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FULL REPORT

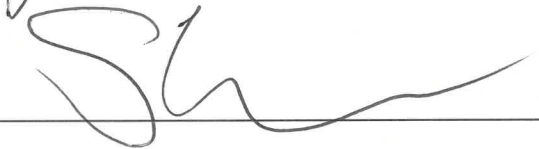
Implementation of Contingency Plan – August 16, 2021

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Accepted:



Stephane Levesque
President

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UNPROTECTED

SRBT Full Report

Implementation of Contingency Plan – August 16, 2021

NOTE: This report is intended to fulfill the requirements associated with Clause 29 (2) of the *General Nuclear Safety and Control Regulations* (GNSCR), in relation to the event where a contingency plan was implemented in response to a fire alarm at the SRB Technologies (Canada) Inc. facility on August 16, 2021.

(a) *The date, time and location of becoming aware of the situation;*

On August 16, 2021 at approximately 8:30 AM, the fire alarm sounded at the SRBT facility in Pembroke, Ontario. All facility personnel were evacuated safely from the facility, and accounted for immediately at the muster point.

Within minutes, the Pembroke Fire Department (PFD) arrived at the facility, in line with contingency plans in the event of a fire alarm.

The activation and response of the PFD to the alarm represents the implementation of a contingency plan in accordance with our facility operating licence, as described in GNSCR 29 (1) (d).

(b) *A description of the situation and circumstances;*

The alarm was caused by a malfunction of a hand-held, oxy-acetylene torch in Zone 3. The malfunction caused a brief excess flame which was detected by both staff and the fire protection monitoring system, resulting in the alarm.

Staff in the area shut off the gas to the torch, eliminating the hazard, and once confirming a safe state had been achieved, proceeded to respond to the fire alarm in accordance with their training.

The Pembroke Fire Department was automatically dispatched to the facility by way of communication via the facility security system; the first responders arrived within approximately five minutes after the alarm sounded.

The responding fire firefighters checked the area and the affected equipment, and noted that the hazard was effectively eliminated. The 'all-clear' was given at about 8:45 AM, and personnel were allowed to return to work.

(c) *The probable cause of the situation;*

The equipment was assessed by members of the SRBT Fire Protection and Maintenance Committees, where it was observed that the connection point of the flexible line delivering acetylene gas to the hand-held torch had evidently failed.

The line decoupled from the torch, resulting in a brief flame being emitted from the end of the end of the line.

These types of torches, including the gas and oxygen delivery lines, have been in use at SRBT since its inception in 1990. This is the first instance of such a failure taking place.

The probable cause has been evaluated to be degradation of the connection point over time between the hose and the torch.

(d) *The effects on the environment, the health and safety of persons, and the maintenance of security that have resulted or may result from the situation;*

From the time between the initiation of the event to the elimination of the hazard, a small fire hazard was present in the area; however, once the source of gas to the torch was eliminated, there was no longer any safety hazard.

There were no realized effects on the environment, the health and safety of persons, or the maintenance of security due to fire alarm.

(e) *The effective dose and equivalent dose of radiation received by any person as a result of the situation;*

There was no SRBT-associated dose of radiation received by any person as a result of the event.

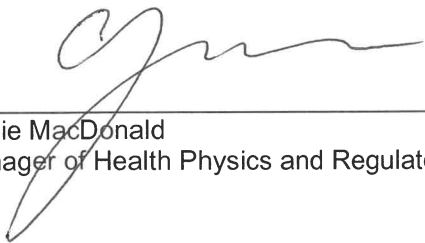
(f) *The actions that the licensee has taken or proposes to take with respect to the situation.*

The event was reported to the CNSC Duty Officer with a call being placed at 9:06 AM that morning. Once the call was completed, the preliminary report was made to CNSC staff by way of an email to the Project Officer at 10:11 AM on August 16, 2021.

The following actions were taken in response to the event, and with respect to preventing the recurrence of such an event in the future:

1. Members of the PFD walked down the area and confirmed the elimination of any fire hazard. This included a check using a thermal camera. The all-clear was given shortly after. All radiation protection and contamination control procedures were observed by the PFD during the walk down, and they were escorted by SRBT staff at all times in the facility.

2. A combustible gas leak assessment was performed immediately in the area by the Manager – Safety and Security using model TP1 775 Combustible Gas Detector (calibration date = September 28, 2020, next due September 28, 2021). No leakage of combustible gases was found near the torch that failed, nor any other torches in use.
3. The use of these specific model of torches was restricted until a qualified maintenance contractor had inspected all in-use torches and the gas delivery systems for integrity. All other torches were confirmed fully serviceable.
4. From a review of the information online on the manufacturer’s website, a recommendation of a five-year service life for these components has been integrated into the preventive maintenance cycle for the equipment in this area.
5. The strategy implemented for corrective maintenance on these components will now be one of full replacement of both the torch and lines. Previously, if a torch was rendered inoperative, it was replaced without necessarily replacing the flexible gas lines as well.
6. A new procedural step was implemented in Zone 3, where prior to every workday where the torches are to be used, they are checked for leakage by using a ‘soap test’ and looking for bubbling. The connection points between the flexible gas and oxygen lines are also checked for integrity.
7. The event was processed through a Training Needs Analysis, as per the systematic process for training described in SRBT’s Training Program Manual.
8. The Fire Protection Specialist has been tasked with developing supplemental training for all staff members who are qualified to use the torches in Zone 3, and the new processes for leak checking the lines and torches will be integrated into the SAT-based training modules for SAT-OP-01, *Tritium Processing – Filling and Sealing Light Sources*.
9. The qualified service contractor has been directed to install back-flow prevention valves on all gas lines delivering acetylene to the torches, in order to eliminate the possibility of flame backing through the system should a similar event happen in the future.
10. A special meeting was held and minuted, with key personnel involved, to debrief and summarize the findings, and to document the actions to be taken.



Jamie MacDonald
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AUG 31/2021

Date