

Broad Scope Academic and Industrial
Inspection Checklist

Attachment 2.6-5 Vermont Department of Health Radioactive Materials Program Inspection Checklist		
Broad Scope Academic and Industrial		
Licensee:		License No.:
Licensee Contact: Telephone Number: Email Address: Last Inspection Date: Priority:		
Inspection Site Address:		Inspection Date:
Inspector:		
Inspection Procedure(s) used: 83822, 86730, 86740, 87192, 87126		
<u>Inspection Objectives:</u> <ul style="list-style-type: none"> • 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. 		
<u>Focus Elements:</u> <ol style="list-style-type: none"> 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 		
<u>Inspection Site Address (authorized use or storage):</u>		
Type of Inspection: <input type="checkbox"/> Announced <input type="checkbox"/> Unannounced <input type="checkbox"/> Initial <input type="checkbox"/> Routine <input type="checkbox"/> Other		Date of Last Inspection
<u>Amendments and Program Changes (Review from last license renewal)</u>		
Amendment #:	Date:	Amendment Item(s):
Notes:		

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<p>Identify all individuals in attendance at the entrance meeting.</p> <p>Individual 1: Individual 2: Individual 3: Individual 4:</p> <p>Describe the organizational structure. Type:</p> <p><input type="checkbox"/> Type A <input type="checkbox"/> Type B <input type="checkbox"/> Type C</p> <p>Identify the following individuals:</p> <p>RSC Chairperson: _____</p> <p>RSO: _____</p> <p>Others:</p> <p>Are these individuals the same as on the license?</p> <p>If no, was an amendment request received by the Department?</p> <p>Mailing address and authorized locations of use as identified on the license.</p> <p>Describe the licensee's materials program (number and types of users, special facilities, radiation safety office staffing, etc.).</p> <p>Observations and Findings.</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</p>
Management Oversight	
<p>Management supports ALARA per 10 CFR 20.1101.</p> <p>Management supports RSC/RSO efforts.</p> <p>Are radiation protection annual audits of the radiation safety office performed per 10 CFR 20.1101?</p> <p>Audits conducted by: _____</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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Scope (areas of program reviewed):	
Are audit records maintained for three years? [10 CFR 20.2102]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Inspector reviewed licensee audit records.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Were any deficiencies found in the program during a program review?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are radiation protection audits of users/workers performed?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Audits conducted by: _____	
Audits are performed at required frequencies?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Scope (areas of program reviewed):	
Audit records maintained? [L/C]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Inspector reviewed licensee audit records.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Were any deficiencies found in the program during a program review?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, have the deficiencies been corrected?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Performance Evaluation Factors (PEF) reviewed including the following:	
Senior management is involved with the radiation safety program.	<input type="checkbox"/> Yes <input type="checkbox"/> No
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
Sufficient staffing for licensee program.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Adequate audits being performed.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Radiation Safety Officer (RSO) performs duties as assigned by the licensee.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Licensee has established an RSC in accordance with 10 CFR 35.24 .	<input type="checkbox"/> Yes <input type="checkbox"/> No
RSC quorum is submitted. [L/C]	<input type="checkbox"/> Yes <input type="checkbox"/> No
Meeting minutes are available for review?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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<p>RSC meets often enough to ensure the radiation protection program is operating in compliance with the license.</p> <p>Observations and Findings:</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
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Facilities Materials, and Equipment

Criteria: Facilities as described in the license; uses, control of access, engineering controls; calibration facilities; shielding; airflow; special use locations.
Describe use and storage area(s).

Same as described in license. [L/C]

Radioactive material, not in storage, is secured against unauthorized removal from a restricted area. [10 CFR 20.1802]

Adequate controls in place to prevent unauthorized access to radioactive materials that are in storage. [10 CFR 20.1801]

Observations and Findings:

Material Use, Control, and Transfer

Criteria: Materials and uses authorized; security and control of licensed materials; procedures for ordering, receipt, and transfer of licensed material.

Observations and Findings:

Equipment and Instrumentation

Criteria: Licensee possesses and uses appropriate, operable, and calibrated equipment; licensee follows procedures.

Observations and Findings:

Surveys and Contamination Control

Criteria: Licensee performs appropriate surveys, air monitoring, and leak tests, and results are available for review. Licensee uses proper protective attire. Conduct interviews or observations to ensure compatibility and perform independent measurements to confirm.

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Observations and Findings:

Training and Instructions to Workers

Criteria: Training and retraining requirements and documentation; interviews and observations of routine work; staff knowledge of all routine activities; **10 CFR 19.12** and **10 CFR Part 20** requirements; emergency situations; supervision by authorized users.

Observations and Findings:

Personnel Monitoring

Dosimeter processor is NVLAP certified per **10 CFR 20.1501**.

Yes No

Dosimetry supplier: _____

Monitoring reports reviewed by licensee: [L/C]

Monthly Quarterly Annually

Licensee provides all workers a written report of their annual radiation exposure per **10 CFR 19.13** and **10 CFR 20.2106**.

Yes No

Are these records maintained? [**10 CFR 20.2106**]

Yes No

Upon request of employee after termination of employment, worker's exposure records provided within 30 days per **10 CFR 19.13**.

Yes No

Inspector reviewed personnel monitoring records, from _____ to _____.

Maximum DDE: _____ mSv _____ mR

Month Quarter Year

Maximum SDE: _____ mSv _____ mR

Month Quarter Year

Personnel monitoring records maintained for duration of the license. [**10 CFR 20.2106**]

Yes No

Bioassays performed as required by the license. [L/C]

Yes No

The specific information used to calculate the internal radiation exposure under **10 CFR 20.1204** is maintained for the duration of the license. [**10 CFR 20.2106**]

Yes No

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<p>Dose evaluations or surveys of unrestricted areas are performed and documented to ensure public dose does not exceed 2 mrem in any one hour or 100 mrem in one year.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>The specific information used to assess the dose to individual members of the public is maintained for the duration of the license. [10 CFR 20.1301 Subpart D]</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Posting and Labeling	
<p>Posting required per 10 CFR 20.1902.</p> <p style="padding-left: 40px;">“Caution, Radioactive Material” signs posted per 10 CFR 20.1902.</p> <p style="padding-left: 40px;">“Caution, Radiation Area” signs posted per 10 CFR 20.1902.</p> <p style="padding-left: 80px;">Note: “Caution, Radiation Area” sign must be posted if radiation levels are greater than 0.05 mSv (5 mR) per hour at 30 cm from the source.</p> <p style="padding-left: 40px;">“High Radiation Area” signs posted per 10 CFR 20.1902.</p> <p>The following documents are posted in a conspicuous location, or a summary that states where they are located per 10 CFR 19.11.</p> <p style="padding-left: 40px;">Department Form 3, “Notice to Employees.”</p> <p style="padding-left: 40px;">The license, license conditions, or incorporated documents.</p> <p style="padding-left: 40px;">Operating and emergency procedures.</p> <p style="padding-left: 40px;">Transport containers/devices are labeled and legible per 10 CFR 20.1904.</p> <p style="padding-left: 80px;">Note: This includes a visible label containing “Caution, Radioactive Material,” radionuclide(s) present, estimate of quantity, date for which activity is estimated, and radiation levels.</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>
Independent Survey Measurements by the Department Inspector	
<p>Independent confirmatory surveys performed.</p> <p style="padding-left: 40px;">Inspector survey instrument used: Mfg./Make: Model #: Serial #: Last calibration date:</p> <p style="padding-left: 40px;">Licensee survey instrument(s): Mfg./Make: Model #: Serial #: Last calibration date:</p> <p style="padding-left: 40px;">Describe inspector instrument readings as compared to licensee instrument readings.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No

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<p>Highest radiation levels for the following areas:</p> <p style="margin-left: 40px;">Unrestricted areas: _____ mR/hr Note: Include floor/ceiling if applicable.</p> <p style="margin-left: 40px;">Restricted areas: _____ mR/hr</p> <p style="margin-left: 40px;">Other locations surveyed:</p>	
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Transportation of Radioactive Materials

Licensee has shipped packages since the last inspection.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Limited?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Excepted?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Type A?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Type A packages were shipped, were the following met?	
Package/container meets design criteria of 49 CFR 173.410 .	<input type="checkbox"/> Yes <input type="checkbox"/> No
DOT 7-A performance test records on file per 49 CFR 173.415 .	<input type="checkbox"/> Yes <input type="checkbox"/> No
Package labeled properly.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Activity per package did not exceed A-1 limit per 49 CFR 172.704 .	<input type="checkbox"/> Yes <input type="checkbox"/> No
Workers are HAZMAT trained and records on file per 49 CFR 172.704 .	<input type="checkbox"/> Yes <input type="checkbox"/> No
Type B shipped by the licensee?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Waste Management

Criteria: Disposal of material is per license and records are available for review. Disposal; effluent pathways and control; storage areas; transfer; packaging, control, and tracking procedures; equipment; incinerators, hoods, vents, and compactors; license conditions for special disposal methods.

Observations and Findings:

Decommissioning

Criteria: Records are available.

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Observations and Findings:	
Notifications and Reports	
Criteria: Have any thefts, losses, incidents, or overexposures occurred and have they been reported to the Department?	
Observations and Findings:	
Information Notices	
Licensee is receiving information notices.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Licensee has taken appropriate action in response to the notices.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Note: Inspector will provide copies if the licensee has not received them.	
Security Inspection	
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 .	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If yes,	
Licensee Contact Name:	
Contact Telephone Number:	
Contact Email Address:	
Summary of Observations, Findings, and Conclusions	
Business Operations:	
Facility – Visit all storage and use locations identified on the application.	
Radiation Safety Operations.	
Personnel.	

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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.	
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
Identify and list the individuals in attendance:	
Date meeting conducted:	
List those issues discussed at the exit meeting:	
Summary of Violations and Recommendations	