



CNSC COMPLIANCE INSPECTION REPORT

Inspection No.: SRBT-2021-03

Inspection Title: Type II Fire Protection Inspection

Prepared by:
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Nuclear Processing Facilities Division
Directorate of Nuclear Cycle and Facilities Regulation

Report Date: February 24, 2022



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Canada

**CANADIAN NUCLEAR SAFETY COMMISSION
COMPLIANCE INSPECTION**

Inspection No.: SRBT-2021-03

Licensee: SRB Technologies (Canada) Inc.

Licence No.: NSPFOL-13.00/2022

Facility / Site Inspected: SRBT Tritium Processing Facility

Inspection Date(s): November 30, 2021 – December 2, 2021

Inspector:

Lester Posada,
Lead Inspector, NPDFD

Approved by:

Andrew McAllister
Director, NPDFD

Safety and Control Area(s): Emergency Management and Fire Protection

Inspector Accompanied by: Aidan Leach – Senior Nuclear Facility Site Inspector
James Eduful – Specialist

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 SRB Technologies (Canada) Inc. (SRBT) from November 30, 2021 to December 2, 2021. The purpose of this inspection was to provide an overall assessment to verify compliance with regulatory requirements.

The scope of the inspection was to focus on the emergency management and fire protection safety and control area, with a focus on the SRBT fire 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 December 2, 2021.

The inspection team found the licensee to be in compliance with the inspection criteria. Four (4) recommendations were raised as part of this inspection for SRBT to address as areas for continuous improvement. The identified recommendations do not pose an immediate or unreasonable risk to the health and safety of persons or to the environment.

Table of Contents

1. INTRODUCTION	1
2. PURPOSE AND SCOPE	1
3. DESCRIPTION OF INSPECTION METHODS	1
4. INSPECTION RESULTS	2
4.1 SAFETY AND CONTROL AREA: EMERGENCY MANAGEMENT AND FIRE PROTECTION	3
4.2 SAFETY AND CONTROL AREA: EMERGENCY MANAGEMENT AND FIRE PROTECTION	4
4.3 SAFETY AND CONTROL AREA: EMERGENCY MANAGEMENT AND FIRE PROTECTION	4
4.4 SAFETY AND CONTROL AREA: EMERGENCY MANAGEMENT AND FIRE PROTECTION	5
5. SUMMARY OF ENFORCEMENT ACTIONS AND RECOMMENDATIONS ISSUED	6
5.1 ENFORCEMENT ACTIONS	6
5.2 RECOMMENDATIONS	6
6. CONCLUDING STATEMENTS	6
7. REFERENCES	7
APPENDIX A: ACRONYMS AND ABBREVIATIONS	8
APPENDIX B: ATTENDANCE RECORD(S)	9
APPENDIX C: COMPLIANCE MATRIX	11

1. INTRODUCTION

An inspection at the SRB Technologies (Canada) Inc. (SRBT) facility was conducted from November 30, 2021 to December 2, 2021.

The licensee was assessed against provisions of the *Nuclear Safety and Control Act* (NSCA) and its associated Regulations, the conditions of the licence NSPFOL-13.00/2022 [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 and compiled into a Compliance Matrix, which had been provided to SRBT staff prior to the inspection [3]. In light of the ongoing COVID-19 pandemic, this inspection was conducted as a hybrid – remotely through video conferencing using Microsoft Teams with the facility walkthrough as an onsite component. 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 CNSC staff's evaluation of the licensee's performance.

2. PURPOSE AND SCOPE

The purpose of the inspection is to provide an overall assessment of compliance with specific clauses of the NSCA and its Regulations, the operating licence NSPFOL-13.00/2022 and its associated LCH, as well as SRBT's programs and procedures as necessary.

The scope of the inspection was the emergency management and fire protection safety and control area, with a focus on the implementation of SRBT's Fire Protection Program (FPP).

3. DESCRIPTION OF INSPECTION METHODS

The NSCA, CNSC Regulations, licence NSPFOL-13.00/2022 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 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 licensing 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 identified non-compliance and respond with one of the following:

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

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

4.1 Safety and Control Area: Emergency Management and Fire Protection

Criteria

CSA N393-13 *Fire protection for facilities that process, handle, or store nuclear substances*,
Section 10.2 Role authority and responsibility

SRBT Fire Protection Program, FS 200 Section 4.0 Responsibilities

Fact(s)

- Section 4.0 of the SRBT FPP lists the Vice President of SRBT as responsible for the implementation of the FPP, but does not list other staff who help implement the FPP (e.g. Fire Protection Specialist, Fire Protection Committee Members).

Analysis/Finding(s)

As noted in Section 10.2 of CSA N393-13, the FPP shall document management policy and program direction and shall define the roles, responsibilities and authority of all departments and persons (staff, supervisors and managers) involved in the FPP to provide effective implementation and control of all fire protection activities.

Section 4 of the SRBT FPP only listed the Vice President of SRBT as responsible for the implementation of the FPP. The FPP does not clearly define all the roles and responsibilities required in the implementation of the program, such as the fire protection specialist and fire protection committee members. SRBT noted that all roles are defined in their management system documents. CNSC staff reviewed the following SRBT descriptive documents:

- Organizational Structure and Responsibilities [5] – Outlines the SRBT organizational chart as well as the roles and responsibilities for SRBT employees
- Document and Process Structure [6] – Outlines the SRBT document system
- Committee Process and Descriptions [7] – Outlines the scope and structure their committees

As part of continuous improvement, it is recommended that SRBT define all the roles responsible for the implementation of the FPP in the next revision of the SRBT FPP document.

While not identified as a non-compliance, this is viewed as an opportunity for improvement based on CNSC experience and industry best practice.

Compliance Action(s)/Recommendation(s)

SRBT-2021-03-R01: SRBT should revise their fire protection program document to include all roles responsible for the implementation of the SRBT Fire Protection Program.

4.2 Safety and Control Area: Emergency Management and Fire Protection

Criteria

National Fire Code of Canada (NFCC), Section 2.4.1.3 Waste Receptacles

Fact(s)

- Most of the waste bins observed during the inspection did not have accumulation of combustible waste.
- At the time of the inspection, 1 bin in the Zone 2 area for used lab access coverings was observed almost full in an open plastic waste receptacle.

Analysis/Finding(s)

During the facility walkdown, most of the waste bins observed did not have accumulation of combustible waste. However, 1 bin in the Zone 2 area for used lab access coverings were observed almost full in an open plastic waste receptacle. SRBT noted that bins are emptied at least once a day.

As part of continuous improvement, it is recommended that bins are replaced with proper waste receptacles of non-combustible construction, and equipped with close-fitting, self-closing metal lids. This will ensure that the facility will not accumulate combustible waste that may lead to a fire.

While not identified as a non-compliance, this is viewed as an opportunity for improvement based on CNSC experience and industry best practice.

Compliance Action(s)/Recommendation(s)

SRBT-2021-03-R02: SRBT should consider obtaining proper waste receptacles that are of non-combustible construction and equipped with close-fitting, self-closing metal lids.

4.3 Safety and Control Area: Emergency Management and Fire Protection

Criteria

NFCC, Section 4.2.10 Cabinets for Container Storage
CSA N393-13, Section 10.6.7.3 Handling and Storage of dangerous goods

Fact(s)

- Flammable and combustible liquids were stored in appropriate fire cabinets.
- CNSC staff did not observe where the safety data sheets (SDS) would be for each chemical inside the flammable cabinets.

Analysis/Finding(s)

During the facility walkdown, CNSC staff observed the state of the storage of flammable and combustible liquids. Flammable cabinets in the facility are observed to be in good condition. CNSC staff did not observe the SDS available for each chemical inside the flammable cabinets. SRBT noted that their SDS are available in their internal computer system, where all employees have access to the latest revisions of the SDS.

As part of continuous improvement, it is recommended that SRBT have a note on the cabinets to identify where the SDS for each chemical could be located. As the SDS provides more detailed information about the hazards for each chemical, this would help workers identify where more information on each chemical could be found, including safe handling and emergency measures.

While not identified as a non-compliance, this is viewed as an opportunity for improvement based on CNSC experience and industry best practice.

Compliance Action(s)/Recommendation(s)

SRBT-2021-03-R03: SRBT should consider having a note on the flammable cabinets to identify where the SDS could be located.

4.4 Safety and Control Area: Emergency Management and Fire Protection

Criteria

NFCC, Section 2.7.1.6 Maintenance

Fact(s)

- While not observed during the walkdown, the electric forklift may block egress routes while it is charging in its designated area.

Analysis/Finding(s)

As per the NFCC, means of egress shall be maintained in good repair and free of obstructions.

During the facility walkdown, CNSC staff observed the status of the means of egress in the SRBT facility. All observed means of egress including aisles, corridors, stairwells and exit doors are maintained in good repair and free of obstructions. This was not observed during the inspection, but it was noted that the electric forklift could obstruct means of egress while it is at its designated charging location.

As part of continuous improvement, it is recommended that SRBT review the location where the electric forklift is charged to ensure that it does not obstruct any means of egress while the forklift is charging.

While not identified as a non-compliance, this is viewed as an opportunity for improvement based on CNSC experience and industry best practice.

Compliance Action(s)/Recommendation(s)

SRBT-2021-03-R04: SRBT should review the location where the electric forklift is charged to ensure that it does not obstruct any means of egress from the facility while charging.

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:

- **None issued**

5.2 Recommendations

The following recommendations were raised as a result of this inspection:

- **SRBT-2021-03-R01:** SRBT should revise their fire protection program document to include all roles responsible for the implementation of the SRBT Fire Protection Program.
- **SRBT-2021-03-R02:** SRBT should consider obtaining proper waste receptacles that are of non-combustible construction and equipped with close-fitting, self-closing metal lids.
- **SRBT-2021-03-R03:** SRBT should consider having a note on the flammable cabinets to identify where the SDS could be located.
- **SRBT-2021-03-R04:** SRBT should review the location where the electric forklift is charged to ensure that it does not obstruct any means of egress from the facility while charging.

6. CONCLUDING STATEMENTS

CNSC staff performed a fire protection inspection at SRBT in order to verify compliance with the NSCA, its associated Regulations, the conditions of the licence and the LCH. The scope of the inspection focused on the emergency management and fire protection safety and control area, with a focus on SRBT's fire protection program.

The inspection team found the licensee to be in compliance with the inspection criteria. Four (4) recommendations have been raised for SRBT to consider as areas for continuous improvement. The identified recommendations are of low safety significance and do not pose an immediate or unreasonable risk to the health and safety of persons or the environment. SRBT is requested to submit a response to the inspection report 60 days from the date the report was issued.

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

7. REFERENCES

- [1] SRB Technologies (Canada) Inc. Nuclear Substance Processing Facility Operating Licence, NSPFOL-13.00/2022, (e-Doc 4522207).
- [2] SRB Technologies (Canada) Inc. Licence Conditions Handbook, (e-Doc 5878205).
- [3] E-mail from L. Posada (CNSC) to J. MacDonald (SRBT), *SRBT-2021-03 Compliance Matrix*, November 25, 2021, (e-Doc 6716720).
- [4] SRBT-2021-03 Preliminary Inspection Facts and Findings Report, December 2, 2021, (e-Doc 6692219).
- [5] SRB Technologies (Canada) Inc., *Organizational Structure and Responsibilities*, Revision D, June 2021.
- [6] SRB Technologies (Canada) Inc., *Document and Process Structure*, Revision D, June 2021.
- [7] SRB Technologies (Canada) Inc., *Committee Process and Descriptions*, Revision E, June 2021.
- [8] E-mail from J. MacDonald (SRBT) to L. Posada (CNSC), *Provision of Third-Party Audit - SRBT Fire Protection Program (2021)*, December 23, 2021, (e-Doc 6708648).

APPENDIX A: ACRONYMS AND ABBREVIATIONS

CNSC	Canadian Nuclear Safety Commission
CSA	CSA Group
CVC	Compliance Verification Criteria
FPP	Fire Protection Program
GNSCR	<i>General Nuclear Safety and Control Regulations</i>
IT&M	Inspection, Testing & Maintenance
LCH	Licence Conditions Handbook
NFCC	National Fire Code of Canada
NNC	Notice of Non-compliance
NPFD	Nuclear Processing Facilities Division
NSCA	<i>Nuclear Safety and Control Act</i>
RPR	<i>Radiation Protection Regulations</i>
SCA	Safety and Control Area
SDS	Safety Data Sheet
SRBT	SRB Technologies (Canada) Inc.

APPENDIX B: ATTENDANCE RECORD(S)



Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Inspection Meeting Attendance Record
Directorate of Nuclear Cycle and Facilities Regulation

Unclassified

6686760

e-Doc
Number

Licensee Name: SRB Technologies (Canada) Inc.
Licence Number: NSPFOL-13.00/2022
Licensed Site: SRB Tritium Processing Facility (Pembroke, ON)
Facility / Program / Site: SRB Technologies Tritium Processing Facility
Title of Inspection: Type II Fire Protection Inspection
Inspection Number: SRBT-2021-03
Inspection Date(s): November 30, 2021 to December 2, 2021
Lead Inspector: Lester Posada, NPFD

Meeting Type: Opening

Name (print)	Role or Job Title	Signature
Lester Posada	Project Officer, Lead Inspector	Remote
James Eduful	Specialist	Remote
Aidan Leach	Sr. Nuclear Facility Site Inspector	Remote
Jamie MacDonald	Manager, Health Physics and Regulatory Affairs	Remote
Ross Fitpatrick	Vice President	Remote
Eric Gaudette	Fire Protection Specialist	Remote



Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Inspection Meeting Attendance Record
Directorate of Nuclear Cycle and Facilities Regulation

Unclassified

6686760

e-Doc
Number

Licensee Name: SRB Technologies (Canada) Inc.
Licence Number: NSPFOL-13.00/2022
Licensed Site: SRB Tritium Processing Facility (Pembroke, ON)
Facility / Program / Site: SRB Technologies Tritium Processing Facility
Title of Inspection: Type II Fire Protection Inspection
Inspection Number: SRBT-2021-03
Inspection Date(s): November 30, 2021 to December 2, 2021
Lead Inspector: Lester Posada, NPFD

Meeting Type: Closing

Name (print)	Role or Job Title	Signature
Lester Posada	Project Officer, Lead Inspector	Remote
James Eduful	Specialist	Remote
Aidan Leach	Sr. Nuclear Facility Site Inspector	Remote
Jamie MacDonald	Manager, Health Physics and Regulatory Affairs	Remote
Stephane Levesque	President	Remote
Ross Fitpatrick	Vice President	Remote
Eric Gaudette	Fire Protection Specialist	Remote



Compliance Matrix

Directorate of Nuclear Cycle and Facilities Regulation

Ref. Procedure *How to Conduct DNCFR Inspections*

Unclassified

Lead Inspector: Lester Posada

Division: NPDFD

APPENDIX C: COMPLIANCE MATRIX

Licensee Name: SRB Technologies (Canada) Inc.
Licence Number: NSPFOL-13.00/2022
Licensed Site: SRBT Facility
Facility / Program / Site: Tritium Processing Facility
Title of Inspection: Fire Protection Inspection
Inspection Number: SRBT-2021-03
Inspection Date(s): November 30, 2021 to December 1, 2021
Lead Inspector: Lester Posada, NPDFD

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.

- | | | |
|---|--|---|
| <input type="checkbox"/> Management System | <input type="checkbox"/> Environmental Protection | <input type="checkbox"/> Waste Management |
| <input type="checkbox"/> Fitness for Service | <input type="checkbox"/> Radiation Protection | <input type="checkbox"/> Security |
| <input type="checkbox"/> Operating Performance | <input type="checkbox"/> Conventional Health and Safety | <input type="checkbox"/> Safeguards and Non-Proliferation |
| <input type="checkbox"/> Safety Analysis | <input type="checkbox"/> Human Performance Management | <input type="checkbox"/> Packaging and Transport |
| <input type="checkbox"/> Physical Design
specify below | <input checked="" type="checkbox"/> Emergency Management & Fire Protection | <input type="checkbox"/> Other, |

Click here to enter text.

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
SCA: Emergency Preparedness and Fire Protection – Exits and Means of Egress			
#1 Source: NFCC Details: 2.7.1.6 (1)	Field Check: Verify that means of egress including aisles, corridors, stairwells and exit doors are maintained in good repair and free of obstructions.	Field Check: All inspected means of egress including aisles, corridors, stairwells and exit doors are maintained in good repair and free of obstructions. However, it was noted that the designated charging location of the electric forklift could obstruct means of egress. At the time of the visit this was not observed.	Met with Recommendation SRBT-2021-03-R04
#2 Source: NFCC Details: 2.7.1.7. (1)	Field Check: Verify that exterior passageways and exterior exit stairs serving buildings are maintained free of snow and ice accumulations.	Field Check: There were no snow accumulations to verify these criteria.	N/A
#3 Source: NFCC Details: 2.7.2.1. (1)	Field Check: Verify that doors forming part of a means of access or egress are operable.	Field Check: All doors inspected at the time of the visit forming part of a means of access or egress were operable.	Met
#4 Source: NFCC Details: 2.7.3.1 (2)	Field Check: Verify that exit lighting and exit signs are visible and illuminated.	Field Check: Exit lighting and exit signs inspected were visible and photoluminescent exit signs.	Met
#5 Source: NFCC Details: 2.7.3.1 (3)	Field Check: Verify that emergency lightings are maintained in operating condition.	Field Check: Emergency lightings inspected were maintained in operating condition.	Met
SCA: Emergency Preparedness and Fire Protection – Fire Separations			

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
#6 Source: NFCC Details: 2.2.1.2(1) 2.2.2.2	Field Check: Verify that where fire separations are damaged so as to affect their integrity, they shall be repaired so that the integrity of the fire separation is maintained.	Field Check: No observed damage to fire separations.	Met
#7 Source: NFCC Details: 2.2.2.1 (1) Source: NBCC Details: 3.1.8.11	Field Check: Verify that fire doors: <ul style="list-style-type: none">• close by itself• are equipped with an operational device, which will return the door to the closed position after each use• are not obstructed or wedged open• close without gapping and door latching hardware functions securely• are equipped with a mechanism, which will hold the door in the closed position• roll up or sliding fire doors are not obviously damaged or obstructed	Field Check: Fire doors observed to be in good condition.	Met
#8 Source: NFCC Details: 2.2.2.4. (4)	Field Check: Verify that closures in fire separations are not obstructed, blocked, wedged open, or altered in any way that would prevent the intended operation of the closure.	Field Check: Fire separation observed no obstructed.	Met
SCA: Emergency Preparedness and Fire Protection – Minimization of Combustible Materials			
#9 Source: NFCC Details: 2.4.1.1.(1)	Field Check: Verify that combustible waste materials in and around buildings are not permitted to accumulate in quantities or locations that will constitute an undue fire hazard.	Field Check: No combustible waste material accumulations were observed in and around the building in quantities or locations that will constitute an undue fire hazard.	Met
#10 Source: NFCC Details: 2.4.1.1(2)	Field Check: Verify that combustible materials, other than those for which the location, room or space is designed, are not	Field Check: No combustible waste material accumulations were observed in and around	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	permitted to accumulate in any part of an elevator shaft, ventilation shaft, means of egress, service room or service space.	the building in quantities or locations that will constitute an undue fire hazard.	
#11 Source: NFCC Details: 2.4.1.3 (1)	Field Check: Verify that materials subject to spontaneous ignition, such as oily rags, are deposited in a receptacle or removed from the premises.	Field Check: No combustible waste material accumulations were observed in and around the building in quantities or locations that will constitute an undue fire hazard.	Met
#12 Source: NFCC Details: 2.4.1.3 (4)	Field Check: Verify that: <ul style="list-style-type: none">• Proper waste receptacles are of non-combustible construction, and equipped with close-fitting, self-closing metal or smoke eater lids.• Oily rag containers are emptied once per day.• Trashcans are not overflowing.• Accumulations of ordinary combustibles are stored so that contact with ignition sources and obstruction of means of egress is avoided.	Field Check: Most of the waste bins observed during the inspections did not have accumulation of combustible waste. However, at the time of the inspections, 1 bin in the Zone 2 area for used lab access coverings were observed almost full in an open plastic waste receptacle. SRBT noted that bins are emptied at least once a day. It is recommended that bins are promptly emptied or replaced with proper waste receptacles are of non-combustible construction, and equipped with close-fitting, self-closing metal lids.	Met with Recommendation SRBT-2021-03-R02
#13 Source: CSA N393-13 Details: 10.6.3 Source: PR 110 Waste Management Procedure	Field Check: Verify that combustible wastes are not allowed to accumulate at work areas. A procedure is established for staging, handling, and/or collecting of combustible waste to reduce the amount of combustible material and waste to a level as low as is reasonable practicable.	Field Check: There was no accumulation of combustible waste in work areas. Overview of housekeeping practices is provided in SRBT FPP document.	Met
#14 Source: CSA N393-13	Field Check:	Field Check: No combustible waste material accumulations were observed in and around the building in	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
Details: 10.6.4	<p>Verify that the combustible contents of buildings are minimized and, where practical, non-combustible alternatives are used:</p> <ul style="list-style-type: none"> • Temporary panels, tarpaulins, and screens are of non-combustible or fire-retardant construction conforming to NFPA 701 or CAN/ULC-S109. • Wood is only used where there is no reasonable alternative and is treated with a fire-retardant coating (i.e., paint). • Look for evidence of fire-retardant marking or coloring etc. 	quantities or locations that will constitute an undue fire hazard.	
#15 Source: NFCC Details: 5.3.1.2 (1)	<p>Field Check:</p> <p>Verify that building and machinery surfaces are kept clean of accumulations of combustible dusts using cleaning equipment that</p> <p>a) is made of materials that will not create electrostatic charges or sparks,</p> <p>b) is electrically conductive and bonded to ground, and</p> <p>c) removes the dust to a safe location by vacuum.</p>	<p>Field Check:</p> <p>Housekeeping at the facility was observed to be in good condition.</p>	Met
SCA: Emergency Preparedness and Fire Protection – Handling and Storage of Flammable and Combustible Liquids			
#16 Source: NFCC Details: 3.2.7.4 (1)	<p>Field Check:</p> <p>Verify that areas where dangerous goods are stored are maintained free of waste packaging material, debris of any kind, or any spilled product.</p>	<p>Field Check:</p> <p>Housekeeping at the facility was observed to be in good condition.</p>	Met
#17 Source: NFCC Details: 3.2.7.4 (2)	<p>Field Check:</p> <p>Verify that broken packages or containers of dangerous goods are moved to a safe location and the product repackaged and labelled as soon as possible.</p>	<p>Field Check:</p> <p>Not observed</p>	N/A

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
#18 Source: NFCC Details: 3.2.7.6 (4)	<p>Field Check: Verify that flammable liquids, combustible liquids and dangerous goods classified as corrosives are not stored with dangerous goods classified as radioactive materials in quantities or in a manner that would constitute an undue risk in the event of a fire.</p>	<p>Field Check: Flammable and combustible liquids were stored in appropriate fire cabinets. Flammable cabinets in the facility are observed to be in good condition.</p>	Met
#19 Source: NFCC Details: 4.2.2.(1)	<p>Field Check: Verify that flammable liquids and combustible liquids are excluded from exits (includes stairwells), principal routes that provide access to exits (includes corridors and aisles) and elevators.</p>	<p>Field Check: Flammable and combustible liquids were stored in appropriate fire cabinets. Flammable cabinets in the facility are observed to be in good condition.</p>	Met
#20 Source: NFCC Details: 4.1.6.1(1)	<p>Field Check: Verify that adequate measures are in place to contain the spill of dangerous goods. A spill of flammable liquids or combustible liquids are prevented from flowing outside the spill area and from reaching waterways, sewer systems and potable water sources by</p> <ul style="list-style-type: none"> a) constructing a non-combustible barrier capable of containing the spill, or b) grading the site or sloping the floor to divert the spill to a drainage system. 	<p>Field Check: Not observed</p>	N/A
#21 Source: NFCC Details: 4.1.6.1(1)	<p>Field Check: Verify that:</p> <ul style="list-style-type: none"> • Equipment and machinery are provided with suitable protective coverings or drip guards to prevent them from absorbing flammable or combustible liquids. • Thermal insulating materials on equipment and machinery do not exhibit signs of deterioration or that flammable or combustible liquids have been spilt on them. 	<p>Field Check: Not observed</p>	N/A

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
#22 Source: NFCC Details: 3.2.7.11 4.2.7.11 (1)	<p>Field Check: Verify that spill absorbents / neutralizers compatible with the dangerous goods present are provided at an easily accessible location.</p>	<p>Field Check: Not observed</p>	N/A
#23 Source: NFCC Details: 4.1.8.2 (1)	<p>Field Check: Verify that containers constructed of electrically conducting material, for the dispensing of Class I flammable liquids are grounded / bonded against static electrical charge.</p>	<p>Field Check: Not observed</p>	N/A
#24 Source: NFCC Details: 4.2.7.2.(1) Source: CSA N393-13 Details: 10.6.7.3	<p>Field Check: Verify that flammable and combustible liquids are stored in specially designed storage areas, rooms or cabinets.</p> <ul style="list-style-type: none"> • Dangerous goods, other than flammable or combustible liquids, are not kept in a lab/area in quantities that exceed the supply necessary for normal operations. • Quantities of dangerous goods in excess of those permitted are stored outside of the lab/area in conformance with the provisions of Part 3 of NFCC (i.e., storage room), or disposed of permanently. 	<p>Field Check: Flammable and combustible liquids were stored in appropriate fire cabinets.</p> <p>Recommend having a note on the cabinets to identify where the Safety Data Sheets (SDS) could be located.</p>	Met with Recommendation SRBT-2021-03- R03
#25 Source: NFCC Details: 4.2.9	<p>Field Check: Verify that rooms for the storage of flammable and combustible liquids are provided with fire separations having a fire resistance rating of 2 hours for rooms storing up to 10,000 litres at not more than 200 L/sq.m or 1 hour for rooms storing up to 1,500 litres at not more than 100 L/sq.m.</p>	<p>Field Check: Flammable and combustible liquids were stored in appropriate fire cabinets. Flammable cabinets in the facility are observed to be in good condition.</p>	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
#26 Source: NFCC Details: 4.2.10.2	<p>Field Check: Verify that the maximum quantity of both flammable and combustible liquids in a storage cabinet are not greater than 500 litres of which not more than 250 be Class I liquids.</p>	<p>Field Check: Flammable and combustible liquids were stored in appropriate fire cabinets. Flammable cabinets in the facility are observed to be in good condition.</p>	Met
#27 Source: NFCC Details: 4.2.10.3	<p>Field Check: Verify that the total quantity of stored flammable and combustible liquids within a fire compartment other than a laboratory does not exceed the total quantity permitted for 3 cabinets. Within an industrial occupancy, quantities of flammable and combustible liquids greater than those permitted for 3 cabinets may be stored in the same fire compartment, provided that groups of cabinets are separated by a distance of not less than 30 meters. Each group of cabinets do not contain more than the quantity permitted for 3 cabinets.</p>	<p>Field Check: Flammable and combustible liquids were stored in appropriate fire cabinets. Flammable cabinets in the facility are observed to be in good condition.</p>	Met
#28 Source: NFCC Details: 4.2.10.4 (1)	<p>Field Check: Verify that the cabinets for container storage are labelled in conspicuous lettering to indicate that the cabinet contains flammable materials and that open flames must be kept away.</p>	<p>Field Check: Flammable and combustible liquids were stored in appropriate fire cabinets. Flammable cabinets in the facility are observed to be in good condition.</p>	Met
#29 Source: NFCC Details: 4.2.10.6	<p>Field Check: Verify that when a storage cabinet required is provided with ventilation openings, a) the ventilation openings shall be sealed with materials providing a fire protection at least equivalent to that required for the construction of the cabinet, or b) the cabinet shall be vented outdoors using vent piping providing a fire protection at least equivalent to that required in Clause (a) for seals.</p>	<p>Field Check: Not observed</p>	N/A

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
SCA: Emergency Preparedness and Fire Protection – Handling and Storage of Compressed Gas			
#30 Source: NFCC Details: 3.1.2.4.(1) 3.1.2.4.(2)(a)	Field Check: Verify that compressed gas cylinders are provided with protective valve caps, stored and secured (using a non-combustible restraining straps or chains) in the upright position.	Field Check: Tanks inspected were appropriately stored and secured.	Met
#31 Source: NFCC Details: 3.1.2.5 (1)	Field Check: Verify that cylinders and tanks of dangerous goods classified as compressed gases are protected against mechanical damage.	Field Check: Tanks inspected were appropriately stored and secured.	Met
#32 Source: NFCC Details: 3.1.2.5 (2)	Field Check: Verify that cylinders of dangerous goods classified as compressed gases that are in storage are a) protected against valve damage and b) firmly secured in a position that will not interfere with the operation of the cylinder valve assembly.	Field Check: Tanks inspected were appropriately stored and secured.	Met
#33 Source: NFCC Details: 3.1.2.5.(4)	Field Check: Verify that compressed gas cylinders are not stored a) in any exit or corridor providing access to exits, b) under any fire escape, outside exit stair, passage or ramp, or c) within 1 m of any exit.	Field Check: Tanks inspected were appropriately stored and secured.	Met
#34 Source: NFCC Details: 3.2.8.2	Field Check: Verify that a room designed for the purpose of flammable compressed gas storage is: <ul style="list-style-type: none">• constructed of 2-hour rated, gas-tight fire separations• located on an exterior wall• enterable directly from the exterior	Field Check: Tanks inspected were appropriately stored and secured.	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	<ul style="list-style-type: none"> • equipped with gas-tight, self-closing and latching doors • designed to prevent critical structural damage resulting from internal explosions • equipped with natural or mechanical ventilation • free of fuel-fired appliances or high-temperature heating elements • used for no other purpose 		
#35 Source: NFCC Details: 3.3.5.2 Source: CSA N393-13 Details: 10.6.7.8	Field Check: Verify that compressed gas cylinders stored outdoors are supported on raised concrete or other non-combustible platforms and located in an enclosed fence. Verify that compressed gases and cryogenic fluids in portable and stationary containers, cylinders, and tanks are stored, used, maintained, and inspected in accordance with the requirements of the NFCC and good industry practice.	Field Check: Not observed	N/A
SCA: Emergency Preparedness and Fire Protection – Control of Ignition Sources			
#36 Source: NFCC Details: 2.4.7.1.(1)	Field Check and Document Review: Verify that electrical installations are used and maintained so as not to constitute an undue fire hazard. Any electrical wiring that shows signs of damage or wearing should be replaced or repaired by a qualified electrician.	Field Check: Electrical installations and wiring observed to be in good condition and inspected by SRBT or a third party on a regular basis.	Met
#37 Source: NFCC Details: 4.1.5.2	Field Check: Verify that unless controlled in a manner that will not create a fire or explosion hazard a, device, operation, or activity that produces open flames, sparks or heat is not permitted in an area containing flammable or combustible materials or safety related systems.	Field Check: SRBT uses open flame torches as part of its operation. These torches are located in work benches. At the time of the inspection, flammable or combustible materials that may cause an undue fire hazard were not observed.	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
#38 Source: NFCC Details: 5.2.3 Source: Hazard Recognition & Fire Watch for Hot Work, FS 06	Field Check and Document Review: Verify that at the location where hot work is being performed a hot work procedure and permit system is being followed, the permit allows the activity, and the permit is completed correctly. Check that: <ul style="list-style-type: none"> • A fire watch (in addition to the worker performing the hot work) is present during the hot work activities (the fire watch is required for not less than 60 minutes after completion of the hot work). • A fire extinguisher is placed in the immediate work area. • Combustible and flammable material within 15 meter distance from the hot protected. • The hot work permit is valid for the area and activity and has appropriate signatures. • Areas designated for hot works are free of combustible and flammable contents and have walls, floors and ceilings of non-combustible construction or lined with non-combustible material. 	Field Check: Document Review: No hot work procedure is identified. However, SRBT has a hot work permit system in place. This is identified in SRBT FPP under section 8 - Control of Ignition Sources.	Met
#39 Source: NFCC Details: 5.2.3	Document Review: Review completed hot work permits to verify that: <ul style="list-style-type: none"> • A review by a qualified person is performed where temporary ignition sources are introduced (including but not limited to hot works, heaters, grinding, the use of extension cords). • A checklist with signoff and duration is used. • The permit authorizing individual is identified. • A fire watch is implemented where hot works are carried out. 	Document Review: Sample of hot work permits were reviewed. No issues noted. FPP-F-03 Hot Work Permits	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	<ul style="list-style-type: none"> The hot work program covers roofing activities, including 2 and 3 hour post work checks with a thermal imaging camera. Work was authorized by personnel approved to sign the record. Work was verified by the appropriate staff. Final close out of the work was completed by appropriate staff. 		
#40 Source: NFCC Details: 2.4.2	Field Check: Smoking only takes place in designated smoking areas.	Field Check: Smoking is not permitted within the facility and is only allowed in designated areas outside the building.	Met
SCA: Emergency Preparedness and Fire Protection – Portable Fire Extinguishers			
#41 Source: NFPA 10 Details: 6.1.3.1 6.1.3.2 6.1.3.10.1	Field Check: Verify that: <ul style="list-style-type: none"> Fire extinguishers are conspicuously located where they are readily accessible and immediately available in the event of fire. Fire extinguishers are located along normal paths of travel, including exits from areas. The top of the portable fire extinguisher is not more than 5 ft (1.53 m) above the floor. 	Field Check: Fire extinguishers are observed to be available and readily accessible.	Met
#42 Source: NFPA 10 Details: 6.1.3.3 6.1.3.8	Field Check: Verify that fire extinguishers: <ul style="list-style-type: none"> are not obstructed by facility equipment or other work-related activities not missing from their designated locations 	Field Check: Fire extinguishers are observed to be available and readily accessible.	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
	<ul style="list-style-type: none"> • not resting on the ground or otherwise subject to corrosive damage • no obvious physical damage, corrosion, leakage or clogged nozzle • charged, with the pressure gauge in the acceptable range • in large rooms and in certain locations where visual obstructions cannot be completely avoided, means are provided to indicate the extinguisher location. <p>Portable fire extinguishers other than wheeled extinguishers are installed using any of the following means:</p> <ul style="list-style-type: none"> • securely on a hanger intended for the extinguisher • in the bracket supplied by the extinguisher manufacturer • in a listed bracket approved for such purpose • in cabinets or wall recesses <p>Attached monthly inspection records are current (where a bar code system is used the inspector should review the inspection database or request inspection information for a sample of specific extinguishers).</p>		
SCA: Emergency Preparedness and Fire Protection – Access for Fire Fighting Equipment			
#43 Source: NFCC Details: 6.6.1.1	Field Check: Verify that access to manual actuators for fixed suppression systems (e.g., gaseous systems, dry water systems) are not obstructed by plant equipment or work-related activities.	Field Check: Not observed	N/A

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
#44 Source: NFCC Details: Parts 2 & 6 Source: NFPA 10 Source: NFPA 25 Source: NFPA 72	<p>Field Check: Verify that manual fire alarm activation devices and firefighting equipment are visible and readily accessible without reaching over or relocating other objects.</p>	<p>Field Check: Fire alarm observed to be visible and readily accessible.</p>	Met
#45 Source: NFCC Details: 2.5.1.4	<p>Field Check: Verify that:</p> <ul style="list-style-type: none"> • Fire department connections locations are clearly marked. Markings should take into consideration winter snow conditions. • Fire department connections are protected with caps. • Accesses to fire department connections for sprinklers or standpipes are not obstructed. 	<p>Field Check: Observed accesses to fire department connections to be clear and not obstructed.</p>	Met
#46 Source: NFCC Details: 6.4.1.1 3.3.2.7.(2) Source: NFPA 25 Details: 7.2.2.4	<p>Field Check: Verify that:</p> <ul style="list-style-type: none"> • Fire hydrants are kept readily accessible for firefighting use and their locations are clearly identified. • Standpipes are unobstructed. 	<p>Field Check: There is no standpipe in the facility.</p>	N/A

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
#47 Source: NFCC Details: 6.4.1.1	<p>Field Check: Verify that:</p> <ul style="list-style-type: none"> • Fire hoses are not missing from their designated locations. • The hoses and hose stations are in good repair (e.g., no holes in or chafing of the hose, nozzle not mechanically damaged and not obstructed, valve hand wheels in place). • Accesses to the hose stations are not obstructed. 	<p>Field Check: Not observed</p>	N/A
SCA: Emergency Preparedness and Fire Protection – Automatic Sprinkler			
#48 Source: NFCC Details: 6.1.1.2	<p>Field Check: Verify that:</p> <ul style="list-style-type: none"> • Water supply control valves to the system are open. • A clear working space of not less than 1 metre is available around sprinkler control valves. • Valves are locked open or monitored. • Pressure gauges are within the expected range for the system. • Sprinkler systems are in good condition and free of obstructions. 	<p>Field Check: The sprinkler system was observed to be in a good state of repair. The sprinkler system was observed to be clear of obstruction.</p>	Met
#49 Source: NFCC Details: 6.4.1.1 Source: NFPA 13 Details: 8.5.5 8.5.6	<p>Field Check: Verify that objects, such as partitions, curtains, shelving, etc. are not placed to obstruct sprinkler discharge.</p>	<p>Field Check: The sprinkler system was observed to be clear of obstruction.</p>	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
#50 Source: NFCC Details: 6.4.1.1 Source: NFPA 25 Details: 5.2.2.2	Field Check: Verify that sprinkler piping is not used to suspend objects not associated with the sprinkler system. Piping hangers are used to support only the piping and contents.	Field Check: Sprinkler piping observed clear and not used to suspend unrelated objects. Piping hangers are used to support piping and contents.	Met
#51 Source: NFCC Details: 6.1.1.2 Source: NFPA 25 Details: 5.2.1.1.1	Field Check: Verify that sprinklers do not show signs of leakage; they are free of corrosion, foreign materials, paint, and physical damage; and are installed in the correct orientation (e.g., upright, pendent, or sidewall).	Field Check: The sprinkler system was observed to be in a good state of repair.	Met
SCA: Emergency Preparedness and Fire Protection – Fire Alarm System			
#52 Source: NFCC Details: 6.1.1.2 6.3.1.1	Field Check: Verify that the physical condition of the fire alarm and detection devices do not show any physical damage, blockage or potential interference with functionality (not painted, corroded, covered, etc.).	Field Check: The fire alarm system was observed to be in a good state of repair.	Met
#53 Source: NFCC Details: 6.1.1.2 Source: NFPA 72 Details: 5.13.5	Field Check: Verify that manual fire alarm activation devices are visible and readily accessible without reaching over or relocating other objects.	Field Check: The fire alarm system was observed to be visible, readily accessible and not obstructed.	Met
#54 Source: NFCC Details: 6.1.1.2	Field Check and Document Review: Verify that systems are in-service, or where there are trouble signals, appropriate staff are aware of the signal, its cause, and its scope.	Field Check: The fire alarm system was observed to be visible, readily accessible and not obstructed.	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
SCA: Emergency Preparedness and Fire Protection – Impairment to Fire Protection Systems			
#55 Source: CSA N393-13 Details: 10.12	Document Review: <p>When fire protection system impairment is identified, the facility manager initiates corrective actions as soon as possible. Corrective actions consist of, but not be limited to, the following:</p> <ul style="list-style-type: none"> The duration of the impairment shall be the shortest period possible. The impairment plan ensures that adequate measures are taken during the impairment to minimize the potential for increased risks. Compensatory measures to manage and minimize the risk associated with the impairment. Identification, tagging, and locking out of all impaired fire equipment and fire systems. Notification of impairment to appropriate personnel, including plant staff, in-plant emergency responders, and others affected by the impairment. Required action and notification following the return of impaired equipment and systems to operational service, including post-maintenance testing requirements. Additional activities to minimize risk and ensure life safety. As necessary, terminate hazardous production or maintenance operations and impose restrictions until appropriate protection or detection is restored. Cutting, welding, or other "hot work" shall be prohibited until adequate protection is assured. Inspection and oversight necessary to monitor the implementation of procedures during the impairment. 	Document Review: <p>SRBT noted that assessment of impairment is done by the fire specialist. Depending on the severity of impairment, the equipment may be tagged out and/or a fire watch is put in place. Pembroke Fire Department is also notified. This is documented in their corrective maintenance log.</p>	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
#56 Source: NFCC Details: 6.1.1.4 Source: CSA N393-13 Details: 10.12.3	Field Check and Document Review: Where fire protection is impaired, compensatory measures are put in place for out-of-service, degraded or inoperable fire protection equipment, systems or features (e.g., detection & suppression systems and equipment and passive fire barrier features).	Field Check: SRBT noted that assessment of impairment is done by the fire specialist. Depending on the severity of impairment, the equipment may be tagged out and/or a fire watch is put in place. Pembroke Fire Department is also notified. This is documented in their corrective maintenance log.	Met
SCA: Emergency Preparedness and Fire Protection – Inspection Testing and Maintenance			
#57 Source: NFCC Details: Part 6 Source: CSA N393-13 Details: 10.11 Source: HSI 506	Document Review: Request a sample of completed inspection, testing and maintenance (IT&M) reports from select fire protection systems above and verify the following: <ul style="list-style-type: none"> • Fire protection systems IT&M are being scheduled and completed on time. • IT&M that have gone past their due date or were missed were justified and approved. • IT&M deficiencies are documented. • IT&M corrective maintenance and preventive maintenance backlogs for fire protection systems are not significant. 	Document Review: SRBT provided completed inspection, testing and maintenance records from 2018 to 2021. No issues noted FPP-001-F-01 Fire Extinguishers FPP-002-F-01 Emergency Lighting FPP-003-F-01 Workplace Inspection FPP-004-F-01 Fire Doors FPP-005-F-01 Fire Alarm Components FPP-006-F-01 Exit Signs FPP-007-F-01 and FPP-008-F-01 Sprinklers FPP-009-F-01 Gas Detector FPP-010-F-01 Fire Panel FPP-011-F-01 Portable Radios FPP-013-F-01 Fire Barriers FPP-013-F-02 Facility Preservation FPP-014-F-01 Paint Booth FPP-015-F-01 Flammable Cabinets FPP-016-F-01 Exit Doors	Met

Criteria	Compliance Expectation / Inspection Methods	Comments	Met / Not Met
SCA: Emergency Preparedness and Fire Protection – Roles and Responsibilities			
#58 Source: CSA N393-13 Details: 10.2 Source: Fire Protection Program, FS 200 Details: 4	Document Review: The roles and responsibilities of personnel associated with fire protection activities are clearly defined and communicated to staff. Verify that roles and responsibilities are documented as per their governance. Verify that the organization chart matches the procedures. Confirm the organization chart is available to the workforce. Verify that there are no gaps of responsibility and that the functions of the roles being executed match the procedural responsibilities, for example: <ul style="list-style-type: none"> • who executed, who verified and who approved outputs • if observing active work, verify the person executing the role match governance. 	Document Review: The FPP did not clearly define all the roles and responsibilities required in the implementation of the program. SRBT noted that all roles are defined in their management system documents. It is recommended that additional roles required for the implementation of the FPP be defined in the FPP document.	Met with Recommendation SRBT-2021-03-R01
#59 Source: Fire Protection Program, FS 200 Details: 9.3.4	Document Review: Review the last FPP audit report and confirm that audits are performed every 3 years.	Document Review: SRBT submitted the third-party audit of their FPP on December 23, 2021 [8]. The review of third-party audit will be done outside of this inspection.	N/A