

Fixed Gauges
Inspection Checklist

Attachment 2.6-7
Vermont Department of Health
Radioactive Materials Program Supervisory Accompaniment
Inspection Checklist

Fixed Gauges

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

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

Location (Authorized Use or Storage): _____ **Inspection Date:** _____

Inspector: _____

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

Type of Inspection:

- Announced Unannounced
 Initial Routine
 Other:

Please note, if you record notes on the exact location of a source that exceeds 10 percent of a Category 2 quantity, the model number, possession limits, or actual inventory, the notes should be controlled in accordance with NRC Regulatory Information Summary 2005-031.

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

Amendments and Program Changes (Review from last license renewal)

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

Notes:

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Organization	
Briefly describe the licensee's organizational structure pertaining to licensed activities.	
Organizational structure meets requirements as identified on license.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Radiation Safety Officer (RSO) identified on license. [L/C]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Performs duties required of RSO. [NUREG Volume 4, § 8.7.1, L/C]	<input type="checkbox"/> Yes <input type="checkbox"/> No
To whom does the RSO report? _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
Has there been a change in the RSO?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, was the license amended?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Has there been a change in the licensee contact person for the Department?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Identify and record all individuals in attendance at entrance meeting: Individual 1: Individual 2: Individual 3: Individual 4:	
Scope of Licensee Program	
Location of gauges identified on license.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Has the mailing address or place of use changed?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Has ownership changed? Was the Department notified?	<input type="checkbox"/> Yes <input type="checkbox"/> No
List the location(s) of radioactive sources/devices and identify location of inspection.	
List individuals interviewed at permanent and/or temporary jobsites during the inspection (**indicates those individuals in attendance at exit meeting.)	
Individual 1: Individual 2: Individual 3: Individual 4:	
Briefly describe the licensed material program (who, what, when, how). Note: Request a copy of the licensee's most recent inventory of radioactive material.	

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Manufacturer	Model #	Serial #	Isotope	Date of Last Leak Test	Receipt Date	Transfer Date	

Fixed gauges are secured and used, consistent with manufacturer's recommendations or conditions of authorized use listed on the license? [L/C]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Manufacturer's/distributor's manuals for operation and maintenance for each type of fixed gauge in use are available?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Management Oversight

Management supports ALARA. [10 CFR 20.1101]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Management supports RSO efforts.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are radiation protection annual audits being performed? [10 CFR 20.1101]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Who conducts audits? _____	
Scope of audit (areas of the program licensee reviewed):	
Audits are conducted at intervals not exceeding 12 months.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Audits and review records of the licensee program are being maintained. [10 CFR 20.2102]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Note: These records must be kept for three years after they are made.	
Were deficiencies found in the program during the last two self-audits?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, have the deficiencies been corrected? Note: The inspector should look for repeat deficiencies.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Audit records were reviewed by Department inspector.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Performance Evaluation Factors (PEF)	
Senior management is involved with radiation safety program and RSO oversight.	<input type="checkbox"/> Yes <input type="checkbox"/> No
The RSO has sufficient time to perform his/her radiation safety duties.	<input type="checkbox"/> Yes <input type="checkbox"/> No
The licensee has sufficient staffing for their program.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Adequate audits are being implemented.	<input type="checkbox"/> Yes <input type="checkbox"/> No

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Facilities, Materials, and Equipment	
Describe use and storage area(s):	
Same as described in license. [L/C]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Radioactive material, not in storage, is secured against unauthorized removal from an unrestricted area. [10 CFR 20.1802]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Adequate controls in place to prevent unauthorized access to radioactive materials that are in storage. [10 CFR 20.1801]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Survey meters are required. [L/C]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does licensee have a survey meter available? [10 CFR 20.1501]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Surveys are performed to ensure that public dose will not exceed 100 mrem/year. [10 CFR 20.1301]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Survey records are kept for three years from date they are made. [10 CFR 20.1301]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Instruments calibrations are done at intervals not exceeding 12 months. [NUREG-1556, Volume 4]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Calibration reports are kept for three years from the date they are made.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Radiation Protection Procedures	
Fixed gauges are used in accordance with their SSD certification.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Operating and emergency procedures are posted for each type of fixed gauge. [NUREG-1556, Volume 4 § 8.10.6]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Workers have an adequate understanding of the procedures and the rules for the safe use of radioactive materials and working in the vicinity of the fixed gauges.	<input type="checkbox"/> Yes <input type="checkbox"/> No
The user understands the operating and emergency procedures manuals?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Any changes in operating and emergency procedures since the last inspection?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Were changes authorized by the Department?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, describe the changes:	
Receipt and Transfer of Radioactive Materials	
Describe how fixed gauges are received, including who installs them.	
The licensee has package receipt procedures in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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<p>Transfer of radioactive material is authorized? [10 CFR 30.41]</p> <p>Records of receipts, transfers, and disposals of licensee's radioactive material are maintained for three years? [10 CFR 30.51]</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Independent Survey Measurements by the Department Inspector	
<p>Inspector performed independent confirmatory measurements. If yes, record: Highest radiation level in an unrestricted area: _____ mR/hr</p> <p>Highest radiation level at 30 cm from a storage cabinet: _____ mR/hr</p> <p>Highest radiation level at 10 cm from device surface: _____ mR/hr</p> <p>Reading at external surface of transport container: _____ mR/hr</p> <p>Inspector's survey instrument(s) used:</p> <p>Mfg./Make: Model #: Serial #: Last calibration date:</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Licensee survey instrument (if available):</p> <p>Mfg./Make: Model #: Serial #: Last calibration date:</p> <p>Describe inspector instrument readings as compared to licensee instrument readings.</p> <p>Radiation levels in all unrestricted areas do not exceed 2 mrem in any one hour or 100 mrem/year.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Personnel Monitoring	
<p>Is dosimetry provided to workers?</p> <p><input type="checkbox"/> Film <input type="checkbox"/> TLD <input type="checkbox"/> OSL <input type="checkbox"/> Other</p> <p>Frequency of dosimetry reports?</p> <p><input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly</p> <p>Dosimetry supplier: _____</p> <p>Supplier NVLAP certified? [10 CFR 20.1501]</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>Monitoring results reviewed by licensee:</p> <p style="padding-left: 40px;"><input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly <input type="checkbox"/> Annually</p> <p>Personnel occupational dose records are maintained?</p> <p style="padding-left: 40px;">Monitoring results are reported in Sv or rem. [10 CFR 20.2101]</p> <p>Inspector reviewed personnel monitoring records, from _____ to _____.</p> <p style="padding-left: 40px;">Maximum DDE: _____ mSv _____ mR</p> <p style="padding-left: 80px;"><input type="checkbox"/> Month <input type="checkbox"/> Quarter <input type="checkbox"/> Annual</p> <p style="padding-left: 40px;">Maximum SDE: _____ mSv _____ mR</p> <p style="padding-left: 80px;"><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>Is public access to gauges controlled in a manner that keeps the doses below 2 mrem in any one hour and 100 mrem/year? [NUREG-1556, Volume 4 § 8.10.5]</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>
Instructions to Workers	
<p>Training is provided to all individuals who are likely to receive an occupational dose >100 mrem/year.</p> <p style="padding-left: 40px;">Monitored personnel 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 style="padding-left: 40px;">The occupational radiation exposure reports are maintained?</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? [10 CFR 20.2201]</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>

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<p>All proper shipping requirements are met (shipper's name, RQ, description, hazard class, UN number, etc.)</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Emergency procedures and response telephone number(s) are available. [49 CFR 172.604]</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Shipping papers readily available during transportation? [49 CFR 177.817(e)]</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Special form sources documentation on file.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Vehicle placarded as required (Yellow III if TI > 1.0.) [49 CFR 172.504(a)] Note: Only required with Yellow III labels.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Proper over-packs used and labeled. [49 CFR 173.25]</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Driver has HAZMAT training? [49 CFR 172.704]</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
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>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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 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>	
License Conditions/Tie-downs	
<p>Were all license conditions reviewed by Department inspector?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Are the licensee's activities conducted in accordance with license conditions?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No

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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	