CNSC COMPLIANCE INSPECTION REPORT

Inspection No.: SRBT 2024-02

Inspection Title: Type II Inspection, Radiation Protection

Prepared by: Alison O'Connor, Project Officer
Nuclear Processing Facilities Division
Directorate of Nuclear Cycle and Facilities Regulation

Report Date: January 6, 2025

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CANADIAN NUCLEAR SAFETY COMMISSION
COMPLIANCE INSPECTION

Inspection No.: SRBT-2024-02

Licensee: SRB Technologies (Canada) Inc.

Licence No.: NSPFL-13.00/2034

Facility / Site Inspected: SRB Technologies

Inspection Date(s): October 22 – October 24, 2024

Inspector:

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DN: C=CA, O=GC, OU=CNSC-CCSN, CN="Posada, Lester"
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Lester Posada,
Lead Inspector, NPFD

Approved by:

McAllister, Andrew

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DN: C=CA, O=GC, OU=CNSC-CCSN, CN="McAllister, Andrew"
Reason: I am approving this document
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Date: 2025.01.06 10:37:19-05'00'
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Andrew McAllister
Director, NPFD

Safety and Control Area(s): Radiation Protection

Inspector Accompanied by: Alison O'Connor
Project Officer, NPFD

Samantha Klein
Radiation Protection Officer, RPD

Brendan Sheehan,
Radiation Protection Officer, RPD

EXECUTIVE SUMMARY

Pursuant to subsection 30(1) of the *Nuclear Safety and Control Act* (NSCA) Canadian Nuclear Safety Commission (CNSC) staff conducted an inspection at the SRB Technologies (Canada) Inc. (SRBT) facility from October 22 to October 23, 2024. The purpose of this inspection was to provide an overall assessment of compliance with specific clauses of the NSCA and its Regulations, the operating licence NSPFL-13.00/2034 and its associated Licence Conditions Handbook (LCH), as well as SRBT's programs and procedures.

The inspection scope focused on the Radiation Protection safety and control area, specifically the implementation of SRBT's Radiation Protection program.

CNSC inspectors' preliminary inspection facts and findings were discussed with licensee staff. A Preliminary Inspection Facts and Findings Report was tabled during the closing meeting held on October 23, 2024.

The inspection team found areas of non-compliance, and therefore one (1) notice of non-compliance has been raised for SRBT to address. The identified non-compliance is of low safety significance and do not pose an immediate or unreasonable risk to the health and safety of persons or to the environment, but improvements are nonetheless required to address the identified issue.

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1. INTRODUCTION

An inspection at the SRB Technologies (Canada) Inc. (SRBT) was conducted from October 22 to October 23 2024.

The licensee was assessed against provisions of the *Nuclear Safety and Control Act* (NSCA) and its associated regulations, the conditions of the licence NSPFL-13.00/2034 [1] and the Licence Conditions Handbook (LCH) for SRBT [2], as well as applicable facility-specific and programmatic governing documentation.

Criteria for this inspection were derived directly from the set of documents described in the notification letter [3] and compiled into a Compliance Matrix (See APPENDIX C:), which had been provided to SRB Technologies staff prior to the inspection. Observations, interviews, records review, and collection of samples were undertaken to assess compliance with regulatory expectations.

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 was to verify SRBT's processes and performances related to the Safety and Control Area (SCA) of Radiation Protection as per the NSCA, its associated regulations, SRBT's operating licence NSPFOL-13.00/2034, and the Licence Conditions Handbook (LCH).

The inspection scope focused on the Radiation Protection SCA, specifically the implementation of SRBT's Radiation Protection program.

3. DESCRIPTION OF INSPECTION METHODS

The NSCA, Canadian Nuclear Safety Commission (CNSC) regulations, NSPFL-13.00/2034 licence conditions, and governing documents were reviewed as part of the preparation for the inspection. Various items were selected for verification and compiled into a Compliance Matrix. The inspection also included field observations and information provided by licensee staff.

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

A. Documentation and record review

- Records were verified to be maintained as required by many of the outlined criteria, and a review of selected documents was performed to ensure their accuracy and completeness.

B. Visual assessment and verification

- A physical inspection of the facility with licensee staff was conducted. Observations based on identified compliance criteria were made for verification purposes.

C. Interviews and discussions with licensee staff

- Interviews and discussions with various licensee staff were conducted during the inspection. Questions were posed based on compliance criteria and responses documented for verification purposes.

D. Sampling, testing, and measurements

- Samples, tests, or measurements of radiation or potential contamination were collected during the inspection. Analysis of these measurements is based on current regulatory expectations and compliance criteria.

Selected documentation and records were reviewed during the field verification component of the inspection. These were reviewed in order to determine whether the various records associated with the areas of the inspection are in compliance with associated regulatory and programmatic requirements.

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 purposes of outlining observations made by the inspection team at an overall level, based on a preliminary review of the criteria set identified in the Compliance Matrix and observations made.

4. INSPECTION RESULTS

The following finding(s) and subsequent enforcement action(s) and or recommendation(s) are the result of CNSC staff's inspection. This section of the report has been structured to show the link from the initial inspection finding to the resulting enforcement action or recommendation as shown below:

- compliance verification criteria used to identify the deficiency
- a description of the observed deficiency
- an analysis linking the compliance verification criteria or regulatory requirement to the observed deficiency
- detailed compliance action requiring the licensee to address the deficiency

The order in which findings are presented in the report does not indicate a ranking of their safety significance.

The Compliance Matrix used for this inspection contains the compliance verification criteria (CVC) used to assess and evaluate compliance with regulatory and licencing requirements during this inspection. The criteria in the Compliance Matrix have been identified to have either "Met" or "Not Met" the applicable requirement.

A notice of non-compliance (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 identifed 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.

4.1 Safety and Control Area: Radiation Protection SCA – Radiation Protection Training

Criteria

- SRBT LCH (Rev 0), Licence Condition 7.1
  "The licensee shall implement and maintain a radiation protection program, which includes a set of action levels. When the licensee becomes aware that an action level has been reached, the licensee shall notify the Commission within seven days."

- SRBT Radiation Safety Program (Rev N)
  Section 4.3 Personnel Qualifications and Training in Radiation Protection
  Radiation Protection Training – Annual Refresher
  "All SRBT staff receive comprehensive Radiation Protection Training on an annual basis as a refresher, in order to ensure workers are informed of the risks, and can take appropriate actions to minimize and optimize their exposure to ionizing radiation."

Facts

1. All staff receive annual refresher training at the same time. The facility closes for the day and the training is implemented offsite.
2. Staff interviewed recalled receiving Radiation Protection training in December 2023.
3. All annual refresher training records observed were up to date in 2023 with one exception.
4. In discussions with SRBT staff, this worker was typically assigned to the coating area (Zone 1) and not in any of the tritium areas (Zones 2 or 3). The worker was deemed to not be a significant risk and it was decided not to schedule a refresher training for the worker at a later time.

Analysis/Findings

During the inspection, it was observed that one worker did not attend the annual radiation safety refresher training in 2023. The Health Physics Manager was aware and decided not to retrain the one worker as it was a large effort for a low-risk individual. It was noted that the worker is assigned to the coating area and does not work with tritium as part of their daily duties. Furthermore, the worker had been an SRBT employee for a number of years and has received the refresher training multiple times in the past.

CNSC staff note that the SRBT Radiation Safety Program calls for the provision of a comprehensive annual safety refresher training for **all** staff and management and that this observation is contrary to this requirement.

As a result of this observation, the following non-compliance is raised:

Compliance Action

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.

5. SUMMARY OF ENFORCEMENT ACTIONS AND RECOMMENDATIONS ISSUED

5.1 Enforcement Actions

The following enforcement actions were raised as a result of this inspection.

Notice(s) of non-compliance:

- **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.

5.2 Recommendations

There are no recommendations raised as a result of this inspection.

6. CONCLUDING STATEMENTS

CNSC staff performed a Radiation Protection Inspection at SRBT in order to verify compliance with the NSCA, its associated regulations, the conditions of the licence and the LCH.

As a result of this inspection, items of non-compliance with the criteria assessed from the Compliance Matrix have been identified. Therefore one (1) notices of non-compliance has been raised for SRBT to address. The identified non-compliance is of a low safety significance and do not pose an immediate or unreasonable risk to the health and safety or persons or to the environment.

SRB Technologies is requested to submit its corrective action for each notice of non-compliance **60 days** from the date the 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.

CNSC staff extend their appreciation to SRBT for their assistance in conducting this inspection.

7. REFERENCES

[1] SRB Technologies (Canada) Inc. Nuclear Substance Processing Facility Licence, NSPFOL-13.00/2034, (e-Doc 6668491).

[2] SRB Technologies (Canada) Inc. Licence Conditions Handbook, (e-Doc 6668496).

[3] Letter from A. O'Connor (CNSC) to S. Levesque (SRBT), Notice of CNSC Type II Compliance Inspection of SRB Technologies (Canada) Inc. on October 22 to October 23, 2024 (e-Doc 7362894)

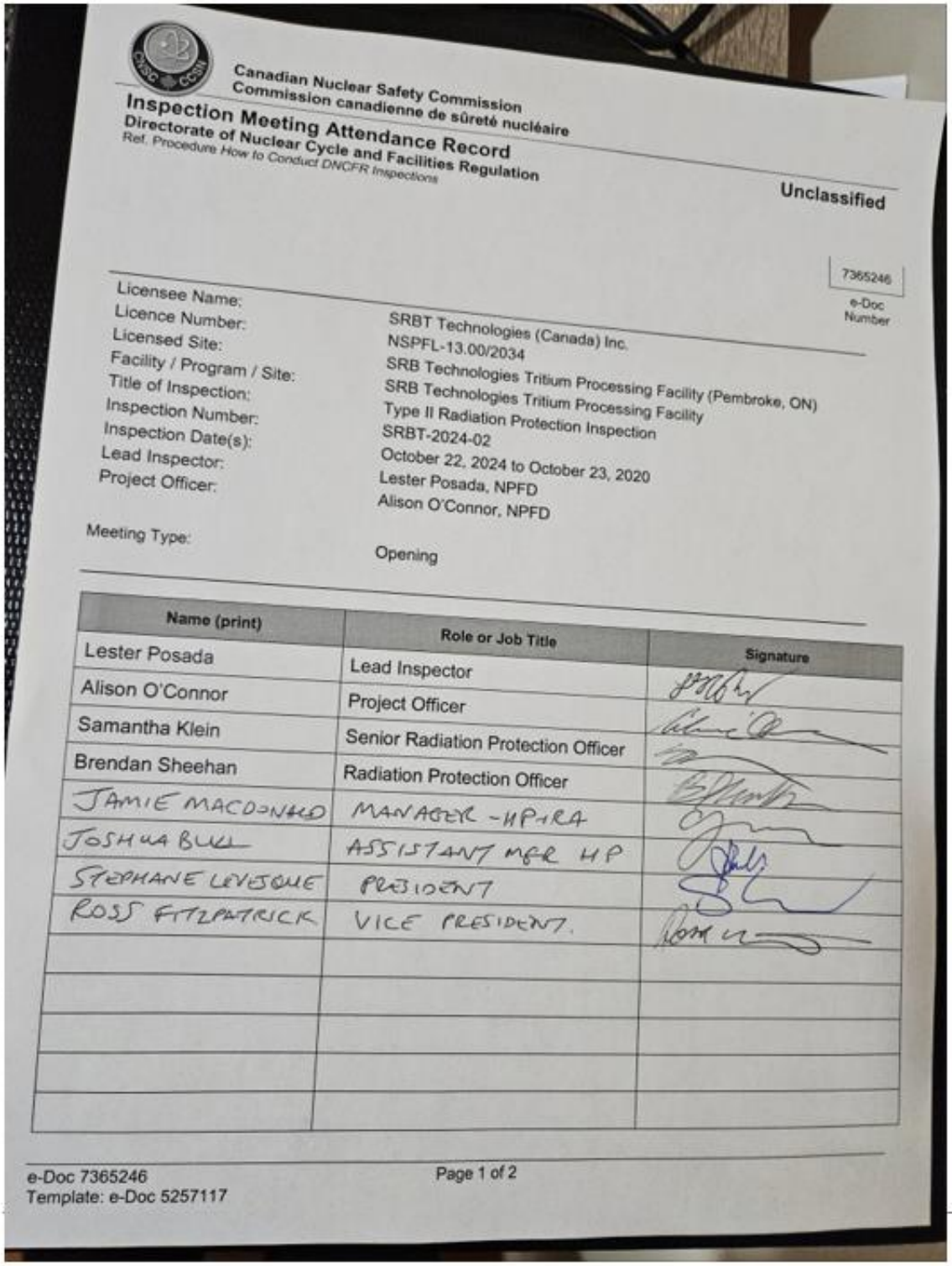
[4] SRBT-2023-02 Preliminary Inspection Facts and Findings Report, October 23, 2024 (e-Doc 7388056)

ACRONYMS AND ABBREVIATIONS

CNSC	Canadian Nuclear Safety Commission
GNSCR	*General Nuclear Safety and Control Regulations*
LCH	Licence Conditions Handbook
NNC	Notice of Non-Compliance
NPFD	Nuclear Processing Facilities Division
NSCA	*Nuclear Safety and Control Act*
NSRDR	*Nuclear Substances and Radiation Devices Regulations*
PPE	Personal Protective Equipment
PTNSR	*Packaging and Transport of Nuclear Substances Regulations, 2015*
RP	Radiation Protection
RPD	Radiation Protection Division
RPR	*Radiation Protection Regulations*
SRBT	SRB Technologies (Canada) Inc.
TIA	Tritium-in-Air

APPENDIX A: **ATTENDANCE RECORD(S)**

e-Doc 7365246



Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Inspection Meeting Attendance Record
Directorate of Nuclear Cycle and Facilities Regulation
Ref. Procedure How to Conduct DNCFR Inspections

Unclassified

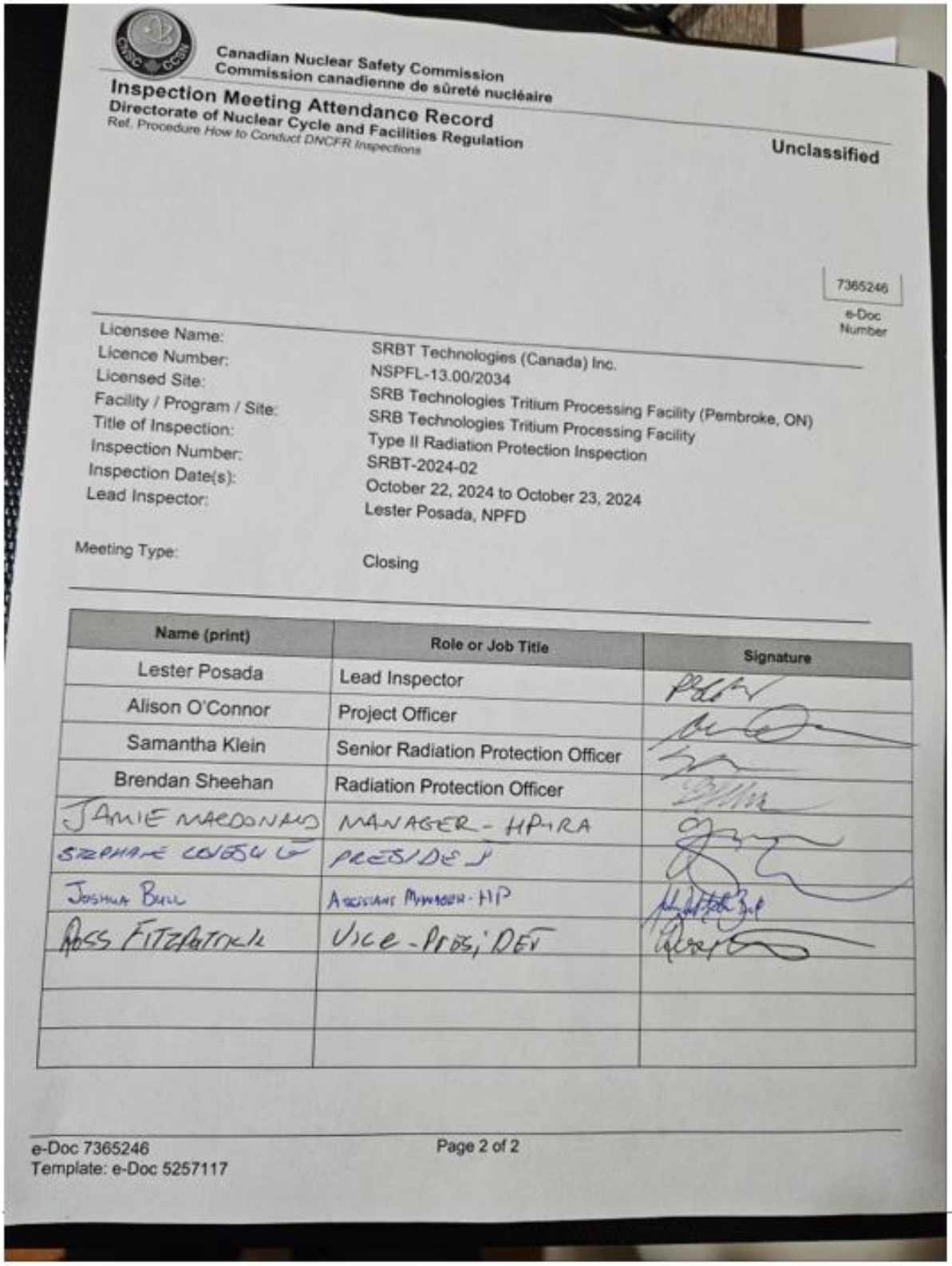
7365246
e-Doc Number

Licensee Name:	SRBT Technologies (Canada) Inc.
Licence Number:	NSPFL-13.00/2034
Licensed Site:	SRB Technologies Tritium Processing Facility (Pembroke, ON)
Facility / Program / Site:	SRB Technologies Tritium Processing Facility
Title of Inspection:	Type II Radiation Protection Inspection
Inspection Number:	SRBT-2024-02
Inspection Date(s):	October 22, 2024 to October 23, 2020
Lead Inspector:	Lester Posada, NPFD
Project Officer:	Alison O'Connor, NPFD

Meeting Type: Opening

Name (print)	Role or Job Title	Signature
Lester Posada	Lead Inspector	
Alison O'Connor	Project Officer	
Samantha Klein	Senior Radiation Protection Officer	
Brendan Sheehan	Radiation Protection Officer	
JAMIE MACDONALD	MANAGER - HP+RA	
JOSHUA BULL	ASSISTANT MGR HP	
STEPHANE LEVESQUE	PRESIDENT	
ROSS FITZPATRICK	VICE PRESIDENT.	

e-Doc 7365246
Template: e-Doc 5257117
Page 1 of 2



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Inspection Meeting Attendance Record
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Ref. Procedure How to Conduct DNCFR Inspections

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Inspection Date(s):	October 22, 2024 to October 23, 2024
Lead Inspector:	Lester Posada, NPFD

Meeting Type: Closing

Name (print)	Role or Job Title	Signature
Lester Posada	Lead Inspector	
Alison O'Connor	Project Officer	
Samantha Klein	Senior Radiation Protection Officer	
Brendan Sheehan	Radiation Protection Officer	
JAMIE MACDONALD	MANAGER - HP+RA	
STEPHANE COUSINEAU	PRESIDENT	
JOSHUA BELL	ASSISTANT MANAGER - HP	
ROSS FITZPATRICK	VICE - PRES, DEV	

e-Doc 7365246
Template: e-Doc 5257117

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APPENDIX B: **SAMPLE RESULTS**

e-Doc 7402154

Final Report 2024-11-06

Laboratory Services
Canadian Nuclear Safety Commision

Sample Analysis Report for : LR-SA-2024-00045

Submitted By: Samantha Klien

Division/Directorate/Site: RPD_DPR

Approved By: Slobodan Jovanovic

Analysis Review and Report by: Francois Masse

Background and Methodology:

Twelve swipe samples were collected at SRB Techonologies by CNSC staff on October 22, 2024 and sent to the CNSC Laboratory for tritium analysis. All samples were received in good condition on October 24, 2024. Additional information on the samples can be found on Sample Submission Form (#7390412), 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 and a check sample were 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 samples tested.

The samples were processed and analyzed on October 25, 2024. The activity results for swipes are reported in unit of Bq/cm2, using a surface area of 100 cm2 as provided in the SSF and wipe removal efficiency of 10%. The reported uncertainty, if applicable, is calculated at one standard deviation and represent 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
B	HTO	<0.02		Bq/cm²
1	HTO	6.9	0.3	Bq/cm²
2	HTO	5.6	0.3	Bq/cm²
3	HTO	2.9	0.1	Bq/cm²
4	HTO	29.3	1.5	Bq/cm²
5	HTO	7.7	0.4	Bq/cm²

6	HTO	1.7	0.1	Bq/cm²
7	HTO	0.14	0.01	Bq/cm²
8	HTO	<0.02		Bq/cm²
9	HTO	<0.02		Bq/cm²
10	HTO	<0.02		Bq/cm²
11	HTO	0.06	0.01	Bq/cm²

Sample ID	Analyte	Result	Uncertainty	Unit	Zone Criteria *	Pass/Fail
B – Blank	HTO	<0.02		Bq/cm²	n/a	n/a
1 – Loading assembly	HTO	6.9	0.3	Bq/cm²	<40 Bq/cm²	Pass
2 – Processing workbench	HTO	5.6	0.3	Bq/cm²	<40 Bq/cm²	Pass
3 – Laser processing storage	HTO	2.9	0.1	Bq/cm²	<40 Bq/cm²	Pass
4 – QC table outside loading hoods	HTO	29.3	1.5	Bq/cm²	<40 Bq/cm²	Pass
5 – Pass thru from Zone 3 to Zone 2	HTO	7.7	0.4	Bq/cm²	<40 Bq/cm²	Pass
6 – Welding area	HTO	1.7	0.1	Bq/cm²	< 4 Bq/cm²	Pass
7 – Light assembly bench	HTO	0.14	0.01	Bq/cm²	< 4 Bq/cm²	Pass
8 – Receiving desk	HTO	<0.02		Bq/cm²	< 4 Bq/cm²	Pass
9 – Lunchroom table	HTO	<0.02		Bq/cm²	< 4 Bq/cm²	Pass
10 – Lunchroom fridge	HTO	<0.02		Bq/cm²	< 4 Bq/cm²	Pass
11 - Reception	HTO	0.03	0.01	Bq/cm²	< 4 Bq/cm²	Pass

* From SRBT's RSO-001, Facility Contamination Monitoring, Rev O

For full results see e-doc 7402154

APPENDIX C: **COMPLIANCE MATRIX**

e-Doc 7377585

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Compliance Matrix

Directorate of Nuclear Cycle and Facilities Regulation
Ref. Procedure *How to Conduct DNCFR Inspections*

Unclassified
Lead Inspector: Lester Posada
Division: NPFD

Licensee Name:	SRB Technologies (Canada) Inc.
Licence Number:	NSPFOL-13.00/2034
Licensed Site:	SRB Tritium Processing Facility (Pembroke, ON)
Facility / Program / Site:	SRB Technologies Tritium Processing Facility
Title of Inspection:	SRBT-2024-02 Radiation Protection Inspection
Inspection Number:	SRBT-2024-02
Inspection Date(s):	October 22, 2024 to October 23, 2024
Lead Inspector:	Lester Posada, NPFD
Project Officer:	Alison O'Connor, NPFD

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

Select all appropriate Safety and Control Area(s) for this Compliance Inspection here. If inspecting other matters of regulatory interest, select "Other," and specify.

☐ Management System	☐ Environmental Protection	☐ Waste Management
☐ Fitness for Service	☒ Radiation Protection	☐ Security
☐ Operating Performance	☐ Conventional Health and Safety	☐ Safeguards and Non-Proliferation
☐ Safety Analysis	☐ Human Performance Management	☐ Packaging and Transport
☐ Physical Design	☐ Emergency Management & Fire Protection	☐ Other, specify below

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Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Safety and Control Area: Radiation Protection			
Source: Licence Conditions Handbook (LCH) - SRB Technologies NPSFOL-13.00/2022 Compliance Verification Criteria 8.1.1 The licensee shall implement and maintain a radiation protection program that is in accordance with the requirements set out in the *Radiation Protection Regulations*.	**Document Review:** • Question senior management, RP staff and workers on their support of ALARA at the facility. • Review ALARA/radiation safety committee's terms of reference, as applicable. Observe records of minutes of meetings over the last 6-12 months. • Verify that meeting minutes (or some other means) are used to track progress for the development and implementation of ALARA initiatives and establishes ownership of these initiatives. **Field Check:** • Observe implementation of ALARA initiatives in the facility, as applicable. **Document Review:** • Confirm that ALARA targets are established according to a well-structured methodology and are periodically reviewed to ensure that they are kept up-to-date. Observe any records associated with these topics, generated within the last 12 months.	**Observations:** 1. Held discussions with Manager of Health Physics and Assistant Manager of Health Physics. There is active involvement in the Health Physics committee, where items related to RP and ALARA are discussed. All individuals expressed involvement and ownership of ALARA. 2. Sample Health Physics Committee Meeting Minutes from April 2023 to July 2024. (E-Doc 7381302). Meetings are held quarterly to discuss health physics and swipe results. Issues identified at each meeting were addressed in follow up meetings. 3. Discussions with Manager of Health Physics and Assistant Manager of Health Physics confirmed that performance data from surface contamination monitoring, dose measurements and area monitoring are reviewed against production output and historical data. This information is used as performance indicators for continuous improvement. 4. ALARA targets are established annually for average and maximum worker doses taking into consideration the previous year's dose results as well as anticipated production levels. These are discussed and agreed upon by the Health Physics team. 5. Operational reviews are performed annually in accordance with Radiation Safety Program (RSP). **Documents Reviewed**: 1. Health Physics Committee Meeting minutes (2023-2024) 2. Radiation Safety Program Rev. N 3. RSO-001-F-01 and -02, Facility and Contamination Monitoring Reports	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	SRB Technologies to Provide: • Radiation Safety Program • Health Physics Committee Meeting Minutes from past 12 months. • Facility and Contamination Monitoring Reports from past 12 months Internal Audit Reports related to Radiation Protection	4. Internal Audit Report, Radiation Protection & Dosimetry Service, Report No. 04-20, 04-23, 06-21, 08-22	
Source: Regulation **Details:** RPR 4(*a*) G-129 rev.1 Radiation Safety Program Revision N	**Field Check**: • Observe work areas in the facility and note any engineered controls and design features that intend to keep radiation exposures to persons ALARA.	**Observations:** 1. Fume hoods and ventilation on the equipment are installed to keep the amount of tritium in air concentrations within acceptable levels.	**Met**
Source: Regulation **Details:** RPR 4(*a*) **Source: Other** **Details:** G-129 rev.1 **Source: LCH** **Details:** Radiation Safety Program Revision N	**Discussion/Document review:** • Question RP staff on their involvement in work planning and scheduling processes to allow for identification where ALARA principles and controls may be applied. Question RP staff and management to verify that work activities are scheduled, prepared and executed with the goal to keep exposures ALARA and to avoid unplanned exposures. Review records of job hazard analyses for certain work activities as evidence, generated within the last 12 months.	**Observations:** 1. Work at SRBT is generally routine and deviations from routine work are rare or non-existent. 2. Discussed modification of work following breakages near the Zone 2 barrier. 3. Discussed plans in place for potential replacement of Zone 3 flooring. Process is outside of current work procedures, but does include plan for samples to be taken prior to work commencing to ensure no contractor exposures and follow up samples once the work is completed.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:** RPR 4(*a*) **Source: Other** **Details:** G-129 rev.1 **Source: LCH** **Details:** Radiation Safety Program Revision N	**Desktop Review:** • Question RP staff and management on the use of RP program performance objectives, monitoring and trending. Review the process for setting, monitoring, tracking and reporting (i.e. management) targets. Confirm that targets are established according to a well-structured methodology and are periodically reviewed to ensure that they are kept up-to-date. • Review processes with RP staff for continuous improvement initiatives for the RP program, through benchmarking and use/sharing of operating experience. Observe records and documents (policies and procedures) associated. • Confirm that poor performance against objectives is flagged to management's attention, and corrective action plans were developed and implemented.	**Observations Document review:** 1. Facility Contamination Monitoring and Analysis Reports, worker bioassay results, alarm reports, etc. are reviewed on a specified frequency to identify areas of decline in performance. 2. Poor performance is identified during committee meeting and actions are taken to correct them, as demonstrated in the meeting minutes and discussion with RP staff. New contamination monitoring locations are selected based off of a master list and are rotated throughout the year. Areas with poor performance remain on the sampling schedule. 3. Discussed luminescence issue found in July. High luminescence was interfering with the scintillation counter and was from phosphorus release from a certain type of light source. Actions taken are captured in a memo (i.e. leave sample in the dark for 10-12 hrs and luminescence goes away); not capture in a procedure. Changed verbal work instruction for the disassembly of that type of sign.	**Met**
Source: Regulation **Details:** RPR 6 **Source: Other** **Details:** G-228	**Desktop Review:** • Compare recent doses (e.g. past 5 years) against action levels and challenge whether they remain meaningful, if appropriate.	**Observations:** 1. There were no action Level exceedances since the last RP inspection in October 2020. 2. There were no administrative level exceedances. 3. New dose action levels were submitted in July 2024. **Documents Reviewed:** 1. Annual compliance Reports 2020 – 2023	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
		2. SRBT Worker Dose Database	
Source: Regulation **Details:** RPR 4(*a*) **Source: Other** **Details:** G-129 rev.1 **Source: LCH** **Details:** Radiation Safety Program Revision N	**Desktop Review:** Follow up on any administrative limit exceedances since the October 2020 inspection (none were noted in ACRs, double check that is correct). *Tailored for specific follow up to confirm implementation of corrective actions taken by the licensee for previous radiation protection events and CNSC action items.*	n/a – none were found	**n/a**
Source: Regulation **Details:** RPR 4(*a*)(i) CINFR 3(*d*)	**Document Review:** • Confirm procedures reviewed as part of the inspection have been revised as per the licensee's document review cycle. • Confirm a roll-out process is in place for new or revised procedures. • Confirm procedures reviewed as part of the inspection reflect current operations and practices.	All documents reviewed as part of this inspection were confirmed to be the current versions. Change control process includes revision notes after the title page for easy tracking.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:** RPR 4(*a*) **Source: Other** **Details:** G-129 rev.1	**Field Check:** • Question management and RP staff on their responsibilities for RP (for themselves and others). Ask what steps they would take if they observed an unsafe work practice or situation. **Document Review:** • Review records associated which demonstrate management RP oversight including job observations, departmental safety meetings, etc. generated within the last 12 months.	**Observations:** 1. CNSC staff met with a selection of staff from throughout the facility. All staff interviewed were aware of: - Their responsibilities related to RP. - The proper responses to incidents such as a broken light source or alarming TIA. 2. Internal audits of the RP program are performed annually. These audits review all aspects of the RP program and identify non-conformances with regulatory and procedural requirements, opportunities for improvement and good practices. Previously identified non-compliances and areas for improvement are followed up. **Documents Reviewed:** 1. Radiation Safety Program N 2. RSO-039, Planning for Unusual Situations Revision B. 3. Internal Audit Report, Radiation Protection, Report No. 04-23, 06-21, 08-22	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:** GNSCR 3(1)(*k*) RPR 4 (*a*) **Source: Other** **Details:** RSO-039, Planning for Unusual Situations	**Field Check:** Question workers/contractors, management and RP staff on: • their responsibilities for RP, who they would report RP issues to and if management is accessible and responsive to concerns Observe RP staff in the field and their interaction with workers/contractors and management.	**Observations:** 1. All SRBT staff questioned identified that they could speak with any member of the Health Physics Committee, but specifically the Manager of Health Physics and Regulatory Affairs, when questions or concerns arise related to RP. 2. SRBT Staff who were interviewed noted that they were very comfortable with raising any issues with the Health Physics team.	
Source: Regulation **Details:** CINFR 6(*m*) RPR 4(*a*) **Source: LCH** **Details:** Radiation Safety Program, Section, 4.1 **Source: Other** **Details:** G-129 rev. 1 RSO-027, Contractors RSO-027-F-01, Contractor/Visitor Log RSO-027-F-03, Training Record for Contract Staff	**Field Check:** • Question workers/contractors/ management regarding the last time they received RP training; including the content, the concept of ALARA (indoctrination training, annual training, OJT). • Question workers/contractors on whether they received on-the-job training. • Question workers/contractors/ management on what radiological hazards they encounter in their day-to-day work. **Document Review:** • Observe the most recent records of training and qualifications of select persons observed in the field. • Review the most recent records of on-the-job training for select persons observed in the field.	**Observations:** 1. Staff interviewed recalled receiving RP training in December 2023. 2. All staff receive annual refresher training at the same time. The facility closes for the day and the training is implemented offsite. **3. All annual refresher training records observed were up to date in 2023 with one exception. In discussions with SRBT staff, this worker was typically assigned to the coating area (Zone 1) and not in any of the tritium areas (Zones 2 or 3). The worker was deemed to not be a significant risk and it was decided not to schedule the refresher training for the worker at a later time.** 4. Indoctrination training for new workers was performed/received as required. 5. Contractors are trained on an as-needed basis (observed records for one individual in 2023, three individuals in 2021) **Documents Reviewed:** Annual refresher training records for 2020, 2021, 2022, and 2023	**Not Met (SRBT-2024-02-NNC01)**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	• Perform the same checks as above, however, for contractors and visitors (refer to RSO-027, section 5).	**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.	
Source: Regulation **Details:** RPR 4(*a*) GNSCR 12(1)(*c*)(*d*)(*e*) 17(*a*)(*b*)(*d*)(*e*)	**Field Check:** • Observe all persons on site wearing appropriate/required dosimetry and personal protective equipment (PPE). • Observe persons as they move through zone transitions throughout the facility. • Observe all persons following safe practices in line with ALARA/RP principles. • If possible, observe RP staff performing an in-house RP inspection of work area(s). **Document review:** • Observe records of in-house RP inspections and/or self-assessments conducted at the facility within the last 12 months.	**Observations:** 1. Workers were observed wearing the correct PPE when in different zones. 2. All individuals observed the proper techniques for transitioning through zones. 3. There were no non-compliances with RP practices observed. 4. RP self-assessment audit was performed in September 2021, December 2022, and August 2023.. **Documents Reviewed:** • Radiation Safety Program Rev N • RP Self-assessment Audits (2021-2023)	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:** RPR 5 **Source: LCH** **Details:** Radiation Safety Program IX, Section 4.12 Licence Limits, Action Levels and Administrative Limits **Source: Other** **Details:** G-91 RSO-027, Contractors, Section 7 RSO-004, Bioassays, Section 12.2	**Document review:** • Observe how radiation doses are tracked and monitored for workers, contractors and visitors. • Verify how maximum effective dose and average dose statistics are determined and reported with the licensee's organization and to the CNSC. • Review workers, contactors, and visitors radiation dose records for the last 12 months. Verify that the current year and five year regulatory dose limits have not been exceeded. • Review dose history records for workers, contract workers, new hires and visitors over the last 12 months. Verify that the current year and five year regulatory dose limits have not been exceeded. Verify that dose histories are taken into consideration when setting internal dose limits. • If radiation doses are entered into a database; review QA process associated (e.g. reconciliation of radiation exposure reports from dosimetry service provider). • Ensure dose records are maintained for the appropriate retention period. (10 years for contractors and 5 years after the termination of employment for a worker).	**Observations:** 1. There were no exceedances of the 1 and 5 year dosimetry limits for workers or contractors. 2. Manual and electronic dose records are maintained. Doses are calculated manually on the Bioassay Dose Calculations- Work sheet. Results are manually entered into an excel spreadsheet which are validated by the Manager of Health Physics and Regulatory Affairs. 3. Records are maintained indefinitely at this point, in excess of their procedural requirements. **Database Reviewed:** 1. SRBT Worker Dose Database	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:** RPR 5 **Source: Other** **Details:** GD-150 G-91 RSO-004- Bioassay Procedure RSO-027, Contractors RSO-027-F-01, Contractor/Visitor Log RSO-027-F-03, Training Record for Contract Staff RSO-011, Instrument Calibration **Source: LCH** **Details:** Radiation Safety Program IX, Section 4.12	**Field Check:** • Observe the process for urinalysis, from collection to receipt of results from the lab, and entry into the health physics database. • Observe the process to ensure compliance by workers/contractors for timely submission of urine samples. • Observe urine collection stations are adequately stocked. ○ Observe chain-of-custody of samples followed. • Question workers/contractors on the process for urinalysis collection and communication of their results. **Document review:** • As applicable; review process for urinalysis, from collection to receipt of results from the lab, and entry into the health physics database. Observe records of tritium-in-urine bioassays for all persons over the last 12 months. • Review the QA process for validation of urinalysis results. • Review the process for validation of bioassay results. • Review process for flagging and tracking of tritium-in- urine administrative and action level exceedances.	**Observations:** 1. The bioassay process was discussed with management, observations of the stations in the bathrooms and QC lab was performed. A Rubbermaid bin with the dates of the week is used to ensure accurate dosimetry calculations.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	• Observe records of dose assignment for all persons over the last 12 months. • As applicable; review the process for submission of results to the National Dose Registry. • Review the process to ensure compliance by workers/contractors for timely submission of urine samples in accordance with RSO-004 (NEWs in Zone 3 –weekly, Zones 2 and 1 – bi-weekly or as determined by the Health Physics) Department. For contractors/visitors – upon completion of their work as screening and if above MDA effective dose would be calculated based on RSO-004 and submission of subsequent samples) • If administrative or action levels are exceeded, worker is suspended from entry into Zones 2 and 3. Review any non-compliance with the bioassay program and if any ensure that if worker was suspended from working in Zones 2 and 3 after 2 non-compliances R9Radiation Safety Program, Section 4.12.3. • Review the process to assign dose in the event a worker does not submit their bioassay as required.		

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:** RPR 4(*a*) **Source: LCH** **Details** Radiation Safety Program IX	• Request annual facility dose targets/goals and confirm that they are established appropriately. Request evidence that performance is reported to management at some frequency. • Request records to demonstrate that corrective actions are implemented if targets are not being met.	**Observations:** 1. Facility dose goals are established as required through the Health Physics Committee. Radiation dose targets at SRBT are established at set frequencies in accordance with their processes 2. Progress towards achieving radiation dose targets is monitored, and appropriate corrective actions are taken. **Documents Reviewed:** 1. Health Physics Committee Meeting Minutes (2023-2024).	**Met**
Source: Regulation **Details:** RPR 7, 9, 10, 11, 24 **Source: LCH** **Details:** Radiation Safety Program, REV. N, Section 4.12.3 **Source: Other** **Details:** RSO-004, Bioassays, Section 17.2	**Field Check:** • Question workers/contractors if they are aware if they are a NEW and what that means (rights and obligations). • Question workers/contractors regarding their current dose, if they are informed on and if they know how this information can be obtained. • Current and quarterly dose information is posted in accordance with Section 4.12.3 of Radiation Safety Program. **Document Review:** • Observe records maintained by the licensee as evidence of provision of information to NEWs (workers and contractors). • Confirm NEWs are provided with a copy of their dose annually in	**Observations:** 1. All staff interviewed: o Were aware of their status as a NEW and were aware of their rights and obligations. o Were aware of their current dose and identified that they were informed annually in writing and the doses are also posted quarterly in the lunchroom. Weekly bioassay results are also posted in the lunchroom in accordance with RP program. o Signed records for a sample of provision of information of NEWs were observed and completed in accordance with procedures. • Pregnant NEWs are aware of the requirements to inform the licensee in writing upon becoming aware of their pregnancy. Doses at the facility are typically lower than the regulatory dose limits for pregnant NEWs, however, discussions are held with pregnant NEWs and they are given the choice to work in lower dose areas although this has never happened. • Records of workers names and job categories are maintained. Job categories are maintained through the organizational chart and workers doses are tracked through the zoned area in which they perform their work.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	writing in accordance with Radiation Safety Program IX, Section 4.12.3 and RSO-004. Confirm there is a similar process for contractors. • Follow up on any recent pregnant NEWs (i.e. within last two years), the process followed, and records generated, including dose received. • Observe the record of name and job category for all NEWs.	**Documents Reviewed:** 1. Nuclear Energy Worker (NEW) Declaration Forms (10 +)	
Source: Regulation RPR 5, 7, 9, 10, 11, 24 **Source: Other** RSO-027, Contractors	**Field Check:** • Follow compliance verification activities for above section's field checks. **Document Review:** • Review the process for onboarding contractors, including determination of NEW status. • Review the process for visitors to the facility, including determination of NEW status. • Review process for tracking and recording contractor and visitor doses, including obtaining dose histories. • Use names in the contractor/ visitor log (RSO-027, Section 5) obtained to verify the ascertainment and recording of doses. • Review records to ensure that doses are reported, being tracked	**Observations:** 1. RSO-004 includes a formalized process for requesting workers/ contractors/ visitors of their previous dose history during on-boarding. 2. All workers are identified as NEWs. Contractors and visitors are determined to be NEWs on a case by case situation and training is provided accordingly, although this is rare and has not happened in the recent history. 3. Contractors and visitors undergo may be required to provide a urine sample for screening depending on the work/areas/upset conditions they may encounter. From 2020-2023, no contract worker or visitor exceeded a sample result of 15 Bq/ml which would require a dose assignment. All doses were below the recordable dose. 4. There are guidelines to identify under what circumstances contractors would be required to either a) submit a sample prior to commencing work or b) upon completion of work. It is up to the Manager, Health Physics and Regulatory Affairs to decide. 5. Contractors who performed previous work at Canadian Nuclear Laboratories were required to submit a urine sample prior to work being performed to provide a baseline in the event there was a previous tritium uptake.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	and maintained. • Review records to determine if dose history records for contract workers and visitors were obtained as required. • Verify that the current year and five year regulatory dose limits were not exceeded by contractors and visitors (for non-NEWs or NEWs as applicable).	**Documents Reviewed:** 1. Radiation Safety Program Revision N 2. RSO-004, Bioassay Procedure, Rev N 3. RSO-027, Contractors, Rev D 4. Dose Database for 2023	
Source: Regulation **Details:** RPR 4 (*a*) **Source: LCH** **Details:** Radiation Safety Program, IX, Section 3.4.1	**Field Check:** • Observe workers/contractors following good ALARA practices by standing/waiting in low potential areas of exposure when not performing radioactive work. • Observe workers/contractors wearing lab coats, disposable gloves and overshoes in Zones 2 and 3. Respirators are used when required. • Observe workers/contractors as they move through zone transitions. • Observe workers/contractors following safe work practices in line with ALARA principles. • Observe work areas in the facility and note any engineered controls and design features that intend to keep radiation exposures to workers ALARA.	**Observations:** • All workers observed had the appropriate PPE being donned. • Air flow within the facility was confirmed to move from an area of lesser concentration (Zone 1) to higher concentration (Zone 3). **Documents Reviewed:** 1. Ventilation/fume hood maintenance requirements Radiation Safety Program, N	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:** RPR 4(*a*), 21, 22, 23 NSRDR 23 GNSCRs 3(1) (*d*) CINFRs 3(*b*), 5(*a*) **Source: LCH** **Details:** Radiation Safety Program, Section 3.1 and 3.4	**Field Check:** • Observe area postings and RP-related signage posted as per regulatory requirements. • Confirm entry and exit procedures and PPE requirements are posted at the contamination barriers for Zones 2 and 3 as identified in Section 3.1 and 3.4 of Radiation Safety Program. • Confirm no frivolous postings. • Confirm emergency name and contact information posted at nuclear substances and radiation device locations (storage and in-use). • As applicable; confirm trefoil, RP wording and requirement to follow personnel entry procedures posted at personnel access openings of equipment fitted with radiation devices. • Observe workers/contractors adherence to the procedural postings. • Question workers/contractors on what various postings throughout the facility mean to them. **Document Review:** • Review signage strategy is in place which ensures consistent posting of signs (including radiation warning signs) throughout the facility and in accordance with	**Observations:** 1. RP area postings in Zones 3 and 2 were confirmed to be accordance with Section 21 of the *Radiation Protection Regulations*. 2. Entry and exit procedures and PPE requirements were posted at the entrances to Zones 2 and 3 in accordance with the program. 3. Workers were observed following the postings upon transition between zones. **Documents Reviewed:** 1. Radiation Safety Program, Section 3.1 and 3.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	regulatory requirements.		
Source: Regulation **Details:** RPR 4(*a*) GNSCR 12(1)(*c*)(*d*)(e); 17(*a*) **Source: LCH** **Details:** Radiation Safety Program ,|IX, Section 3.4.1	**Field Check:** • Observe radiation PPE storage areas. • Question workers/contractors on where they can find radiation PPE as needed. • Confirm adequate quantities of radiation PPE available to workers/contractors in their work areas. • Confirm adequate quantities of radiation PPE for visitors. • Observe laundry facility and workers donning appropriate PPE while handling contaminated PPE. • Perform direct and indirect contamination monitoring of radiation PPE, radiation PPE storage facilities, and laundry facilities. • Observe proper radiation PPE is selected and worn by workers/contractors based on known hazards and provisions are included in the event the hazards are unknown.	**Observations:** 1. PPE storage was verified, there are adequate supplies for daily egress. 2. Lab coats are not disposed of after each use. There is no requirement for swipes to be performed on PPE other than booties. 3. No adverse trends in swipe results have been shown from reusable booties in Zone 3. They have dedicated swipes in the laundry area to ensure any contamination is caught early. **Documents Reviewed:** RSO-001, Facility Contamination Monitoring,	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	Document Review: • Review record of contamination monitoring of radiation PPE, storage facilities, and laundry facilities over the last 12 months. **SRB Technologies to provide:** • Photos of radiation PPE storage areas showing condition of equipment and inventory of supplies (if available). Photo of staff handling contaminated PPE in the laundry facility.		

Source: Regulation
Details:
GNSCR 12(1)(*c*), 17
RPR 4, 5
 	
Source: Other
Details:
G-147
RSO-039, Planning for Unusual Situations
RSO-004, Bioassay Procedure, Sections 11.2 and 11.3
RSO-024, Zone Alarm Record Keeping
	Field Check:
	Question workers/contractors on
	• what constitutes an upset condition in their work place
	• their response/actions to take during upset conditions
	• their response to TIA monitors alarms
	• how they would be alerted to/respond to:
	  ○ elevated tritium levels in the workplace
	  ○ failure or leaking of tritium processing equipment
	  ○ a personal contamination event
	
	Document Review:
		Observations:
		1. All workers interviewed where clear on the requirements of RSO-039 and what is considered an upset condition and who to contact.
		2. RSO-024 records the occurrence of zone alarms. These records are maintained as required and tracked to determine trends.
		
		Documents Reviewed:
		1. RSO-039, Planning for Unusual Situations
		2. RSO-004, Bioassay Procedure
		3. RSO-024, Zone Alarm Record Keeping
			Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	• Review process for responding to upset conditions, including response to abnormal intakes of nuclear substance and work removals (as applicable). • Ensure there are provisions for enhanced bioassay sampling guidelines/actions non-routine bioassays in accordance with RSO-039). • Ensure that there are requirements for contamination monitoring of persons and areas involved in an upset condition (i.e. loss of containment). • Review records associated with: • Incidences of abnormal intakes of nuclear substance over the last 12 months. • Zone alarms. • Non-conformance reports.		
Source: Regulation **Details:** RPR 4 (*a*)	**Field Check:** Observe housekeeping of the facility and note any areas of concern (such as spilled product in work areas).	**Observations**: Walkthrough of work areas showed housekeeping at the facility was generally good.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:** RPR 4(*b*) **Source: LCH** **Details:** Radiation Safety Program IX, Section 4.8 Licence Limits, Action Levels and Administrative Limits, Section 4 (for surface contamination limits) **Source: Other** **Details:** RSO-001, Facility Contamination Monitoring, sections5.1, 6, 7, 8, 9, 10	**Field Check:** • Perform swipe samples for CNSC laboratory analysis throughout the facility. Include lunchrooms, change rooms and water fountains. • Observe RP staff performing contamination monitoring if included in routines. **Document Review:** • Review records (RSO-001, Section 10) of routine contamination monitoring of areas for the last 12 months. Ensure wipe testing is performed as follows: o 8 swipes 1x/week- Zone 1 o 12 swipes 3x/week- Zone 2 o 4 swipes daily- Zone 3 • Missed monitoring is noted and justified. • The following information is recorded: date of the measurement, name of individual, units of measure, make, model and serial number of the instrument used to take the measurement, and location of measurement are recorded. • When the surface contamination limits identified in "*Licence Limits, Action Levels and Administrative Limits*"" are exceeded, surfaces are cleaned and monitored until acceptably decontaminated.	**Field Check:** 1. Swipes performed met limits of the associated Zones (see Appendix A for CNSC lab results) **Observations:** 1. Contamination monitoring is performed at the required frequency in accordance with procedures. 2. When areas which exceed the acceptable levels are identified and decontaminated. If the following day's swipes do not register as acceptable, the process is performed again. 3.The sampling results are reviewed at the Health Physics Team Committee Meetings. **Documents Reviewed:** 1. RSO-001, Facility Contamination Monitoring 2. Five examples of RSO-001-F-01, Facility Contamination Monitoring Analysis & Report (Zone 3) 3. Five examples RSO-001-F-02, Facility Contamination Monitoring Analysis & Report (Zone 1&2) 4. Five examples Quarterly Swipe data sheets, 2024 5. Health Physics Committee Meeting Minutes (2023-2024)	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	Results are filed by the Health Physics Department. • Health Physics department initiates any action to determine the cause of high surface contamination results and initiates corrective actions. Ensure that quarterly reviews are performed in accordance with RSO-001, Facility Contamination Monitoring to review/revise selected areas for contamination monitoring and that the areas which must always be included are tested (p 4 of same procedure).		
Source: Regulation **Details:** RPR 4 GNSCR 12(1)(*c*)(*d*)(*e*)(*f*), 17(*a*) (*b*)(*d*)(e) **Source: LCH** **Details:** Radiation Safety Program Revision N RSO-001, Facility Contamination Monitoring Rev. L	**Facility Check:** • Observe movement of workers/contractors and items through access/egress points. • Ensure all materials, tools and equipment are monitored in accordance with Section 4.7. • Observe interzonal boundaries are clearly marked. (3 Zones) • Observe washing facilities and contamination control check points. • Observe change facilities.	**Observations:** Workers were observed transitioning through the zones. All materials were monitored as expected when crossing interzonal boundaries.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:** RPR 4 RSO-001, Facility Contamination Monitoring Rev. L	**Document Review:** Review records of contamination monitoring of work clothing for the last 12 months.	**Observations:** 1. A review of the contamination control records for Zones 2 and 3 identified that contamination monitoring of lab coats and re-useable booties is part of the routine checks.	**Met**
Source: Regulation **Details:** RPR 4 NSRDR 5.1 **Source: LCH** Radiation Safety Program Revision N, Section 4.8 **Source: Other** RSO-001, Facility Contamination Monitoring, Section 5.2, 5.3, 6, 7, 8, 9, 10	**Field Check:** • All items/products that have been assembled, used, or stored in Zone 2 or 3 are required to be assessed for removable tritium contamination prior to being transferred to Zone 1 (RSO-001, Section 7). **Document Review:** • Review records for the last 12 months demonstrating that o materials moving from Zones 2 and 3 to Zone 1 met the following criteria: 4 Bq/cm^2 based on a 100 cm^2 swipe area o items to be offered for transport or shipment met the criteria of 4 Bq/cm^2 based on a 300 cm^2 swipe area o for either of the above scenarios, items that are between 3-4 Bq/cm^2 over a 3 minute count must be re-swiped and re-counted for a period of 10 min and confirmed < 4 Bq/cm^2 or decontaminated and re-assessed	**Observations:** 1. All equipment, products and tools were swiped and checked for contamination by measuring the swipes in the LSC in accordance with RSO-001. **Documents Reviewed:** 1. RSO-001, Facility Contamination Monitoring	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Source: Regulation **Details:**RPR 4(*b*) **Source: LCH** **Details:** Radiation Safety Program Revision N, Section 3, Facilities and Equipment, Industrial Ventilation	**Field Check:** • Observe the facility ventilation and containment system(s) operating as required by observing visual indicators or other means which demonstrate operating to acceptable specifications. • Ensure that licensee is able to demonstrate that air flow moves from areas of lower contamination and not the reverse. **Document Review:** • Review process and records to ensure that the ventilation and containment systems are verified as operating as required and are within their design specifications. • Review that airflow checks at the working face of each of the fume cupboards and cabinets in Zones 2 and 3 areas: ○ have air flow velocities maintained at 100=/- 20ft/min ○ are performed on a monthly	**Observations:** 1. Facility ventilation and fume hoods were observed to be operating as indicated by the indicator lights. 2. Differential pressure tests/smoke tests are performed annually in accordance with maintenance document MTC-005 "Facility Ventilation Checks". The records for this tested are captured under "Equipment Updates" during the Health Physics Committee meetings. **Documents Reviewed:** 1. Records of the airflow checks at the working face of each of the fume cupboards and cabinets in Zones 2 and 3 areas were within the required results and performed in accordance with procedures.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	basis o have records are maintained by health physics dept. • Review actions taken when the acceptance criteria are not satisfied.		
Source: Regulation **Details:** RPR 4, GNSCR 12(1)(*d*) **Source: LCH** **Details:** Radiation Safety Program Revision N, Section 3, Facilities and Equipment, Airborne Contamination Monitoring, Section 3.6, Working Environment Monitoring Licence Limits, Action Levels and Administrative Limits **Source: LCH** **Details:** RSO-011, Instrument Calibration	**Field Check:** • Observe Tritium-in-air (TIA) Monitors operating in Zone 2 and 3 are running with the appropriate/acceptable flow rate (via visual indicator or other means). • Ensure stationary TIA Monitors operating in the facility have alarm set points as identified in SRB document "Licence Limits, Action Levels and Administrative Limits" • Observe appropriate placement of TIA Monitors in the facility commensurate with their intended use. • TIA monitors are calibrated annually or as needed, have label applied identifying calibration date, Cal. Due date, ID number and initials of person performing calibration. **Cross-reference calibration stickers to calibration certificates and maintenance records**. • Question workers/contractors on how they verify that the TIA	**Observations:** 1. Observed TIA monitors in the field (fixed and portable) and noted calibration stickers match the records reviewed. **Documents Reviewed:** 1. Maintenance records for the tritium gas calibrator were available in accordance with RSO-011. 2. Maintenance and calibration records (RSO-011-F01) were reviewed 3. TIA calibration source certificate was observed and within appropriate dates.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	monitors in their work areas are operating correctly. **Document Review:** • Review maintenance and calibration records (RSO-011-F-01) for the TIA monitors. Ensure there is adequate coverage while the TIA monitor is out-of-service. • Review maintenance and calibration records for the tritium gas calibrator used to calibrate the TIA monitors to ensure: ○ gas cylinder is replaced within last 5 years ○ label applied identifying calibration date, Cal. Due date, ID number and initials of person performing calibration ○ Completed by trained individuals		
Source: Regulation **Details:** RPR 4, GNSCR 12(1)(*d*) **Source: Other** **Details:** RSO-040, Facility Passive Air Sampling RSO-011, Instrument Calibration	**Field Check:** • Observe tritium passive air samplers (PAS) identified on RSO-040-F-01. • For the liquid scintillation counter (LSC) used to measure passive air samplers, ensure label applied identifying calibration date, Cal. Due date, ID number and initials of person performing calibration in accordance with RSO -011. **Document Review:**	**Observations:** 1. Airborne passive samplers were observed throughout the facility in accordance with RSO-040. 2. The Health Physics Team is responsible for the review of the passive sampling results. Elevated airborne tritium results are investigated and have actions have been taken in some instances to prevent/prior to elevated bioassay results. 3. The information is tracked and trended. **Documents Reviewed:** 1. RSO-040-F-01 and RSO-04-F-02 for the last 12 months were observed.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	• Review copies of RSO-040-F-01 and RSO-04-F-02, for the last 12 months to ensure they are changed weekly in accordance with RSO-040. • Ensure there is a process to follow up in the event elevated results are observed. • Review documents/meeting minutes where this information is used to improve the RP program in accordance with RSO-040.		
Source: Regulation **Details:** RPR 4(*a*), 20, 21, 22, 23	**Field Check:** • Observe radiation warning signs posted as required by Regulation and the licensee's RP program requirements. • Observe containers and devices containing nuclear substances are labeled as required by Regulations. • Confirm that radiological hazard postings are reviewed at a set frequency to ensure they are up to date. **Document Review:** • Review signage strategy is in place which ensures consistent posting	**Observations:** 1. Signage posted was appropriate. It was verified that the radiation warning signs are in compliance with the RPRs.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	of signs (including radiation warning signs) throughout the facility and in accordance with regulatory requirements.		
Source: Regulation **Details:** RPR 4 NSRDR 5.1 **Source: LCH** **Details:** Waste Management Program **Source: Other** **Details:** RSO-001, Facility Contamination Monitoring, Sections 5.4 and 7.4	**Field Check:** • Observe the means for collection and storage of radioactive waste in the facility. • Question workers/contractors on the proper collection and storage of radioactive waste.	**Observations:** 1. The collection and storage of radioactive waste in the facility was discussed with SRBT staff. All staff were aware of the procedures, including for solid and liquid waste. 2. Discussions held with SRBT staff regarding waste procedures were in keeping with program expectations.	**Met**

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
WMP-001, Waste Classification and Characterization WMP-003, Interim Preparation and Storage of Waste			
Source: Regulation **Details:** RPR 4(*a*) GNSCR 12(1)(*c*), 17(*b*) **Source: LCH** **Details:** Radiation Safety Program Revision N	**Field Check:** • Observe compliance with the licensee's RP program requirements and rules for personal hygiene, smoking, eating and drinking in zoned areas. • Observe correct practices followed by workers/contractors in zoned areas and in eating areas. • Question workers/contractors on the correct practices for eating, drinking and smoking in the workplace. **Document Review:** Confirm that expectations for personal hygiene and smoking, eating and drinking restrictions (including chewing of gum) are documented.	**Observations:** 1. Expectations for personal hygiene, smoking, drinking and eating restrictions are identified in section 6.2 of the Radiation Safety Program. 2. Staff questioned noted they only eat, dink or chew in approved areas. **Documents Reviewed:** 1. Radiation Safety Program Revision N 2. Health Physics Committee Meeting minutes (2023-2024) 3. Internal Audit Report No. 04-23, 06-21, 08-22	**Met**