CNSC COMPLIANCE INSPECTION REPORT

Inspection No.: SRBT-2023-02

Inspection Title: Type II Fitness for Service Inspection

Prepared by: Lester Posada, Project Officer
Nuclear Processing Facilities Division
Directorate of Nuclear Cycle and Facilities Regulation

Report Date: November 1, 2023

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CANADIAN NUCLEAR SAFETY COMMISSION
COMPLIANCE INSPECTION

Inspection No.: SRBT-2023-02

Licensee: SRB Technologies (Canada) Inc.

Licence No.: NSPFL-13.00/2034

Facility / Site Inspected: SRBT Tritium Processing Facility

Inspection Date(s): September 18, 2023 – September 20, 2023

Inspector:

Digitally signed by Posada, Lester
DN: C=CA, O=GC, OU=CNSC-CCSN, CN="Posada, Lester"
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Lester Posada,
Lead Inspector, Nuclear Processing Facilities Division

Approved by:

McAllister, Andrew

Digitally signed by McAllister, Andrew
DN: C=CA, O=GC, OU=CNSC-CCSN, CN="McAllister, Andrew"
Reason: I am approving this document
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Date: 2023.11.01 09:56:28-04'00'
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Andrew McAllister
Director, Nuclear Processing Facilities Division

Safety and Control Area(s): Fitness for Service

Inspector Accompanied by: Jason Duhaime, Project Officer, NPFD
Ananda Senathirajah, Sr. Management System Specialist, MSD
Andrew McAllister, Director, NPFD

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. facility from September 18, 2023, to September 20, 2023. 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 scope of the inspection was focused on the following safety and control area:

- Fitness for Service

The inspection team found the licensee to be in compliance with the inspection criteria, and therefore no compliance actions or recommendations were raised as part of this inspection.

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1. INTRODUCTION

An inspection at the SRB Technologies (Canada) Inc. (SRBT) facility was conducted from September 18, 2023 to September 20, 2023.

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 SRBT staff prior to the inspection. Observations, interviews, and records review 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 Canadian Nuclear Safety Commission (CNSC) staff's evaluation of the licensee's performance.

2. PURPOSE AND SCOPE

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 LCH, as well as SRBT's programs and procedures.

The scope of the inspection was focused on the following safety and control area:

- Fitness for Service

3. DESCRIPTION OF INSPECTION METHODS

The NSCA, CNSC Regulations, licence 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.

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

The inspection team found the licensee to be in compliance with the inspection criteria, and therefore no compliance actions or recommendations were raised as part of this inspection.

5. SUMMARY OF ENFORCEMENT ACTIONS AND RECOMMENDATIONS ISSUED

No compliance actions or recommendations were issued as part of this inspection.

6. CONCLUDING STATEMENTS

CNSC staff performed an inspection of the SRBT facility in order to verify compliance with the NSCA, its associated Regulations, the conditions of the licence and the LCH.

The inspection team found the licensee to be in compliance with the inspection criteria, and therefore no compliance actions or recommendations were raised as part of this inspection.

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, NSPFL-13.00/2034, (e-Doc 6668491).

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

[3] Letter from L. Posada (CNSC) to J. MacDonald (SRBT), *Notice of CNSC Type II Compliance Inspection of SRB Technologies (Canada) Inc. on September 18, 2023 to September 20, 2023,* August 3, 2023 (e-Doc 7086916).

[4] SRBT-2023-02 Preliminary Inspection Facts and Findings Report, September 20, 2023, (e-Doc 7086950).

APPENDIX A: ACRONYMS AND ABBREVIATIONS

CMP	Contractor Management Program
CNL	Canadian Nuclear Laboratories
CNSC	Canadian Nuclear Safety Commission
CVC	Compliance Verification Criteria
FME	Foreign Material Exclusion
FMEA	Failure Modes and Effects Analysis
LCH	Licence Conditions Handbook
MSD	Management Systems Division
MTC	Maintenance
NPFD	Nuclear Processing Facilities Division
NSCA	*Nuclear Safety and Control Act*
PM	Preventative Maintenance
SAT	Systematic Approach to Training
SOE	Safe Operation Envelope
SRBT	SRB Technologies (Canada) Inc.
SSC	Structures, Systems and Components

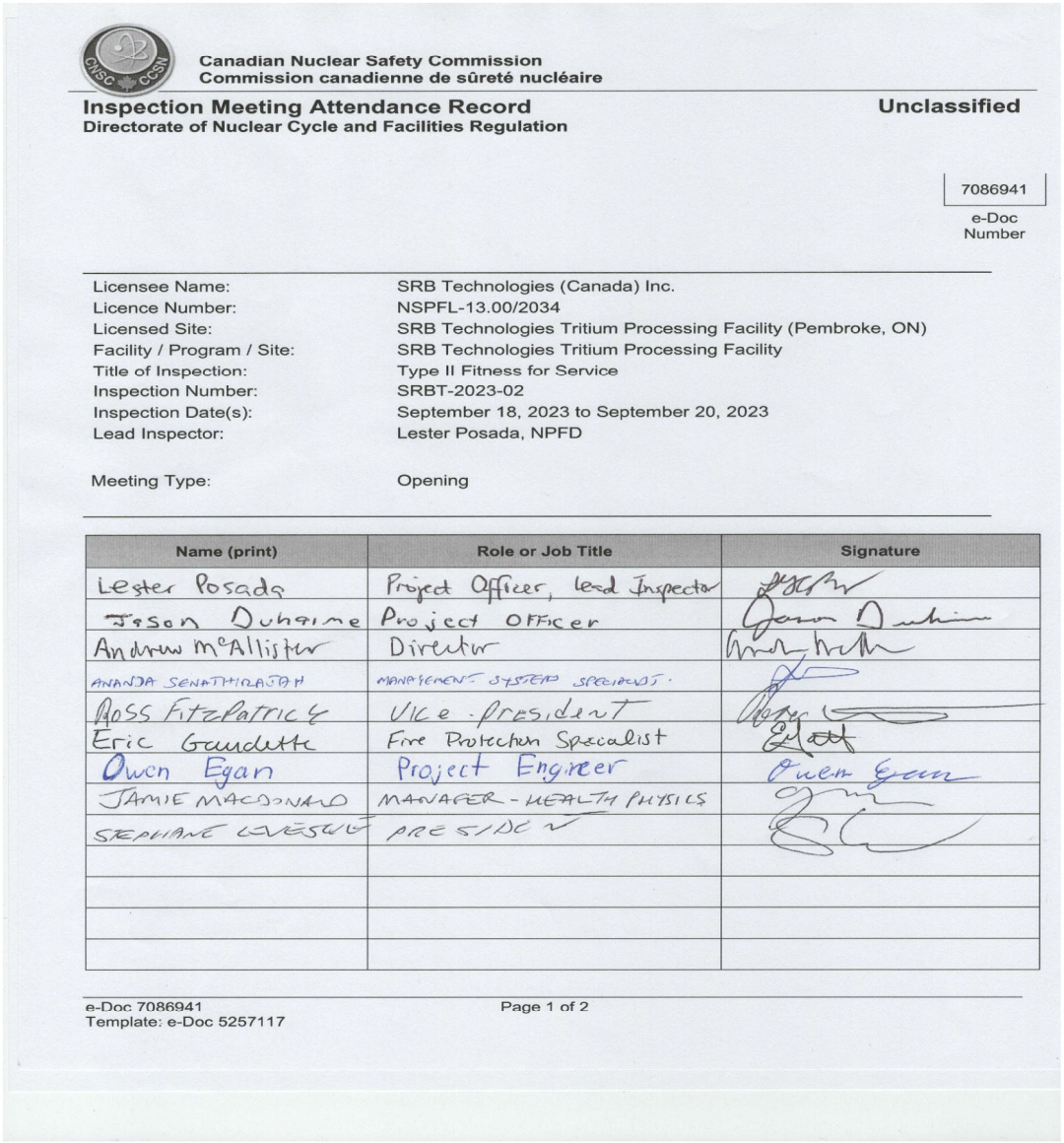
APPENDIX B: ATTENDANCE RECORDS

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Inspection Meeting Attendance Record

Unclassified

Directorate of Nuclear Cycle and Facilities Regulation



Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Inspection Meeting Attendance Record
Directorate of Nuclear Cycle and Facilities Regulation

Unclassified

7086941
e-Doc Number

Licensee Name:	SRB 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 Fitness for Service
Inspection Number:	SRBT-2023-02
Inspection Date(s):	September 18, 2023 to September 20, 2023
Lead Inspector:	Lester Posada, NPFD
Meeting Type:	Opening

Name (print)	Role or Job Title	Signature
Lester Posada	Project Officer, lead Inspector	
Jason Duhaime	Project Officer	
Andrew McAllister	Director	
ANANDA SENATHIRAJAH	MANAGEMENT SYSTEM SPECIALIST.	
ROSS FITZPATRICK	VICE-PRESIDENT	
Eric Gaudette	Fire Protection Specialist	
Owen Egan	Project Engineer	
JAMIE MACDONALD	MANAGER - HEALTH PHYSICS	
STEPHANE LEVESQUE	PRESIDENT	

e-Doc 7086941
Template: e-Doc 5257117

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Lead Inspector:	Lester Posada, NPFD
Meeting Type:	Closing

Name (print)	Role or Job Title	Signature
Lester Posada	Project Officer & Lead Inspector, CNSC	Remote via MS Teams
Ananda Senathirajah	Management System Specialist, CNSC	Remote via MS Teams
Jason Duhaime	Project Officer, CNSC	Remote via MS Teams
Jamie MacDonald	Manager – Health Physics and Regulatory Affairs, SRBT	Remote via MS Teams
Stephane Levesque	President, SRBT	Remote via MS Teams
Ross Fitzpatrick	Vice President, SRBT	Remote via MS Teams
Eric Gaudette	Fire Protection Specialist	Remote via MS Teams
Owen Egan	Project Engineer	Remote via MS Teams

Compliance Matrix

Unclassified

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

Lead Inspector: Lester Posada
Division: NPFD

APPENDIX C: **COMPLIANCE MATRIX**

Licensee Name:	SRB Technologies (Canada) Inc.
Licence Number:	NSPFL-13.00/2034
Licensed Site:	SRB Tritium Processing Facility (Pembroke, ON)
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Lead Inspector:	Lester Posada, 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

Click here to enter text.

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Safety and Control Area: Fitness for Service			
Source: *LICENCE NUMBER: NSPFL-13.00/2034*	The licensee shall implement and maintain a fitness for service program.	SRBT has developed, documented and implemented an adequate equipment maintenance program which meets the regulatory requirements. **Documents Reviewed:** • SRBT Maintenance Program	Met
CSA N286-12 clause 4.4 'Organization' SRBT Maintenance Program section 4.2 Maintenance Organization SRBT Maintenance Program section 4.2.2 Organizational Structure	Management shall clearly define to workers the following: a) Organizational structure; b) Authorities, accountabilities, and responsibilities of positions; c) Internal and external interfaces; and d) How and by whom decisions are made. Verify that the roles and responsibilities of personnel associated with the maintenance program are clearly defined, documented and communicated to staff. Review minutes associated with the Maintenance Committee, ensure that any actions arising from the meetings are being actioned upon and tracked to closure.	The Maintenance program is well defined and documented with clear roles and responsibilities. The SRBT "Organizational Structures and Responsibilities" document details the responsibilities for implementing and managing the maintenance program. The Vice President is responsible for the overall effectiveness of the Maintenance Program. The Fire Protection Specialist is responsible for the implementation of the Maintenance Program. SRBT has a Maintenance Committee that meets at least 4 times a year. Meeting minutes from this committee are documented with action items and followed up during consequent meetings to closure. Evidence was displayed and observed as efficient. **Documents Reviewed:** • SRBT Maintenance Program • Organizational Structures and Responsibilities • SRBT Maintenance Committee Minutes – July 2022, Oct 2022	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
CSA N286-12 clause 4.5.2 'Human Resources' SRBT Maintenance Program section 4.2.3 Training and qualification of workers	Workers shall be competent to do the work assigned to them, based on the following: a) Competence criteria shall be determined for positions based on the work to be performed and include education, experience, knowledge, ability and performance requirements; b) Workers shall be selected to positions on the basis of defined criteria and their capability to be competent in the position; c) Training shall be systematically developed and implemented so that the required qualification is achieved and maintained; d) Expectations for trainee performance shall be established and the trainee tested against them; e) Expected results and behaviour of workers shall be defined; and f) Workers shall be provided feedback on their performance. Verify that personnel associated with the implementation of the maintenance program at the facility are trained and qualified to carry out the work safely.	Workers performing the maintenance work and the oversight of the maintenance program demonstrated adequate knowledge of the program requirements and procedures for performing the tasks they are responsible for. Training relevant to the maintenance program is categorized into 2 categories based on the importance to safety. Training for performing Category 1 tasks follow less formal training approaches such as job shadowing and hands-on training. Training for performing Category 2 tasks follow Systematic Approach to Training (SAT). Records relevant to the approach, and records for the completed training were readily available. Training requirement for contractors are assessed by using a work control form. Contractors generally have the adequate qualifications and training to perform the contracted work, which is governed by the signed contracts, purchase orders and work orders. However, training on SRBT requirements such as radiation safety training is provided by the SRBT experts. Records for these completed training were submitted and confirmed adequate. **Documents Reviewed:** • SRBT Contractor Management Program • SRBT Maintenance Training Log • SRBT Procedure RSO-027 *Contractors* • SRBT SAT-HP-01 On The Job Training Record • CMP-F-04 Contractor Work Control Form – March 2023	Met
SRBT Maintenance Program section 4.2.4 Contract Workers	Verify that contracted maintenance work complies with the requirements of the SRBT Contractor Management Program.	As part of the SRBT Contractor Management Program, SRBT utilizes a Contractor Work Control Form, which is completed by the sponsor to identify the requirements for the contracted work. Contractors generally have the adequate qualifications and training to perform the contracted work, which is governed by the signed contracts, purchase orders and work orders. SRBT completes a post assessment record, which includes the assessment of the contractor complying with SRBT requirements. **Documents Reviewed:** • SRBT Contractor Management Program • CMP-F-04 Contractor Work Control Form – March 2023	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
CSA N286-12 clause 8.9.3 'Monitoring'	The condition of structures, systems, and components (SSCs) shall be controlled through a) Performance monitoring; b) Periodic testing; and c) Periodic inspection Verify that a program is in place to control the condition of SSCs at the facility.	Conditions of SSCs are monitored and maintained through routine maintenance schedule / preventative maintenance schedule. Records observed to demonstrate the effective implementation. There are no overdue preventative maintenance items. **Documents Reviewed:** • MTC-000 Index of Maintenance Procedure • MTC-016 Preventative Maintenance Schedule • SRBT Preventative Maintenance Log	Met
CSA N286-12 clause 8.9.4 'Maintenance' SRBT Maintenance Program	Structures, systems, and components shall be maintained in accordance with a maintenance strategy that includes a) A definition of the frequency and type of maintenance to be performed. This should take into account, but not be limited to, i. Supplier recommendations; ii. Risk analyses; iii. Periodic inspection requirements; iv. Operating experiences; v. Cost-benefit analyses; and vi. Service conditions b) Repair or replacement of malfunctioning structures, systems, and components; and c) Conducting maintenance activities in accordance with approved documentation or practices. Verify that a program is in place to maintain SSCs at the facility. Observe the conduct of maintenance activities at the facilities	SRBT maintains a maintenance schedule for maintaining SSCs as per the supplier's recommendations. Records demonstrating the schedule, completion of maintenance as per the schedule, as well as the records of completed work during the scheduled maintenance were observed to confirm the effective implementation. Records of SSC replacement, records demonstrating change control process followed during the replacement, follow up on the effectiveness of the replacement, as well as the revision of maintenance procedure for the item replaced were submitted and observed to confirm the effective controls when repairing or replacing SSCs. Maintenance program is effectively implemented for maintaining SSCs in the facility. Completed maintenance records were submitted and observed to demonstrate effective implementation. **Documents Reviewed:** • MTC-000 Index of Maintenance Procedure • MTC-016 Preventative Maintenance Schedule • SRBT Preventative Maintenance Log • SRBT Corrective Maintenance Log • SRBT Engineering Change Request ECR-966 – June 2019 • Rig & Bulk Preventative Maintenance Checklist – March 2022, June 2022 • Monitoring Well Preventative Maintenance Inspection Form – June 2023 • Valley Compressor Maintenance Work Order – March 2023, Sep 2023	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
CSA N286-12 clause 8.9.3 'Monitoring' SRBT Maintenance Program section 4.3.1 Preventive Maintenance	Verify that Preventive Maintenance (PM) activities for the facility have been established and implemented. Verify that as applicable: 1. All the required PMs were scheduled and were completed on time. 2. PMs that have gone past their due date, or were missed, were justified and approved according to station expectations. 3. Any PM deficiencies are documented in accordance with management expectations. 4. Monitoring results have been used to adjust the frequency and type of the preventive maintenance activities. All required PM sub-tasks are completed as required and changes to required sub-tasks are documented and approved.	All required PMs were scheduled and completed on time. No past due records were observed from the maintenance schedule. Maintenance status as per the schedule were reported and reviewed at the Maintenance Committee meetings. Meeting minute records reflects 100% completion rate for the scheduled maintenance in 2022. Maintenance frequency was increased for the compressor due to more operating hours during the winter time. **Documents Reviewed:** • MTC-016 Preventative Maintenance Schedule • SRBT Preventative Maintenance Log • Rig & Bulk Preventative Maintenance Checklist – March 2022, June 2022 • Monitoring Well Preventative Maintenance Inspection Form – June 2023 • Valley Compressor Maintenance Work Order – March 2023, Sep 2023 • SRBT Maintenance Committee Minutes – July 2022, Oct 2022 • Quarterly Verification of Real Time Stack Monitoring System – March 2023	Met
CSA N286-12 clause 8.9.3 'Monitoring' SRBT Maintenance Program section 4.3.1 Preventive Maintenance	Verify if any predictive maintenance activities have been established and implemented. Verify that as applicable: 1. predictive maintenance activities, such as collect information to indicate current condition and future potential failures are in effect.	SRBT does not have a formal predictive maintenance program. However, the implementation of predictive maintenance principles was observed. During the quarterly maintenance of the compressor that occurred during this inspection, the technician identified the need for changing the tension belt for the unit being serviced. Based on the finding, the belts were replaced for other units predicting the potential need to replace the belts for other units in the near future. This can be considered as predictive maintenance. **Documents Reviewed:** • SRBT Maintenance Program • Valley Compressor Maintenance Work Order Sep 2023	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
CSA N286-12 clause 8.9.4 'Maintenance' SRBT Maintenance Program section 4.3.2 Corrective Maintenance	Corrective maintenance is completed. Verify that as applicable: 1. Verify that there is no undue delay in executing corrective maintenance. 2. Work is prioritized and executed in accordance with program expectations. Review the outstanding corrective and deficient maintenance back log to confirm no safety impact on the system reliability or function.	SRBT maintains a Corrective Maintenance Log. Equipment that experiences repeated failures are identified and trended. SRBT noted that trended data is reviewed during annual management review meetings. Work is prioritized based on the importance to safety and operational needs. **Documents Reviewed:** • MTC-025 Corrective Maintenance • SRBT Corrective Maintenance Log • SRBT Maintenance Committee Minutes – July 2022, Oct 2022	Met
SRBT Maintenance Program Section 4.4 Structure, System and Component Monitoring	SSC monitoring activities are established and implemented. Verify that as applicable: 1. Major SSC within the scope of the SSC monitoring to confirm that the SSC important to safety have been selected to the scope of the monitoring. 2. Appropriate monitoring parameters have been established based on SSC degradation mechanisms. 3. Acceptance criteria with appropriate margins have been established for the monitored parameter or data. 4. Failure modes and SSC degradation mechanisms are identified and used to create the corresponding preventive maintenance activities. Testing (including safety system tests) has been conducted to verify that SSC are in good working order and are in a state of readiness to perform their functions.	Equipment used for licensed activities are classified based on their importance to safety. Group levels are assigned according to score. Expert judgement is also used on top of the score to determine the required maintenance frequency. Maintenance procedures (parameters) are then developed for each specific SSC. One procedure is applicable for identical SSC used in multiple equipment such as the vacuum scroll pumps (MTC-015). Appropriate control limits have been established and the results are monitored to ensue there are no outliers. No formal Failure Modes and Effects Analysis (FMEA) assessments are conducted due to the nature of SRBT's size and operations. However, it was evident that the principle of assessing the potential failures and addressing the needs as appropriate is in practice. **Documents Reviewed:** • SRBT Maintenance Program • MTC-000 Index of Maintenance Procedure • MTC-001 Master Equipment List • MTC-001-F-01 – Equipment Grading Process ○ Bubblers, RDUs and Chart Recorders, Tritium Monitors • MTC-015 Vacuum Scroll Maintenance • SRBT Maintenance Committee Minutes – July 2022, Oct 2022	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
N286-12 clause 8.9.4 MAINTENENANCE (INSTRUMENTATION CALIBRATION) SRBT Maintenance Program Section 4.5 Maintenance Work	Instrumentation remains within the calibration tolerances as required for it to perform as per design. Verify that as applicable: 1. Instruments requiring calibration are defined. 2. The method and frequency of calibration is defined. 3. Instrumentation remains within the calibration tolerances as required for it to perform as per design. 4. Calibration is performed against equipment having a known relationship to nationally recognized standards. 5. Instrument calibration uncertainties have been considered in the instrument uncertainty calculation. 6. When the test uncertainty ratio requirement could not be met: a. Impact of such deviation was understood and assessed; b. Compensatory measure(s) was justified, approved and documented; c. Assurance that safe operating limit defined in the Safety Operation Envelop (SOE) was not degraded. d. Compensatory measure(s) was documented in the instrument calibration record.	A log of instruments requiring calibration is maintained. Observed calibration records demonstrate the effective implementation of the calibration schedule. No records of past due calibration observed. SRBT also compares performance data associated with their Liquid Scintillation Counter with other organizations such as Health Canada and CNL, to confirm the validity of their results. **Documents Reviewed:** • RSO-011 Instrument Calibration • Instrument Calibration Record – S/N 4294 Nov 2022	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
N286-12 clause 8.9.4 MAINTENENANCE (TOOL MANAGEMENT) SRBT Maintenance Program Section 4.5 Maintenance Work	Use of field calibration equipment is controlled. Verify that as applicable: 1. records of traceability to a national standard are: a. Maintained b. Retrievable 2. Equipment used in the field calibration facilities, a. Has a calibration label; b. Is approved for use; c. Not past due date; d. Tamper seal is not broken	Instruments in the field were observed to be in calibration. No discrepancies were noted.   **Documents Reviewed:** • Portable tritium in air monitor, S/N 4641 • Tritium Bulk Stack, S/N 4488	Met
N286-12 clause 8.9.4 MAINTENENANCE (TOOL MANAGEMENT) SRBT Maintenance Program Section 4.5 Maintenance Work	Planned work and required equipment is approved. Verify that as applicable: 1. Calibration equipment in the field is approved for use during the time period when the field instrument is calibrated.	The Quality Manager maintains the calibration log with the required calibration period, and calibration status. Equipment requiring calibration before each use is identified in the log, individual procedures for performing the task, provides guidance on calibrating the equipment prior to use.	Met
N286-12 clause 8.9.4 MAINTENENANCE (TOOL MANAGEMENT) SRBT Maintenance Program Section 4.5 Maintenance Work	Site calibration facility is operated in a manner that preserves the correct environmental conditions. Verify that as applicable: 1. There are standards and calibration equipment stored in the facility that requires protection against effects of environmental conditions. 2. When environmental effects cannot be avoided, compensating actions are implemented.	This is not applicable for SRBT as there is no specific environmental conditions that are required to be maintained in order to conduct calibration activities. Any specific calibration activities that SRBT does not perform in-house are sent out for third party calibration.	N/A

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
N286-12 clause 8.9.4 MAINTENENANCE (TOOL MANAGEMENT) SRBT Maintenance Program Section 4.5 Maintenance Work	Instrument health is monitored and documented. Verify that as applicable: 1. instrument performance is evaluated. 2. instrument calibration related issues discussed and addressed in appropriate manner. 3. recommended replacement or re-calibrate of instruments is implemented.	Instrument health is monitored and documented. Examples of monitoring health for the stack monitoring system were demonstrated. Records demonstrating the evaluations were submitted and observed. **Documents Reviewed:** • Quarterly Verification of Real Time Stack Monitoring System – March 2023	Met
N286-12 clause 4.8.2 "Work control" SRBT Maintenance Program Section 4.5 Maintenance Work	Use of software is controlled. Verify that as applicable: 1. software used in the measurement processes and calculations of results are: • documented; • identified; and • controlled 2. software, and any revisions to it, are: • tested and / or validated prior to initial use; • approved for use; and • archived.	This is not applicable for SRBT as they do not use specific software for managing their maintenance activities. SRBT utilizes typical software such as Microsoft Excel or Outlook to manage maintenance activities in the facility. Organizational Managers are responsible for maintenance of equipment within their departments, which is followed up by the Fire Protection Specialist to ensure completion and documented in Excel.	N/A
N286-12 clause 4.8.2 "Work control" SRBT Maintenance Program Section 4.5 Maintenance Work	Maintenance activities are categorized and prioritized appropriately considering the safety significance of the SSC. Verify that as applicable: 1. Work orders have been properly categorized and prioritized according to the safety significances of SSC. 2. Equipment problems received appropriate attention and timely resolution.	Observed work orders and corrective maintenance log demonstrate that: • work orders have been properly categorized and prioritized according to the safety significances of SSC. • Equipment problems received appropriate attention and timely resolution. **Documents Reviewed:** • MTC-025 Corrective Maintenance • SRBT Corrective Maintenance Log • Valley Compressor Maintenance Work Order – March 2023, Sep 2023	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
N286-12 clause 4.8.2 "Work control" – Planning SRBT Maintenance Program Section 4.5 Maintenance Work	Work assessment completed as per procedures. Verify that as applicable: 1. The work assessment identifies any special maintenance needs, such as special tools, calibration, torque instruments, or specialized monitoring equipment. 2. If the selected work packages include environmental and seismic qualified SSC, they are marked in the work packages and if necessary, specific instructions or procedures are included. 3. When there is a need for special procedures or special work instructions, they are included in the work packages. 4. Foreign material exclusion (FME) has been considered during work assessment where appropriate. 5. Assessment identifies the required trades personnel or outside contractors with unique skills (if required). 6. Assessment includes determination of special qualifications required for the workers. 7. impact of maintenance activities on safety, including regulatory requirements and approvals, safe operating envelope (SOE), industrial and radiological, is included in the assessment. 8. Need for lighting, tooling, special equipment, scaffolding, communications, and fire protection and contamination control is considered in the work package. 9. Hazards and safety impacts identified in the assessment. including key items such as: • Access • Availability of system to be worked on • Hazards (chemical, electrical, heights, overhead loads, lifting, etc.) • Precautions (jumpers, waste disposal) • Confined space entry • Excavation needs	SRBT documents its work assessment within each MTC procedure as part of the SRBT Maintenance Program. For work conducted by contractors, this is incorporated as part of the Contractor Management Program and controlled through the use of the Contractor Work Control Form. The observed work control form included all relevant specifications, special requirements, special procedures, and any required training. The impact of the work is assessed using the work control form, and adequate measures are taken prior to the start of work. **Documents Reviewed:** • SRBT Maintenance Program • MTC-000 Index of Maintenance Procedure • MTC-015 Vacuum Scroll Pump Maintenance • SRBT Contractor Management Program • CMP-F-04 Contractor Work Control Form – March 2023 • Valley Compressor Maintenance Work Order – March 2023, Sep 2023	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	10. There is a review by personnel knowledgeable on nuclear safety of the net effect of maintenance activity which will be performed, to determine the overall effect on safety. 11. If the maintenance activities have an impact on regulatory requirements and approvals, they have been identified during the job assessment. 12. The impact of the maintenance activities on the facility's safe operating envelope has been identified during the job assessment.		
N286-12 clause 4.8.2 "Work control" SRBT Maintenance Program Section 4.5 Maintenance Work	Work activities shall be authorized. Work activities shall be carried out using approved documents, including those for software, materials, parts, tools, processes and practices. Verify that as applicable: 1. materials and parts are in accordance with the technical specifications 2. during the pre-job briefing, the equipment to be maintained has clearly been identified and communicated to the worker 3. following items were identified to the worker in the pre-job briefing: a. potential nuclear safety impact b. personnel safety hazards and protective equipment c. special job rules d. acceptance criteria e. hold points and, f. contingencies 4. hoists and rigging, scaffolding and rubber areas: a. are identified; b. are placed in service and; c. meet requirements. 5. A task is included with job package to verify that the equipment can perform its intended function after the maintenance activities is complete. This could be a post-maintenance test or a fitness for service assessment.	Maintenance procedures are used for conducting maintenance work. Completed work is verified after completion by the Fire Protection Specialist. Records were observed for post work assessment and approval. Critical parts associated with SSC, listed in the critical parts list and maintained, are in accordance with the technical specifications. List was submitted and observed. **Documents Reviewed:** • SRBT Maintenance Program • MTC-000 Index of Maintenance Procedure • MTC-002 Critical Spare Parts • MTC-015 Vacuum Scroll Pump Maintenance • CMP-F-04 Contractor Work Control Form – March 2023 • Valley Compressor Maintenance Work Order – March 2023, Sep 2023 • SRBT Critical Spares List	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	6. Post-maintenance verification is conducted on the affected SSC by appropriately qualified individuals. 7. A process shall be in place to periodically assess that maintenance activities have been carried out within licensee expectations. This work shall be done by appropriately qualified individuals who do not have direct responsibility for performing the work.		
SRBT Maintenance Program Section 4.7 Management Assessment and Program Review	Verify that an annual program review of the maintenance organization is being conducted. Review internal audits to ensure that any deficiencies identified as well as any potential improvements are being tracked and actioned upon as appropriate.	The Maintenance Committee meeting minutes provide evidence of annual program review and relevant actions, as well as follow up on actions. An internal audit of the maintenance program is conducted every 3 years. Records of completed audits were observed to confirm the effective implementation. **Documents Reviewed:** • SRBT Maintenance Program • SRBT Maintenance Committee Minutes – July 2022, Oct 2022 • SRBT Internal Audit Report – Maintenance – May 2019, Sept 2022	Met
N286-12 clause 4.7.4 "Records" SRBT Maintenance Program Section 5.0 Records	Verify that maintenance records are adequately maintained. Verify that maintenance records are reviewed for accuracy, completeness, potential incipient failures and recurring failures.	Maintenance records are linked to the maintenance schedule on a work sheet as a living document. Records were displayed on screen and observed to confirm effective implementation. Corrective action log is maintained. Any repeated failures are tracked using the corrective action log, trended, reported and reviewed during the annual program review. Actions generated from the review is tracked during consequent Maintenance Committee meetings. **Documents Reviewed:** • SRBT Maintenance Program • SRBT Maintenance Committee Minutes – July 2022, Oct 2022 • SRBT Internal Audit Report – Maintenance – May 2019, Sept 2022 • SRBT Preventative Maintenance Log • SRBT Corrective Maintenance Log	Met