



CANADIAN NUCLEAR SAFETY COMMISSION

Directorate of Nuclear Cycle and Facilities Regulation

Compliance Inspection Report

Unclassified

Licensee: SRB Technologies (Canada) Inc.
Location: SRB Technologies Pembroke Facility
Licence Number: NSPFL-13.00/2034

Inspection Title: General Inspection
Inspection Number: SRBT-2026-02
Inspection Dates: June 3-5, 2026
Report Date: August 18, 2026

Lead Inspector:
Lester Posada, Lead Inspector
Nuclear Processing Facilities Division

Approved By:
Claire Pike, Director
Nuclear Processing Facilities Division



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1. INTRODUCTION

An announced onsite General inspection was conducted at the SRB Technologies Pembroke Facility from June 3, 2025 to June 5, 2026.

Criteria for this inspection were derived directly from the set of documents described in the notification letter [1] and compiled into a Compliance Matrix (Appendix C) which had been provided to SRB Technologies (Canada) Inc. (SRBT) staff prior to the inspection.

The Canadian Nuclear Safety Commission (CNSC) inspection team included:

- Lester Posada, Lead Inspector, NPFD
- Alison O'Connor, Inspector in training, NPFD
- Mike Jones, Observer, NPFD
- Ruxandra Dranga, Subject Matter Expert, RPTD
- Vladimir Khotylev, Subject Matter Expert, RPTD

This report documents the findings and conclusions of the inspection, along with any enforcement actions or recommendations arising from the inspection. The results of this inspection activity will form part of CNSC staff's evaluation of the licensee's performance.

2. PURPOSE AND SCOPE

The purpose of the inspection is to assess SRBT against the requirements of the NSCA, its associated regulations, the conditions of the SRBT licence (NSPFL-13.00/2034) [2] and associated Licence Conditions Handbook (LCH) [3], as well as SRBT programs and procedures, as necessary. The inspection will focus on the safety and control area of Safety Analysis, Operating Performance, Fitness for Service, Environmental Protection, Radiation Protection, Waste and Conventional Health and Safety. This inspection also included follow-up of corrective actions from previous inspections.

3. DESCRIPTION OF INSPECTION METHODS

The following method(s) of assessment were used during the inspection:

- documentation and record review
- visual assessment and verification
- interviews and discussions with licensee staff
- sampling, testing, and measurements

The Compliance Matrix, appended to this report, contains the compliance verification criteria (CVC) used to assess and evaluate compliance with regulatory and licensing requirements for this inspection. The criteria in the Compliance Matrix have been identified to have either "Met" or "Not Met" the applicable requirement. For criteria assessed as "Not Met", the following format is used to show a clear link from the initial inspection finding to the resulting enforcement action:

- compliance verification criteria used to identify the deficiency
- a description of the inspection method(s) used to identify the deficiency
- a description of the finding and analysis linking the compliance verification criteria to the deficiency
- the notice of non-compliance (NNC) requiring the licensee to address the deficiency

An NNC is issued when a non-compliance with the CVC is confirmed through objective evidence obtained from reliable sources and based on verifiable facts. An NNC requires the licensee to take the necessary action(s) to correct the identified non-compliance and respond with one of the following:

- confirmation that compliance has been restored
- a timeframe for restoring compliance
- a timeframe within which a corrective action plan will be submitted

CNSC staff may identify a recommendation as a written suggestion when there are opportunities for improvement based on CNSC experience and industry best practices. There is no obligation for the licensee to act on a recommendation.

As per the CNSC process, at the conclusion of the field verification portion of the inspection, a Preliminary Inspection Facts and Findings Report was provided to SRBT representatives [4]. This report was provided for the purpose of outlining the facts and findings made by the inspection team based on a preliminary review of the criteria set identified in the Compliance Matrix (Appendix C) and observations made at the time of the inspection.

4. CONCLUDING STATEMENTS

Overall, CNSC staff confirmed through this inspection that SRBT's programs for the SCA's of Safety Analysis, Operating Performance, Fitness for Service, Environmental Protection, Radiation Protection, Waste and Conventional Health and Safety are being implemented and maintained as required by the NSCA and its associated regulations, the conditions of the licence and associated LCH. The inspection also included a follow-up of corrective actions from previous inspections.

One (1) NNC, identified in section 4.1, has been identified for SRBT to address. While the NNC does not pose an immediate risk to the health and safety of the environment or persons, SRBT is required to take corrective actions to address the non-compliance.

Based on CNSC experience and industry best practices, four (4) recommendations, identified in section 4.2, are provided as an opportunity for improvement. There is no obligation for SRBT to act on these recommendations.

4.1 Notices of Non-compliance

The following notice of non-compliance was identified as a result of this inspection:

SRBT-2026-02-NNC01: SRBT shall document or reference the justification supporting the established Operating Limits and Conditions in the Safety Analysis Report.

SRBT is requested to submit its corrective action for the one (1) non-compliance 60 days from the date this report was issued. The response must include corrective measures and proposed completion dates, including the date by which the corrective measure will be documented (if required), implemented, and verified for adequacy and effectiveness.

4.2 Recommendations

The following recommendations have been identified for SRBT's consideration:

SRBT-2026-02-R01: SRBT should document in the Safety Analysis Report a discussion on the postulated initiating events and their potential consequences, if any, involving the liquid nitrogen tank external to the SRBT facility.

SRBT-2026-02-R02: SRBT should discuss in the Safety Analysis Report if there is any monitoring in place for external weather-related events identified as potential initiating events and consistently document the justification for the estimated time for actions, as applicable.

SRBT-2026-02-R03: SRBT should document the operating limit for tritium loading of bulk containers in the relevant operating procedures, for completeness.

SRBT-2026-02-R04: SRBT should provide a definition of the site boundary in the Safety Analysis Report, to clarify how requirements in sections 4.7 and 4.8 of REGDOC-2.4.4 *Safety Analysis for Class IB Nuclear Facilities* are implemented.

5. REFERENCES

- [1] Letter, A. O'Connor (CNSC) to J. MacDonald (SRB Technologies), Notice of CNSC Compliance Inspection at SRB Technologies (Canada) Inc., SRBT-2026-02 General Inspection, SharePoint ID [R9LMLOJU8UXI-1779587213-259](#), Unclassified.
- [2] Class IB Nuclear Substance Processing Facility Licence, NSPFL-13.00/2034, SharePoint ID [R9LMLOJU8UXI-1136209017-10](#), Unclassified.
- [3] Licence Conditions Handbook, SRB Technologies (Canada) Inc., LCH-NSPFL-13.00-2034, July 26, 2022, SharePoint ID [R9LMLOJU8UXI-1136209017-11](#), Unclassified
- [4] CNSC Report, *Preliminary Inspection Facts and Findings Report, SRBT-2026-02 General Inspection Preliminary Inspection Facts and Findings Report countersigned by SRBT*, June 5, 2026 Document ID: [R9LMLOJU8UXI-1779587213-340](#).

APPENDIX A ATTENDANCE RECORDS

CNSC Inspection Meeting Attendance
Directorate of Nuclear Cycle and Facilities Regulation

SRBT-2026-01

Inspection Meeting Attendance Record Directorate of Nuclear Cycle and Facilities Regulation Nuclear Processing Facilities Division

Licensee: SRB Technologies (Canada) Inc.
Location: SRB Technologies Pembroke
Licence Number: NSPFL-13.00/2034
Inspection Title: General Inspection
Inspection Number: SRBT-2026-02
Inspection Date(s): June 3-5, 2026
Lead Inspector: Lester Posada, NPFD
Meeting Type: Opening Meeting

Name (print)	Role or Job Title
Lester Posada	Inspector, CNSC
Mike Jones	Senior Project Officer/Inspector, CNSC
Ruxandra Dranga	Technical Specialist, CNSC
Vladimir Khotylev	Technical Specialist, CNSC
Alison O'Connor	Inspector in training, CNSC
JAMIE MACDONALD	MANAGER - HP+RA, SRBT.
Tanya Sennett	Quality Manager

CNSC Inspection Meeting Attendance
Directorate of Nuclear Cycle and Facilities Regulation

SRBT-2026-01

Inspection Meeting Attendance Record
Directorate of Nuclear Cycle and Facilities Regulation
Nuclear Processing Facilities Division

Licensee: SRB Technologies (Canada) Inc.
Location: SRB Technologies Pembroke
Licence Number: NSPFL-13.00/2034
Inspection Title: General Inspection
Inspection Number: SRBT-2026-02
Inspection Date(s): June 3-5, 2026
Lead Inspector: Lester Posada, NPFD
Meeting Type: Closing Meeting

Name (print)	Role or Job Title
LESTER POSADA	Inspector, CNSC
Alison O'Connor	Inspector-in-training, CNSC
Ruxandra Dranga	Technical Specialist, CNSC
Vladimir Khotylev	Technical Specialist, CNSC (Virtual)
Mike Jones	Senior Project Officer/Inspector, CNSC
JAMIE MACDONALD	MANAGER - HP+RA
Joshua Bull	Assistant Manager - HP
SEPHANE LOVESSE	PRESIDENT / CO-OWNER

APPENDIX B SAMPLE RESULTS

Final Report

2026-06-15

Laboratory Services

Canadian Nuclear Safety Commission

Sample Analysis Report for : LR-SA-2026-00022

Submitted By: Alison O'Connor

Division/Directorate/Site: NPDF_DITN

Approved By: Nadereh St-Amant

Analysis Review and Report by: Lisa Shi

Background and Methodology:

Ten swipe samples were collected at SRB Technologies by CNSC Staff on June 4, 2026 and sent to the CNSC Laboratory for tritium analysis. All samples were received in good condition on June 5, 2026. Additional information on the samples can be found on LR-SA-2026-00022, which was provided to the lab by the customer.

The swipes were analyzed using a liquid scintillation analyzer for tritium activity.

A laboratory blank sample was also included in the measurement sequence for quality control.

Result Summary:

The analysis results apply to samples as received from the customer and relate only to the sample tested.

The samples were analyzed on June 8, 2026. The activity results for swipes are reported in unit of Bq/cm², using a surface area of 100cm² as provided by the customer and wipe removal efficiency of 10%. The reported uncertainty, if applicable, is calculated at one standard deviation and represents the laboratory analytical measurement uncertainty only.

The results are listed in the following table.

Results:

Sample Type: Swipe

Analysis: Tritium (HTO)

Sender Sample Id	Analyte	Result	Uncertainty	Unit
SRBT-001 Blank	HTO	<0.02		Bq/cm ²
SRBT-002 conference room	HTO	<0.02		Bq/cm ²
SRBT-003 RSO office	HTO	<0.02		Bq/cm ²
SRBT-004 Lunch room	HTO	<0.02		Bq/cm ²
SRBT-005 Glass shop	HTO	0.03	0.01	Bq/cm ²
SRBT-006 Visitor entrance	HTO	<0.02		Bq/cm ²

SRBT-007 President's office	HTO	0.02	0.01	Bq/cm ²
SRBT-008 Zone 2 transition	HTO	0.21	0.01	Bq/cm ²
SRBT-009 Zone 3 transition	HTO	<0.02		Bq/cm ²
SRBT-010 Left washroom near zone transitions	HTO	0.03	0.01	Bq/cm ²

6/4/2026 1:50:32 PM QuantaSmart (TM) - 4.00 - Serial# SGTC43140445
Protocol# 5 - 02 - Swipe Tests TriCarb A.lsa
Confirmatory Swipes - CNSC CM

Page # 1
User: Chris

Assay Definition

Assay Description:
Swipe Assay - 100cm2 (for all swipes except shipments being offered for transport).
Assay Type: DPM (Single)
Report Name: Swipe Assessment Report
Output Data Path: C:\Packard\Tricarb\Results\Chris\02 - Swipe Tests TriCarb A\20260604_1241

Count Conditions

Nuclide: MidiVials Swipe
Quench Indicator: tSIE
External Std Terminator (sec): 0.5 2s
Pre-Count Delay (min): 1.00
Quench Set:
Low Energy: Swipe Dec 2019
Count Time (min): 3.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract

Background Subtract: On - IPA
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Instrument Block Data

MODEL=Tri-Carb 2910TR
VERSION=2.12
SERIAL=SGTC43140445

CSC-2026-01
SW/DEC 2019
CM

Cycle 1 Results

P#	S#	TIME	CPMA	DPM1	tSIE	Eff%	Bq/cm2	LUM
5	1	12:45:24 PM	1510	2728	510.34	55.36	4.55	0.00
5	2	12:52:12 PM	3	6	512.79	55.61	0.01	1 CONF. ROOM TABLE
5	3	12:59:01 PM	2	3	536.66	58.12	0.00	1 JAMIE OFFICE
5	4	1:05:47 PM	4	8	524.85	56.88	0.01	1 LUNCH ROOM
5	5	1:12:32 PM	5	9	513.54	55.69	0.01	2 GLASS SHOP
5	6	1:19:15 PM	0	0	529.73	57.39	0.00	2 VISITOR LOG TABLE
5	7	1:25:59 PM	1	2	521.30	56.51	0.00	1 STEPHANE OFFICE
5	8	1:32:46 PM	7	13	530.30	57.45	0.02	0 ZZ BARRIER
5	9	1:39:30 PM	4	7	531.85	57.61	0.01	1 MONITORING TABLE
5	10	1:46:16 PM	221	408	497.83	54.04	0.68	1 WASH ROOM.

APPENDIX C COMPLIANCE MATRIX

Directorate of Nuclear Cycle and Facilities Regulation

Nuclear Processing Facilities Division

Licensee:	SRB Technologies (Canada) Inc.
Location:	Tritium Processing Facility (Pembroke, ON)
Licence Number:	NSPFL-13.00/2034
Inspection Title:	General Inspection
Inspection Number:	SRBT-2026-02
Inspection Dates:	June 3-5, 2026
Lead Inspector:	Lester Posada, NPFD

Inspection Safety and Control Area(s) and/or Other Matters of Regulatory Interest

All appropriate Safety and Control Area(s) for this Compliance Inspection are identified below. If other matters of regulatory interest are being inspected, "Other" is selected and specified.

- | | |
|---|--|
| ☐ Management System | ☒ Conventional Health and Safety |
| ☐ Human Performance Management | ☒ Environmental Protection |
| ☒ Operating Performance | ☐ Emergency Management & Fire Protection |
| ☒ Safety Analysis | ☒ Waste Management |
| ☐ Physical Design | ☐ Security |
| ☐ Fitness for Service | ☐ Safeguards & Non-Proliferation |
| ☒ Radiation Protection | ☐ Packaging and Transport |
- ☒ **Other:** Follow up on previous inspection findings and action level exceedance.
-

Safety and Control Area: Safety Analysis	
Criteria #01	LC 4.1: Safety Analysis Program <i>The licensee shall implement and maintain a safety analysis program.</i> REGDOC-2.4.4, Section 3: Safety Analysis Program <i>The licensee shall develop, implement, conduct and maintain a safety analysis program for the nuclear facility.</i> <i>In support of the program, the licensee shall establish one or more internal safety committees to advise the organization's management on safety issues related to the commissioning, operation and modification of the facility. The licensee shall ensure that the committee has the necessary breadth of knowledge and experience to provide appropriate advice. The members shall, to the extent necessary, be independent of the operations management raising the safety issue.</i> <i>Essential elements of a safety analysis program are the statements made by the licensee about the licensee's safety, health and environmental policies. To put these statements into effect, the licensee shall also specify and put in place organizational structures, standards and management arrangements capable of meeting the organization's objectives and public commitments.</i> Licensees Programs and Procedures: • SRBT Safety Analysis Report, Revision 5, December 2023 • SRBT Facility-Level Safety Analysis, ENG-022, Revision C, March 13, 2023
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records and procedures, walk through observation Compliance Expectation: (a) Safety analysis report is developed, approved and maintained (b) At least one internal safety committee is in place to advise the organization's management on safety issues related to the commissioning, operation and modification of the facility (c) The committee has the necessary breath of knowledge and experience to provide appropriate advice (d) The members of the committee are, to the extent necessary, independent of the operations management raising the safety issues (e) Policy statements are in place for the health and safety of operating personnel and the public and protection of the environment. (f) The statements are provided to staff as a declaration of the organization's objectives and the public commitment of corporate management.
Finding / Analysis	SRBT provided the SRBT Safety Analysis Report revision 5 and the Facility-Level Safety Analysis document, ENG-022 revision C, in response to CNSC request for documents, to demonstrate that a safety analysis report was developed, approved and maintained. Revision 5 of the Safety Analysis Report was approved by CNSC staff in December 2023.

Safety and Control Area: Safety Analysis	
	SRBT staff explained that it has a suite of internal safety committees in place to advise the organization's management on safety related issues. The various committees, their roles, goals and how often they meet are described in SRBT's committees process and description document. SRBT explained that it posts all minutes from its safety committees' meetings on the internal communication board, for all its employees to read and stay informed. The committees have representatives from both management and employees. SRBT provided procedure ENG-022 revision C, describing the facility's safety analysis program, which is governed by SRBT's management system and is consistent with the requirements in CSA standard N286, as required in REGDOC-2.4.4, section 3. ENG-022 also describes the safety, health and environmental policies in place as part of SRBT's Quality Policy. Policies and procedures which are part of SRBT's management system are captured in the <i>Document and Process Structure</i> document which discusses the Management system document structure. During the inspection, SRBT demonstrated this document and explained its document structure system. SRBT explained that any changes to its policies and procedures would be communicated to staff through means such as internal bulletin board, specific training and/or retraining, etc. This includes any changes to the Safety Analysis Report and supporting documents.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Criteria #02	REGDOC-2.4.4, Section 4.1: Classification of events into facility states <i>The licensee shall classify events into one of the facility states: anticipates operational occurrences (AOO), design-basis accident (DBA), beyond-design-basis accident (BDBA) and specific ranges within BDBA referred to as design extension conditions (DEC), or equivalent classification scheme.</i> Licensees Programs and Procedures: SRBT Safety Analysis Report, Revision 5, December 2023
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records and procedures, walk through observation Compliance Expectation (a) The SAR and/or associated safety analysis documents discuss the classification scheme for events (b) The SAR and/or associated safety analysis documents classify the events into the defined categories

Safety and Control Area: Safety Analysis	
Finding / Analysis	SRBT provided procedure ENG-022, which describes the high-level methodology for performing the safety analysis, including the classification scheme for events, i.e., AOOs, DBAs, BDBAs and a subset of BDBAs referred to as DEC. The SRBT SAR includes information on events and event sequences and their classification into AOOs, DBAs, BDBAs and DEC.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Criteria #03	REGDOC-2.4.4, Section 4.3: Postulating Initiating Events <i>The safety analysis and design for the nuclear facility shall consider not only the facility itself but also the interfaces with other facilities and installations that may affect its safety.</i> Licensees Programs and Procedures: SRBT Safety Analysis Report, Revision 5, December 2023
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records and procedures, walk through observation Compliance Expectation (a) The SAR considers and discusses postulating events within the facility (b) The SAR considers interfaces with surrounding facilities (i.e., within the same building or adjacent to the licensee's physical building)
Finding / Analysis	Appendix A of the SRBT SAR discusses postulating events external and internal to the facility and classifies them using the classification scheme previously defined (see discussion for Criteria #02 above). The Appendix also includes justification for the classification provided for each identified postulated initiating event. The SRBT SAR discusses interfaces with neighbouring industrial facilities and the impact of external events at these facilities to the activities at SRBT (e.g., the propane storage tanks across the street from the SRBT facility).
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	

Safety and Control Area: Safety Analysis	
Criteria #04	REGDOC-2.4.4, Section 4.3.1: Identification of postulated initiating events <i>The licensee shall identify PIEs (both internally and externally initiated) that could lead to:</i> • <i>Radiation exposure to workers or to the public</i> • <i>A release of significant amounts of nuclear substances</i> • <i>A release of hazardous substances (such as hazardous chemicals) associated with the nuclear substances</i> <i>The licensee shall describe methods used to identify the PIEs.</i> <i>The licensee shall document and maintain the resulting list of PIEs. With input from technical specialists and experts in safety analysis, the licensee shall conduct a review of the list of PIEs:</i> • <i>initially, to determine that the list is comprehensive and that the events include:</i> ○ <i>all credible failures of the facility's SSCs</i> ○ <i>all credible human errors that could occur in any of the operating conditions of the facility</i> • <i>regularly, to confirm the relevance of the current list and revise it as necessary, given that the relevant PIEs may change as the facility goes through different phases of its lifecycle (for example, as a result of aging effects)</i> Licensees Programs and Procedures: • <i>SRBT Safety Analysis Report, Revision 5, December 2023</i>
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records and procedures, field observation Compliance Expectation (a) The SAR and other applicable safety analysis documents and records identify postulating initiating events initiated both internally to the facility and externally to the facility (e.g., natural phenomena such as flooding, earthquakes, fires, aircraft crashing, explosions, etc.) (b) Discuss the methods used to identify the PIEs in the SAR, internal company procedures, instructions, documentation (c) Demonstrate that the resulting list of PIEs is reviewed and maintained periodically throughout the lifecycle of the facility (e.g., as a result of aging effects)
Finding / Analysis	The Safety Analysis Report identifies postulating initiating events (PIEs) internal to the facility such as loss of electrical power, domestic water, fire detection, package drop, etc., as well as external to the facility such as tornado, flooding, earthquake, aircraft crash, extreme weather conditions (cold or heat), large vehicle impact to the facility, emergency event at a nearby propane distribution facility, etc.

Safety and Control Area: Safety Analysis	
	SRBT explained the methods and the process used to identify and classify the PIEs, which includes Operational Experience (OPEX), external OPEX, and technical team review. SRBT also described the review process for the analysis of the PIEs, including who participated in the review process. The following forms the basis for Recommendation SRBT-2026-02-R01: During the facility walkdown, CNSC staff noted the presence of a large liquid nitrogen tank located outside the physical building, adjacent to the bulk and rig stacks. SRBT explained that this tank is not owned by SRBT, and that during the current revision of the Safety Analysis Report, SRBT staff looked at postulated initiating events involving the liquid nitrogen tank and concluded none of the events have an impact on the safety of the facility. The liquid nitrogen tank is a permanent potential hazard external to the facility, which falls within the category of external events described in Appendix C of REGDOC-2.4.4. However, the SAR does not document the assessment performed for events involving the liquid nitrogen tank and its conclusions. The following forms the basis for Recommendation SRBT-2026-02-R02: During the facility walkdown and subsequent interviews, SRBT explained that there is no formal monitoring process for external events such as tornado or extreme meteorological phenomena, which would alert employees or first responders of the potential for such events. Appendix A of the SAR, subsection titled “ENG-022, Facility-Level Safety Analysis; Section 4, Step 2” estimates time for actions for a tornado at “5 minutes”, while other natural phenomena such as flooding has an estimated time for actions at “5 minutes for evacuation depending on warnings” or seismic events has an estimated time for actions at “5 minutes for evacuation depending on event”; the latest two example indicating some level of monitoring being in place. SRBT discussed the process implemented to periodically review and maintain the safety analysis report, including the postulated initiating events. SRBT explained that REGDOC-2.6.3, <i>Aging Management</i> is not part of SRBT’s License Conditions Handbook, but SRBT looks at aging management concepts during planned maintenance procedures. The PIEs are reviewed during the 5-year SAR review cycle or as changes to processes and activities are planned, to ensure they remain valid.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met with two recommendations.
☒ Recommendation	Recommendation SRBT-2026-02-R01: SRBT should document in the Safety Analysis Report a discussion on the postulated initiating events and their potential consequences, if any, involving the liquid nitrogen tank external to the SRBT facility. Recommendation SRBT-2026-02-R02: SRBT should discuss in the Safety Analysis Report if there is any monitoring in place for external weather-related events identified as potential initiating events and consistently document the justification for the estimated time for actions, as applicable.

Safety and Control Area: Safety Analysis	
Criteria #05	REGDOC-2.4.4, Section 4.5: Identification of structures, systems and components important to safety <i>For each event sequence the licensee shall identify the safety functions, the corresponding SSCs important to safety, and the administrative safety requirements that are used to implement the defence-in-depth concept.</i> <i>To be consistent with the safety analysis results, the licensee shall ensure that:</i> • <i>SSCs important to safety are designed to withstand the effects of extreme loadings and environmental conditions (such as extremes of temperature, humidity, pressure and radiation levels) that may be encountered in operational states and in accident conditions</i> • <i>the required intervals for periodic testing and inspection of SSCs important to safety are defined</i> • <i>the codes and standards applicable to SSCs important to safety are identified, and their use is justified</i> • <i>the necessary levels of availability and reliability of SSCs important to safety, as established in the safety analysis, are attained</i> Licensees Programs and Procedures: • <i>SRBT Safety Analysis Report, Revision 5, December 2023</i>
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation (a) The SAR and/or safety analysis documentation and records identify the SSCs important to safety, their safety function, and any requirements used to implement the defence-in-depth concept. (b) Maintenance, testing and availability of SSCs are in place and performed periodically (e.g., filter inspections/maintenance), fire alarms, fire sprinklers, etc. (c) Codes and standards applicable to SSCs important to safety are identified and justified (d) Licensee's documentation defines the intervals for periodic testing and inspection of SSCs important to safety

Safety and Control Area: Safety Analysis	
Finding / Analysis	The Safety Analysis Report documents the list of SSCs that are important to safety at SRBT, and notes that the list is maintained and serviced using a graded approach, as part of the preventative maintenance program. SRBT explained that the preventative maintenance program is developed based on three levels, defined according to several criteria, including importance to safety. SRBT also noted that periodic testing and inspection for SSCs is defined at the program level, and demonstrated it with document MTC-003, <i>Active Ventilation Maintenance</i>, revision E, as an example during the interviews. To exemplify the maintenance and testing of SSCs, SRBT provided the 2025 <i>Annual Facility Condition Inspection</i>, PLC-SRBT-P2535-001-SCI-0, issued October 9, 2025, to demonstrate completion of the annual fire protection and suppression system assessment, as noted in the Safety Analysis Report. The Safety Analysis Report summarizes codes and standards applicable to SSCs important to safety.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Criteria #06	REGDOC-2.4.4, Section 4.6 Operating Limits and Conditions <i>The licensee shall derive the OLCs from the safety analysis. The licensee shall document the OLCs before starting operation of the facility.</i> Licensees Programs and Procedures: • <i>SRBT Safety Analysis Report</i>, Revision 5, December 2023 • <i>No Tritium Processing During Precipitation</i>, ENG-016, Revision C, October 2, 2017 • <i>Differential Pressure Measurements</i>, ENG-014, Revision E, July 22, 2019 • <i>PUTT Management</i>, RSO-038, Revision D, November 20, 2018 • <i>Purchasing/Contract Procedure</i>, MAT-001, Revision M, November 4, 2025 • <i>Receiving Nuclear Substances</i>, SHP-014, Revision G, March 19, 2026 • <i>Licence Limits, Action Levels and Administrative Limits</i>, Revision G, July 14, 2024 • <i>Bulk Splitter Operation</i>, Revision X, 450-001, March 16, 202
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation

Safety and Control Area: Safety Analysis	
	Compliance Expectation: (a) Operational limits and conditions are established to support the safe operation of the facility (b) The OLCs are derived from analysis detailed in the SAR (c) Operational personnel are aware of the OLCs and how to implement them
Finding / Analysis	SRBT submitted procedures and documentation supporting the implementation of OLCs discussed in the Safety Analysis Report. During the facility walkdown, it was confirmed that the copies of the approved and recent versions of these procedures are available, in a binder, in the production area, for operations staff to use as reference. The following forms the basis for Notice of Non-Compliance SRBT-2026-02-NNC01: SRBT explained that most of the OLCs are historical, stemming from previous CNSC commitments or as commitments made as part of previous licence applications. SRBT provided the example of the OLC on no operations being allowed during precipitation, which was implemented historically to reduce the impact on the environment. The Safety Analysis Report, Section 10 summarizes the list of OLCs applied at SRBT. However, the SAR does not include justification, or references to justification in support of the established OLCs. This justification shall be documented in the SAR for completeness. The following forms the basis for Recommendation SRBT-2026-02-R03: The Bulk Splitter Operation Document Number 450-001, operating procedure provided documented steps discussing all the OLCs with the exception of the bulk container loading limit. The SAR states that “no bulk container shall exceed 1,000,000 GBq of tritium loading at any time”. SRBT explained that personnel are trained on this OLC, as applicable, and they are knowledgeable of this limit. Interviews conducted with personnel responsible for implementing this OLC confirmed SRBT’s explanation. However, for completeness, this limit should be added to relevant operating procedures.
☐ Met ☒ Not Met	Notice of Non-Compliance SRBT-2026-02-NNC01: SRBT shall document or reference the justification supporting the established OLCs in the Safety Analysis Report.
☒ Recommendation	Recommendation SRBT-2026-02-R03: SRBT should document the operating limit for tritium loading of bulk containers in the relevant operating procedures, for completeness.

Safety and Control Area: Safety Analysis	
Criteria #07	REGDOC-2.4.4, Section 4.7 Acceptance Criteria <i>The licensee shall establish explicit criteria for the level of safety to be achieved to demonstrate that the licensee is making adequate provision for the protection of the environment and the health and safety of persons.</i> <i>The licensee shall set limits on the radiological consequences and associated chemical consequences for workers and the public of direct exposures to radiation or discharges of radionuclides to the environment. These limits shall:</i> <i>be set equal to, or below:</i> <i>the provisions of the Radiation Protection Regulations, when applicable and as far as practicable; otherwise</i> <i>criteria established by national or international standards as triggers for protective measures during radiological or chemical emergencies (for example, for sheltering or for distribution of iodine pills)</i> <i>apply to the consequences of operational states and the possible consequences of AOO and DBA at the facility</i> <i>apply at the site boundaries of the licensed facility when offsite consequences to the public are considered</i> Licensees Programs and Procedures: <i>SRBT Safety Analysis Report, Revision 5, December 2023</i>
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation: (a) Acceptance criteria for AOO and DBA are clearly defined in SAR and/or other safety analysis program documentation (b) Acceptance criteria are aligned with the requirements of REGDOC-2.4.4 <i>Safety Analysis for Class 1B Nuclear Facilities</i> (c) The site boundaries for the licensed facility are established/defined (d) Acceptance criteria when offsite consequences to the public are considered are applied at the site boundaries
Finding / Analysis	The SRBT Safety Analysis Report documents the safety objectives and acceptance criteria aligned with the requirements of REGDOC-2.4.4, sections 4.7 and 4.8. The acceptance criteria when offsite consequences to the public are considered are applied following the requirements and guidance in REGDOC-2.4.4. The following forms the basis for Recommendation SRBT-2026-02-R04: During the facility walkdown and interviews, SRBT explained the interpretation used for “site boundary” around the facility, since the SRBT facility is located in a building complex, surrounded by a parking lot area but no physical fence.

Safety and Control Area: Safety Analysis	
	SRBT also noted that the site boundary is usually defined in the licence application, and that, from the perspective of the safety analysis, the site boundary is defined at a certain distance from the physical building, based on acceptance criteria and safety goals for accident scenarios.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☒ Recommendation	Recommendation SRBT-2026-02-R04: SRBT should provide a definition of the site boundary in the Safety Analysis Report, to clarify how requirements in sections 4.7 and 4.8 of REGDOC-2.4.4 are implemented.
Criteria #08	REGDOC-2.4.4, Section 5.2 Content of safety analysis and records <i>The licensee shall report the safety analysis results in sufficient detail to permit review by CNSC staff.</i> <i>The licensee shall ensure that the content of the safety analysis documents and records for a facility includes, as a minimum, the SAR and the OLCs (or equivalent).</i> <i>The SAR shall contain a representative summary of the safety analysis documents and records.</i> Licensees Programs and Procedures: • SRBT Safety Analysis Report, Revision 5, December 2023
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation (a) The safety analysis report contains an analysis of the hazards associated with the facility (b) The safety analysis report demonstrates compliance with regulatory requirements and criteria (c) The safety analysis contains analyses of the events and event sequences postulated for the facility, and description of the design safety features in place to prevent accidents or minimize their likelihood of occurrence (d) The safety analysis documents and records for the facility include, at a minimum, the SAR and the OLCs

Safety and Control Area: Safety Analysis	
Finding / Analysis	The SRBT safety analysis report documents analysis of the hazards associated with the facility and establishes safety goal and acceptance criteria and implements requirements in REGDOC-2.4.4. The safety analysis report contains detailed descriptions and analysis of events and event sequences that are bounding for the facility, which includes descriptions of design safety features in place to prevent the accidents or minimize their likelihood of occurrence. SRBT provided documentation and records to demonstrate that it has a safety analysis program in place, and it systematically evaluates events and events sequences that could impact the health and safety of its employees, the public and the environment. The results are discussed in the safety analysis report and associated OLCs.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Criteria #09	REGDOC-2.4.4, Section 5.4 Maintaining safety analysis documents and records <i>The licensee shall perform an ongoing site evaluation. If the ongoing site evaluation identifies new information about the site characteristics (that is, changing the results of the identification and classification of PIEs), then safety precautions (such as engineering controls and emergency arrangements) may need to be reviewed and revised.</i> Licensees Programs and Procedures: - SAR: <i>Minor Issues for Future Correction</i>, ENG-022-F-01, Revision A, dated May 13, 2026 - Facility-Level Safety Analysis, ENG-022, Revision C, March 13, 2023
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation (a) The SAR and other safety analysis documents and records are periodically updated (no later than every 5 years) (b) The licensee has a process in place to trigger a SAR review and revision if site characteristics or activities change

Safety and Control Area: Safety Analysis	
Finding / Analysis	SRBT provided the <i>Facility-Level Safety Analysis</i> procedure ENG-022 which documents the process implemented to trigger a safety analysis report review and/or revision. The procedure also describes the type of reviews (i.e., routine and non-routine), which are in place to meet the requirements of periodic safety analysis report updates, and the steps implemented for each review-type. The procedure defines routine reviews for the safety analysis report as the review conducted at least once every five years, and non-routine reviews of the safety analysis report as the reviews triggered by a change to the facility or its operations that are outside the bounds of the accepted analysis, or a change in the analyzed PIEs. ENG-022 describes the location of SBRT record # ENG-022-F-01, which captures non-significant or minor changes to the facility, which are to be incorporated in the next revision of the safety analysis report. SRBT explained that once the minor changes captured on ENG-022-F-01 are incorporated in the safety analysis report, the record is closed off and a new form is initiated for the next 5-year review cycle.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	

Safety and Control Area: Environmental Protection	
Criteria #10	Licensees Programs and Procedures: SRBT Environmental Monitoring Program (EMP) Source: Regulation Class IB Nuclear Facilities Regulations, Section 14 (1): Every licensee shall keep a record of the results of the effluent and environmental monitoring programs referred to in the licence.
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Records pertaining to the results of effluent (airborne and liquid emissions), environmental, and groundwater monitoring programs. • Review weekly stack monitoring record • Review liquid effluent monitoring record • Review sample analysis and reporting records of airborne and liquid effluent • Review environmental and groundwater monitoring records

Safety and Control Area: Environmental Protection	
Finding / Analysis	<u>Field check/Record review:</u> CNSC staff confirmed that SRBT maintains records of airborne and liquid effluent releases from the facility. Airborne and liquid effluent monitoring records were reviewed, and staff confirmed that emissions remained below the applicable licence limits. No action levels were exceeded during the 2025 calendar year. During facility walkdowns, environmental monitoring and sampling locations were observed. Staff also confirmed that SRBT continues to maintain a network of groundwater monitoring wells around the facility. Gaseous and liquid effluent monitoring records for the week of January 6–12, 2026, were reviewed. Staff confirmed that emissions remained below the applicable licence limits during the review period. The following records were examined: • Bubbler Data Worksheet EFF-001-F-04 • LSC Vials for the Bubblers – LSC Counting Report • Real-Time Stack Monitoring Trend • Stack Monitoring Report Form EFF-001-F-02
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Criteria # 11	Licensees Programs and Procedures: SRBT Effluent Monitoring Program Details: 4.9 Acceptance Criteria Compliance Expectation All liquid scintillation counting (LSC) assays performed in support of the analysis of effluent require associated quality control (QC) checks, in line with the applicable LSC-procedure (LSC-003, Analysis of LSC Quality Control Data).
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation Field checks/interview: • LSC - weekly normalization and calibration • Ensure routine gaseous effluent sample batches include one method blank, two reference standards, and four duplicates • Ensure routine liquid effluent sampling batches include one method blank, one reference standard, and a triplicate.

Safety and Control Area: Environmental Protection	
Finding / Analysis	Through interviews with facility staff and review of records, the inspection verified that weekly normalization and calibration of the Liquid Scintillation Counter (LSC) are being performed as required. LSC Counting Reports for bubbler samples were reviewed to confirm that the required quality control activities had been completed. Routine gaseous effluent sample batches were reviewed, including the LSC Vials for the Bubblers – LSC Counting Report. The records confirmed that each batch included one method blank, two reference standards, and four duplicate samples, consistent with the SRBT's sampling and analytical requirements. Routine liquid effluent sampling records were also reviewed and confirmed that each sample batch included one method blank, one reference standard, and one triplicate sample, in accordance with established procedures. Environmental monitoring records for April 2026, including EMP-012-F-01, Rev. B was reviewed. The records demonstrated that environmental monitoring activities were completed as scheduled and documented in accordance with the facility's environmental monitoring program. Based on the interviews conducted and the records reviewed, the inspection verified that quality control measures for gaseous and liquid effluent monitoring and environmental monitoring were implemented in accordance with the applicable procedures and compliance expectations.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Follow up from Environment Protection Inspection SRBT-2025-01	
Criteria # 12	SRBT-2025-01-NNC01: SRBT shall ensure that groundwater monitoring wells are inspected, repaired, and maintained to ensure integrity of the wells and casing as per MTC-014 and CSA N288.7. SRBT-2025-01-NNC02: SRBT shall update their procedure EMP-004 Receiving Water/River Monitoring to reflect current practices.
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation SRBT-2025-01-NNC01: As per email correspondence on April 28, 2026 action to be taken were: 1. The groundwater well contractor will repair the three wells where the protective casing requires maintenance before the next sampling campaign in December 2025. 2. A comprehensive maintenance assessment of all dedicated groundwater monitoring wells will be undertaken by qualified members of the Health Physics team.

Safety and Control Area: Environmental Protection	
	3. Once all well conditions are understood, the Manager – Health Physics and Regulatory Affairs will assess each well, the original groundwater monitoring report, the objectives of the monitoring program, and the trends in monitoring data at each well, in order to determine if the well requires maintenance or repair, or (if sampling can be ceased while still maintaining the objectives of the program), if it is feasible for it to be decommissioned. 4. This work will be done with the qualified contractor. SRBT-2025-01-NNC02: 1. Internal non-conformance report NCR-1025 has been initiated to document this regulatory non-compliance and to record and track the actions taken to address the issues. EMP-004 will be revised to correct the organization that performs the routine field sampling and analysis of the water of the Muskrat River from a qualified third-party service provider to SRBT. This action is expected to be completed and verified for adequacy and effectiveness by October 31, 2025.
Finding / Analysis	SRBT-2025-01-NNC01: On July 22, 2026, CNSC provided a review for SRBT's Groundwater Monitoring Program well assessment submission. The review provided reasoning as to why SRBT should re-evaluate the groundwater monitoring program assessment. This NNC remains open. CNSC staff will continue to follow-up on the status of this NNC. SRBT-2025-01-NNC02: CNSC staff reviewed the revised EMP-004 Rev. C Receiving Water / River Monitoring – Field Sampling document to address NCR-1025 to correct the organization that performs field sampling activities. The document was updated October 22, 2025. This NNC is considered closed.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Internal Audits	
Criteria # 13	Licensees Programs and Procedures: Environmental Management System 3.3 Routine Review of Environmental Aspects
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation 2023 Self-Assessments: Environmental Monitoring Program, Effluent Monitoring Program, Groundwater Monitoring Program

Safety and Control Area: Environmental Protection	
	2023 Benchmarking: Environmental Monitoring Program, Effluent Monitoring Program, Groundwater Monitoring Program
Finding / Analysis	Through interviews with facility staff and review of program documentation, the inspection verified that the 2023 self-assessments and benchmarking activities for the Environmental Monitoring Program, Effluent Monitoring Program, and Groundwater Monitoring Program were completed. The assessments and benchmarking records were reviewed to confirm that program performance was evaluated and opportunities for continuous improvement were identified. A review of 2025 corrective action records, including Non-Conformance Report (NCR) #1036 and Opportunities for Improvement (OFIs) related to the monitoring programs. Staff described the process used to evaluate, track, and implement corrective actions and improvements arising from self-assessments and benchmarking activities. Records reviewed included OFI-808, addressing animal and fish testing, and OFI-809, addressing soil sampling of ecosystem components, including earthworms. The inspection also verified the opportunity for improvement related to implementing quarterly sampling in place of the May sample set. Documentation demonstrated that these items were tracked through the facility's corrective action program, with actions documented and monitored to completion or ongoing implementation, as applicable. Based on the interviews conducted and the records reviewed, the inspection verified that findings and opportunities for improvement identified through self-assessments, benchmarking activities, and non-conformance reporting were documented and managed in accordance with the facility's corrective action process.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Effluent Monitoring - Maintenance	
Criteria # 14	Safety Analysis Report Effluent Monitoring Program
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation Real time data on facility emissions is provided to staff processing tritium via remote display units ie. Tritium-in-air sample collectors for stack monitoring ('bubblers')

Safety and Control Area: Environmental Protection	
Finding / Analysis	Field check: - Reviewed the TAM flow rate 4-6 litres per minute (remote display units (RDU) in Rig Room and Tritium Lab) - While in Zone 2, the bubblers and flowmeters were observed with no issues noted. The flowmeter calibration records were reviewed and were up to date.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	

Radiation Protection - Training and Qualifications	
Criteria # 15	Licensee Document: Radiation Safety Program Section 4.3 Personnel Qualifications and Training in Radiation Protection <i>"All workers at SRBT are provided with training to ensure they are aware of the radiation hazards associated with tritium, and the methods of protecting themselves from these hazards."</i> Follow-up to SRBT-2024-02-NNC01: SRBT shall review the RP training requirements established for all employees and determine if the frequency should be modified to ensure all workers are trained as per program expectations.
Inspection Method / Compliance Expectation	Inspection Method Interview, review records, procedures, field observation Compliance Expectation - Review records of Indoctrination Training for any new employees - Review records of Radiation Protection Training – Annual Refresher, including records of justification for any missed training

Radiation Protection - Training and Qualifications	
Finding / Analysis	SRBT provides Indoctrination Training for all new employees at the facility. The RP-specific training includes topics such as: Radiation Protection training package, SRBT brochure, Management System familiarization, Radiation Protection Test, NEW Declaration form, Intro to HP team, Use of portable Tritium-in-Air Monitors, Operating Licence, LCH, CNSC record of proceedings CNSC staff reviewed samples of Indoctrination Training records for new employee hires and confirm that they were being completed as required. Following the issuance of SRBT-2024-02-NNC01, SRBT updated their Radiation Safety Program (Rev. P) to allow for management discretion if an employee misses the scheduled annual radiation safety training session in any given year. CNSC staff reviewed the latest SRBT Annual Refresher Training record from 2025 and confirm that training was being administered as required. Justifications for any staff who missed the scheduled training are documented on the attendance sheet for the refresher training. Documents Reviewed: - SRBT Radiation Safety Training Presentation - SRBT Annual Refresher Training Record – December 2025 - SRBT Employee Indoctrination Training Records – March 2026, May 2026
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Contamination Control	
Criteria # 16	Licensee Document: Radiation Safety Program Section 6.7 Contamination Control Processes <i>“Non-fixed surface contamination assessments for tritium are normally performed daily during operating days (not including weekends) by swipe testing. Health Physics Team members assess a 100 cm2 area in several strategically selected points within each radiological zone.</i> <i>Typically, Zone 3 is assessed every business weekday, while Zone 2 is assessed on Mondays, Wednesdays and Fridays. Zone 1 is assessed each week on Tuesday.”</i>
Inspection Method / Compliance Expectation	Inspection Method: Interviews, review records, procedures, field observation Compliance Expectation - Review records of surface contamination assessments for Zones 1, 2 and 3 - Perform swipe samples throughout the facility for CNSC laboratory analysis

Radiation Protection - Training and Qualifications	
Finding / Analysis	SRBT conducts contamination monitoring in Zone 3 on a daily basis (Monday-Friday), Zone 2 three times a week (Monday, Wednesday, Friday) and Zone 1 once a week (Tuesday). CNSC staff reviewed records associated with contamination monitoring at the SRBT facility. In areas where the administrative limits are exceeded (4 Bq/cm²/100cm² limit for Zone 1 and 2, and 40 Bq/cm²/100cm² limit for Zone 3), SRBT performs decontamination activities and re-swipes the areas to confirm that the contamination has been cleaned. The contamination monitoring data is inputted into an excel sheet for trending in order to adjust selected areas swiped to seek out contamination and ensure radiological cleanliness of the facility. CNSC staff collected swipe samples throughout the SRBT facility, with SRBT conducting parallel swipes (see Appendix B for the CNSC results and SRBT results). The swipe data results demonstrates that tritium contamination at the facility is well controlled. Documents Reviewed: - SRBT Facility Contamination Monitoring Analysis and Report (Zones 1, 2, 3) – April 2026, May 2026 - SRBT Quarterly Contamination Assessment – Q2 2026
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Equipment Maintenance	
Criteria # 17	Licensee Document: Radiation Safety Program Section 6.4 Tritium-in-air Detection and Monitoring Equipment <i>“Stationary TAMs undergo calibration and maintenance on an annual basis, as per RSO- 011, Instrument Calibration, and the requirements of the Maintenance Program. The preferred model of stationary TAM in use at SRBT is the Overhoff 357RM, although other designs may be used so long as they provide an equivalent level of protection.”</i> <i>“Portable TAMs undergo calibration and maintenance on an annual basis, as per RSO-011, Instrument Calibration, and the requirements of the Maintenance Program. The preferred model of portable TAM in use at SRBT is the Overhoff 200SB, although other designs may be used so long as they provide an equivalent level of protection.”</i>

Radiation Protection - Training and Qualifications	
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation - Observe the status of tritium-in-air monitors in the field - Review calibration stickers, calibration certificates and maintenance records for tritium-in-air monitors
Finding / Analysis	During the facility walkdown of the SRBT facility, CNSC staff noted that all observed radiation protection instruments were operating normally. All observed equipment were noted to have calibration stickers valid within the last 12 months. CNSC staff reviewed instrument calibration records for the radiation protection equipment and confirm that the equipment are being calibrated as per SRBT's procedures. Documents Reviewed: - Instrument Calibration Record EFF-003-F-01 – Tritium in Air Monitor (TAM) S/N 4163, Data recorder S/N 4173, Bulk Stack real time stack monitoring system S/N 4488 - March 11, 2026 - Instrument Calibration Record EFF-003-F-01 - TAM S/N 4294, Remote display Units (RDU) S/N 4489, Data recorder S/N 4173 – March 11, 2026 - Instrument Calibration Record RSO-011-F-01 – Portable TAM S/N 4870, August 2025
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Follow-ups	
Criteria # 18	Follow-up to March 23, 2026 RP Action Level Exceedance <i>Summary of Recommended Actions</i> <i>Action 1: RSO-041, Protective Clothing for Radiation Safety will be updated to strengthen the provisions for work activities that carry an elevated risk of significant cross contamination, including:</i> <i>the use of appropriate, disposable double gloves that will not result in exposed skin when reaching out or extending an arm; and</i> <i>disposing of protective clothing upon job completion.</i> <i>Action 2: Updated and improved training will be developed and implemented for workers, focused on:</i> <i>the correct use of protective clothing during work that carries an elevated risk of significant cross-contamination;</i> <i>strategies to prevent cross-contamination during work that carries an elevated risk of cross-contamination; and</i>

Radiation Protection - Training and Qualifications	
	- the identification of both routine and non-routine work activities that carry an elevated risk of significant cross-contamination, for the purposes of engaging the Health Physics team who will provide ALARA guidance and oversight as part of the work. Action 3: MTC-015, Vacuum Scroll Pump Maintenance will be updated to: - incorporate a process-based decision-making strategy to troubleshoot vacuum-related problems on tritium processing equipment; - to require two qualified individuals being involved in the decision to initiate a tip seal change on a vacuum pump; and - to solicit Health Physics team assistance for this work due to the elevated risk of significant cross-contamination. Action 4 Work procedures and processes will be reviewed by the Health Physics team to identify those that carry an elevated risk of significant cross-contamination, and to incorporate an administrative control mechanism for the authorization of such work by the Health Physics Team. These actions will be tracked to completion and reviewed for effectiveness at an appropriate date in the future via NCR-1045, as per MSP-012, Corrective Action.
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation Review NCR-1045 and follow-up on the status of corrective actions from the RP action level exceedance
Finding / Analysis	CNSC staff discussed the corrective actions following the March 23, 2026 Radiation Protection Action Level Exceedance at SRBT. SRBT noted that the worker provided a bioassay value of 378 Bq/mL by the week of April 13, 2026, which was below the action level of 400 Bq/mL. SRBT provided an update to the corrective actions identified following this event and noted that all actions have been closed. CNSC staff reviewed the associated actions taken including the updated documents and confirm that the corrective actions have been completed as specified. Documents Reviewed: - NCR-1045 - SRBT Radiation Safety Training Presentation 2026 - RSO-041, Protective Clothing for Radiation Safety Rev. C - MTC-015, Vacuum Scroll Pump Maintenance Rev. E
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	

Safety and Control Area: Conventional Health and Safety	
Criteria # 19	Source: SRBT Health and Safety Policy Details: Section 5, Workplace Health and Safety Committee At least half of the members of a committee shall be workers employed at the workplace that do not exercise managerial functions and shall have a chairperson for both employee and employer. SRBT has four (4) members in its Workplace Health and Safety Committee.
Inspection Method / Compliance Expectation	Inspection Method: - Verify that the WPHSC met at least 9 times in 2025 and meetings met quorum. Review how actions are tracked to completion. - Verify that the WPHSC is fulfilling the requirements set out in SRBT's Committee Process and Descriptions. Compliance Expectation Records review: - Workplace Health and Safety Committee meeting minutes: May 2025 to April 2026 - Workplace Health and Safety Committee Inspections
Finding / Analysis	CNSC staff confirmed that SRBT maintains a Workplace Health and Safety Committee (WHSC) that meets regularly and follows up on any actions to closure. SRBT WHSC minutes includes items such as the status of workplace inspections, review of health and safety objectives, and a review and status of actions raise from previous WHSC meetings. CNSC staff reviewed WHSC Meeting Minutes from May 22, 2025 – July 15, 2026, no issues were noted. Overall, the meeting minutes reviewed were thorough, show that SRBT is identifying areas for improvement in health and safety, tracking issues through to completion, and fulfilling the requirements set out in their document <i>Committee Processes and Descriptions</i>. The records demonstrated that quorum was met.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	

Safety and Control Area: Conventional Health and Safety	
Criteria #20	SRBT Hazard Prevention Program Details: Appendix A: Instructions in workplace health and safety and hazard identification Source: NFCC 2020 Details: Appendix A: Instructions in workplace health and safety and hazard identification
Inspection Method / Compliance Expectation	Inspection Method: Interview, review records, procedures, field observation Compliance Expectation Hazard Prevention and Mitigation Ensure that SRBT staff are following the instructions outlined in Appendix A of the Hazard Prevention Program, the NFCC 2020, and other relevant sources. Field checks include: • Appropriate PPE for the job • Proper storage of hazardous and flammable chemicals • Work area kept tidy and free of clutter • Eye wash stations (flushed/inspected/not blocked) • Torches not left unattended • No loose clothing • Following protocols for acid handling • Hearing protection (where required) • Spill kit for HF and calcium gluconate (not expired) • Dangerous good stored at least 100mm off the floor • Spill kits (present, inspected, stocked, not blocked) • Proper storage and labelling of hazardous chemicals (e.g. HF, H3PO4, HNO3)
Finding / Analysis	Overall, the facility was observed to be in excellent condition in terms of housekeeping, organization, cleanliness, lighting, quantity of PPE in stock, and signage. Other notable observations include: • Workers in the glass lab, coating room, rig room and shipping were observed wearing the appropriate PPE. • 2 kits were observed in the coating room during the walkaround Hexafluorine and Diphoterine spill kits was present and within the expiry date of 2028-03-02. • Eye wash bottles had tamper evident seals and valid expiry dates. • Hazardous and flammable chemicals were properly stored in Flammable cabinets.

Safety and Control Area: Conventional Health and Safety	
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	

Safety and Control Area: Operating Performance	
Criteria: #21	SRBT Safety Analysis Report Details: Section 10, Operational Limits and Conditions
Inspection Method / Compliance Expectation	Inspection Method: - Interview, review records, procedures, field observation - Compliance Expectation - Tritium processing operations shall not occur unless the following differential pressures are achieved, as measured by the gauges on each of the active ventilation system stacks: - Rig Stack: 0.27 in. water - Bulk Stack: 0.38 in. water - Check gauges on rig stack and bulk stack - Process for monitoring the stack gauges (frequency, roles of personnel, records) - Response to non-Conformance - Trends and Maintenance
Finding / Analysis	<u>Records review:</u> A sample of daily differential pressure checks was reviewed covering the following time periods: 2025/07/23 to 2025/08/28 2026/01/08 to 2026/02/12 Records demonstrated that the daily differential pressure checks are performed at the required frequency (daily). Over the time periods reviewed, all readings were above the minimum requirements as set in the SRBT OLCs. <u>Field check:</u> Differential pressures were checked during the walk through on June 3, 2026, and the following measurements were observed: - Rig stack: 0.38 in. water - Bulk stack: 0.41 in. water

Safety and Control Area: Operating Performance	
	Interview: - Only qualified rig room staff can take the daily Rig and Stack readings on the stacks, located outside at the rear of the building. - For record retention the document ENG-014-F-01 Rev C - Daily Differential Pressure Checks is digitally uploaded and back up on server. Once the completed form is uploaded, the paper copy is destroyed.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Criteria: #22	SRBT Safety Analysis Report Details: Section 10, Operational Limits and Conditions
Inspection Method / Compliance Expectation	Inspection Method: - Interview, procedures, field observation - Compliance Expectation - Bulk tritium containers are limited to a heating temperature of approximately 550°C, as measured by the thermocouple placed between the heating band and the container surface. Brief and small exceedances of this value are tolerable so long as they are not sustained, and the temperature is returned below this value as soon as possible. - Bulk Container Heating Limit Field check: - Thermocouple on bulk tritium should not exceed 550°C Interview: Discuss with staff (during the walk down) how temperature on the bulk tritium container is controlled and monitored.
Finding / Analysis	During the walk through, SRBT staff demonstrated how PUTTs are filled from the bulk container, which included demonstrating how the temperature is controlled on heating of the bulk container. In the example observed, the desired pressure (and thus amount of tritium) for the PUTTs was achieved at a temperature of 490°C. Two staff are required to observe each PUTT filling. NOTE: Final temperatures are not recorded.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	

Safety and Control Area: Operating Performance	
Criteria: #23	- SRBT Safety Analysis Report - Details: Section 10, Operational Limits and Conditions - RSO-038 PUTT Management - RSO-038-F-01 PUTT Commissioning Log - RSO-038-F-02 PUTT Decommissioning Log
Inspection Method / Compliance Expectation	Inspection Method: - Interview, review records, procedures, field observation Compliance Expectation Bulk containers are limited as follows: - SRBT shall request no more than 925,000 GBq per bulk container when submitting a purchase order to an approved supplier of tritium gas. - No bulk container shall exceed 1,000,000 GBq of tritium loading at any time. - PUTTs are limited to less than 111,000 GBq of tritium loading at any time. - Any PUTT base is limited to 30 complete bulk splitter filling cycles, after which it is no longer permitted to be used for further tritium processing. Records review: - Tritium inventory over the last 12 months - Depleted uranium over the last 12 months
Finding / Analysis	Records review: - CNSC staff confirmed that SRBT maintains an inventory of the amount of tritium possessed on site. CNSC staff reviewed the records and confirmed that SRBT maintains its inventory below its licence limit (925,000 GBq). CNSC staff reviewed SRBT's Approved Return Goods Authorization (RGA) which is an approved list of returns to account for incoming expired light sources, which would add to SRBT tritium inventory. - SRBT orders tritium gas from OPG (Darlington) on average once per month. Purchase orders covering the time period August 2025 to April 2026 were reviewed. In all 12 cases, SRBT requested 925,000 GBq of tritium gas from OPG. - CNSC staff also confirmed that SRBT maintains an inventory of depleted uranium on site, used as storage media for tritium. CNSC staff reviewed and confirmed that SRBT maintains an inventory below 10 kg of depleted uranium, which is below the exemption quantities as prescribed in the <i>Nuclear Substances and Radiation Devices Regulations</i>. - PUTT Filling Cycles

Safety and Control Area: Operating Performance	
	- Any PUTT base is limited to 30 complete bulk splitter filling cycles, after which it is no longer permitted to be used for further tritium processing. CNSC staff reviewed a memo for decommissioning PU 109G-20 and commissioning PU 26-109H-01. - PUTT / Bulk Container Tritium Loading Limit PUTTs are limited to less than 111,000 GBq of tritium loading at any time.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	
Criteria: #24	SRBT Safety Analysis Report DOC ENG-016 No Tritium Processing During Precipitation
Inspection Method / Compliance Expectation	Inspection Method: - Interview, review records, procedures, field observation Compliance Expectation - A weather station is operated and maintained by SRBT at the northeastern most point of the property where the facility is located. The station measures multiple variables relating to local weather conditions, including wind speed and direction, humidity, temperature, the presence of precipitation, and dewpoint. - Data is saved on file every five minutes to provide information that can be used to support the Environmental Protection Program, as well as future modelling of local weather for refinement of public dose calculations and other environmental elements such as risk assessments. Precipitation Detection System - The precipitation detection system is mounted outside of the facility, and interfaces with an alarm circuit (visual and audible) mounted to the ceiling at the entrance to Zone 3. The system is extremely sensitive and is able to detect very small levels of precipitation. When detected, precipitation events result in an audible and visible alarm in the Rig Room, alerting staff that tritium production must cease as soon as can be safely achieved. Records review: - Operating hours - When operations have ceased due to precipitation on site
Finding / Analysis	CNSC staff confirmed that SRBT maintains a record log of operating hours for the Rig Room. CNSC staff reviewed a sample of the RIG Room Operations Log 400-001-F-01 Issue G reviewed on: August 21, 2025

Safety and Control Area: Operating Performance	
	- February 12, 2026 - February 13, 2025 - No precipitation during the dates listed above. The weather stations in non-operational at the time of the inspection. SRBT staff noted precipitation is closely watched by all staff, especially Rig Room staff and senior management. Rig room operations halt when precipitation occurs.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	

Safety and Control Area: Waste Management	
Criteria: #25	CSA N292.0-19, <i>General principles for the management of radioactive waste and irradiated fuel</i> :
Inspection Method / Compliance Expectation	Inspection Method: - Interview, review records, procedures, field observation - Compliance Expectation - Section 4.7.4 b: Records, written in hard copy and/or stored in electronic format, shall track the waste inventory under the control of the waste management site
Finding / Analysis	CNSC staff confirmed that SRBT maintains electronic records for their waste inventory on site. - Spot check in the field: - Container ID# 2026-070 Expired Tritium Lights - Container ID# 2026-082 Expired Tritium Lights - Container ID# 2026-0057 Crushed Glass - Container ID# 2026-0069 Crushed Glass - Container ID# Drum 204 Contaminated Trash
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
☐ Recommendation	

Safety and Control Area: Waste Management	
Criteria: #26	CSA N292.0-19, <i>General principles for the management of radioactive waste and irradiated fuel</i> :
Inspection Method / Compliance Expectation	Inspection Method: • Interview, review records, procedures, field observation • Compliance Expectation • Section 4.7.8: Duplicate records shall be maintained at an alternate location to prevent inadvertent loss of the records in the event of an accident at the facility.
Finding / Analysis	SRBT noted that they conduct a network backup once a week, including all records generated. The backup is stored offsite, and once hard copies of records are uploaded, they are destroyed.
☒ Met ☐ Not Met	The compliance verification criteria for this item was met.
Recommendation	