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Mr. Lester Posada
Project Officer, Nuclear Processing Facilities Division
Canadian Nuclear Safety Commission
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Ottawa, Ontario
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Subject: Response to CNSC Staff Comments on SRBT's 2021 ACPR

Dear Mr. Posada,

Thank you for providing CNSC staff's comments [1] regarding SRBT's 2021 Annual Compliance and Performance Report (ACPR). We acknowledge your conclusion that the report meets the applicable regulatory reporting requirements.

The four CNSC staff comments and requests for clarification are repeated below in the order given, with SRBT's response following.

Radiation Protection:

CNSC staff note that the Q2 pass rate in Zone 3 was failed in several areas, mainly floors. The RR anteroom and barrier in Zone 1 also failed in Q2, however no discussion was provided.

SRBT is requested to provide an explanation for the abnormal results.

During the second and third calendar quarters of 2021, SRBT processed a batch of historical expired self-luminous safety signs that were of a unique design not frequently seen.

These signs were slightly more difficult to disassemble in order to remove the expired light sources from their plastic housing, and the process to remove the expired lights generated an elevated amount of ground / granular plastic debris in Zone 3, some of which would fall to the floor during the work.

Normally, this would not present an issue as the granular plastic debris is generally not contaminated, and the material would be cleaned up as the day's work progressed, with a full clean up at the end of the day.

In the case of these signs, elevated removable contamination began to be detected through indirect checks on several surfaces in the area. Upon further investigation, it was soon realized through spectral analysis that either the type of plastic or the reflective coatings applied to the plastic housing by the manufacturer were resulting in elevated chemiluminescence from the

contamination assessment samples, which was being interpreted as radiological contamination by the liquid scintillation counters. Chemiluminescence is a widely-known phenomenon in liquid scintillation counting, and certain materials or substances in the sample matrix may cause this to occur during counting and analysis.

Further testing revealed that counting the samples several hours after they were prepared allowed the chemiluminescence to decrease significantly. As such, more time was introduced between sample acquisition and analysis, in order to ensure that the assessment was more representative of the amount of radiological contamination present on the surface.

These findings were discussed during Health Physics Team meetings in both July and October, as quarterly results of routine facility contamination assessments were performed. Once the batch of these signs had been fully processed, the phenomenon of chemiluminescence was eliminated.

The lower pass rate observed in Q2 for floors in the Zone 3 area (and at barriers) was primarily the result of this phenomenon over the course of two weeks in particular when this batch of signs was being processed by workers – May 10-14 and June 7-11, 2022. Once the noted chemiluminescence phenomenon was diagnosed and adjusted for, pass rates in the area reverted back to normal trends.

Waste Management:

CNSC staff recommend in future annual reports, that SRBT not refer to their LLW waste transfers to licensees such as EnergySolutions as disposal. EnergySolutions, and other similar facilities, are not licensed to dispose of radioactive wastes. It would be more accurate to state that the wastes are dispositioned through EnergySolutions, or that the wastes are transferred (or transported) to EnergySolutions (or other licensees) for further management.

SRBT acknowledges this comment and will use ‘dispositioned’ in lieu of ‘dispose’ in future ACPRs.

Public Engagement:

SRBT is requested to consider adding data on any public opinion monitoring in future annual reports.

SRBT acknowledges this request and will include any data on public opinion monitoring in future ACPRs.

Indigenous Engagement:

Please continue to provide this information in future ACR's, including any concerns raised by Indigenous groups.

SRBT acknowledges this request and will continue to include information pertaining to outreach with Indigenous Nations, communities and organizations in future ACPRs, including any concerns raised.

We trust that the this additional information and these acknowledging statements are sufficient to satisfactorily address CNSC staff comments.

Please don't hesitate to contact me should you have any questions or require clarification.

Best Regards,



Stephane Levesque
President
SRB Technologies (Canada) Inc.

cc: R. Fitzpatrick, SRBT
K. Levesque, SRBT
J. MacDonald, SRBT

Reference:

- [1] Letter from L. Posada (CNSC) to S. Levesque (SRBT), *CNSC Staff's Review of SRB Technologies (Canada) Inc.'s 2021 Annual Compliance Report*, dated July 4, 2022. (e-Doc 6821650)