						<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, briefly describe who was interviewed and what was observed.						
Are individuals authorized to perform non-routine maintenance on gauges?						<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, list the individual(s) and review the documented training and procedures used.						
Are there written procedures?						<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the gauge user know what to do in case of an emergency?						<input type="checkbox"/> Yes <input type="checkbox"/> No
Do users have a copy of NUREG-1556 Volume 1 Appendix G?						<input type="checkbox"/> Yes <input type="checkbox"/> No

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Posting	
<p>Is posting required? [10 CFR 20.1902]</p> <p style="margin-left: 40px;">Note: "Caution, Radiation Area" sign is required when exposure levels are greater than 0.05 mSv (5 mR) per hour at 30 cm from the source.</p> <p style="margin-left: 40px;">"Caution, Radioactive Material" signs are posted where required. [10 CFR 20.1902]</p> <p style="margin-left: 40px;">Note: The Department recommends that licensees post this sign wherever portable gauges are stored.</p> <p style="margin-left: 40px;">"Caution, Radiation Area" sign posted where required. [10 CFR 20.1902]</p> <p>"Notice to Employees" is posted in an appropriate area?</p> <p>Rules and license are posted, or a posting indicating where these documents can be reviewed? [10 CFR 19.11]</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Labeling	
<p>All labels for gauge containers are properly attached and legible. Labels must include symbols, isotope, activity, etc.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Leak Tests	
<p>Leak test performed on each sealed source at six-month intervals or as specified in SSD certificate? [10 CFR 31.5]</p> <p>Test kit model number: _____ Kit manufacturer: _____</p> <p style="margin-left: 40px;">The Department inspector observed a user taking leak test samples?</p> <p style="margin-left: 40px;">Records of leak tests are maintained for three years from the date they were created. [10 CFR 31.5]</p> <p>Leak test results are reported in becquerels or microcuries.</p> <p>Report of leaking source made since last inspection?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Facilities, Materials, and Equipment	
<p>Describe use and storage area(s).</p> <p>Same as described in license? [L/C]</p> <p style="margin-left: 40px;">Radioactive material, not in storage, is secured against unauthorized removal from a restricted area. [10 CFR 20.1802]</p> <p>Adequate controls in place to prevent unauthorized access to radioactive materials that are in storage. [10 CFR 20.1801]</p> <p>Survey meters</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

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<p>Note: Survey instruments are not required for portable gauge licensees. Do portable gauge licensees have a survey meter available for use at each field site?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>If no, does the licensee have a procedure which describes how a survey instrument will be transported to a field site if needed?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Surveys are performed to ensure that public dose will not exceed 100 mrem/year or 2 mrem in any one hour. [10 CFR 20.1301]</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Survey records are kept for three years.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Instruments are calibrated annually. [10 CFR 20.1501] Calibration reports are kept for three years.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No

Radiation Protection Procedures

<p>Gauges are used in accordance with their SSD certification.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Workers have an adequate understanding of the procedures and the rules for the safe use of radioactive materials.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>The user understands the Operating and Emergency Procedures Manuals?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Any changes in Operating and Emergency Procedures since the last inspection?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Were changes authorized by the Department?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>If yes, describe the changes.</p>	

Receipt and Transfer of Radioactive Materials

<p>Describe how packages are received, including who receives them.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>The licensee has package receipt procedures in place?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Transfer of radioactive material is authorized? [10 CFR 30.41]</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Records of receipts, transfers, and disposals of licensee's radioactive material are maintained for three years? [10 CFR 30.51]</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No

Independent Survey Measurements by the Department Inspector

<p>Inspector performed independent confirmatory measurements.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>If yes, record: Highest radiation level in an unrestricted area: _____ mR/hr</p>	

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<p>Maximum DDE: _____ mSv _____ mR</p> <p style="padding-left: 40px;"><input type="checkbox"/> Month <input type="checkbox"/> Quarter <input type="checkbox"/> Annual</p> <p>Did any worker's occupational dose exceed regulatory limits? [10 CFR 20.1201]</p> <p>Is licensee retaining records of personnel occupational dose? [10 CFR 20.2104] Note: Licensee must keep records until Department terminates license.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Instructions to Workers	
<p>Training is provided to all individuals who are likely to receive an occupational dose >100 mrem/year.</p> <p>Workers are kept informed of their occupational exposures. [10 CFR 19.12]</p> <p style="padding-left: 40px;">Workers are provided refresher training as needed.</p> <p>Required monitoring records are maintained for three years. [10 CFR 20.2102]</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Notifications and Reports	
<p>Does the licensee provide all gauge users with an annual written report of their radiation exposure? [10 CFR 19.13]</p> <p>At termination of employment, are exposure records available to workers upon request? [10 CFR 19.13]</p> <p>Incidents since the last inspection?</p> <p style="padding-left: 40px;">Has any licensed material been lost or stolen?</p> <p style="padding-left: 40px;">Have there been any occupational overexposures or excessive levels of radiation?</p> <p style="padding-left: 40px;">Any other incidents?</p> <p style="padding-left: 80px;">Describe the root cause and corrective actions taken for each incident.</p> <p>Have all reportable incidents been reported?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Transportation of Radioactive Materials	
<p>Does the licensee make shipments of radioactive material?</p> <p style="padding-left: 40px;">Are security and all applicable regulations followed?</p> <p style="padding-left: 40px;">Are shipments made through common carriers?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

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<p>Are shipments transported in private vehicles?</p> <p>Are devices packaged and shipped according to regulatory procedures?</p> <p style="padding-left: 20px;">Package is labeled properly (e.g., Yellow-II, TI, nuclide, activity, etc.)</p> <p>All proper shipping requirements are met (shipper's name, RQ, description, hazard class, UN number).</p> <p>Emergency procedures and response telephone number(s) are available. [49 CFR 172.604]</p> <p>Shipping papers readily available during transportation? [49 CFR 177.817(e)]</p> <p>Gauge is properly blocked, braced, and secured in vehicle, with two tangible independent barriers? [49 CFR 173.842(d)]</p> <p>Driver has HAZMAT training? [49 CFR 172.704]</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Security Inspection	
<p>On-site Security Review: If this licensee is authorized for possession of material equal to or exceeding the Category 2 threshold, complete an on-site security review per 10 CFR 37.43.</p> <p>If yes,</p> <p>Licensee Contact Name:</p> <p>Contact Telephone Number:</p> <p>Contact Email Address:</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p>
Summary of Observations, Findings, and Conclusions	
<p>Business Operations:</p> <p>Facility – Visit all storage and use locations identified on the application.</p> <p>Radiation Safety Operations</p> <p>Personnel</p> <p>Overall Assessment</p> <p>Note: If there is not sufficient information to conclude that licensed material will be used as specified on the license, immediately notify Department supervision.</p>	

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License Conditions/Tie-downs	
Were all license conditions reviewed?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the licensee's activities conducted in accordance with license conditions?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Bulletins and Information Notices	
Is the licensee reviewing the Department bulletins and information notices?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Has the licensee taken appropriate action in response to the bulletins and notices?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Exit Meeting at Conclusion of Inspection	
Identify and list the individuals in attendance:	Date Meeting Conducted:
List those issues discussed at the exit meeting.	
Summary of Violations and Recommendations	