Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 23-M51.A

Date: 2023-11-24
File / dossier : 6.02.04
e-Doc PDF: 7174725

Event Initial Report

Revised submission from CNSC staff
(replaces CMD 23-M51)

Rapport initial d'événement

Mémoire révisé du personnel de la
CCSN (remplace le CMD 23-M51)

Vancouver General Hospital

Discovery of inaccuracies between paper records and screening test for thyroid monitoring

Hôpital Général de Vancouver

Découverte d'inexactitudes entre les dossiers papier et le test de dépistage pour la surveillance de la thyroïde

Commission Meeting

Réunion de la Commission

December 13-14, 2023

13 et 14 décembre 2023

Canada

EVENT INITIAL REPORT (EIR)

E-DOCS-# 7129706

EIR: Discovery of inaccuracies between paper records and screening test for thyroid monitoring	
Prepared by: DNSR, TLSSD	
Licensee: Vancouver General Hospital	**Location:** 899 W, 12 Avenue, Vancouver, BC, V5Z 1M9
Date Event was Discovered: July 19, 2023	**Have Regulatory Reporting Requirements been met?** Yes ☒ No ☐ **Proactive Disclosure:** Licensee: Yes ☒ No ☐ CNSC: Yes ☒ No ☐

Overview

Reporting Criteria: 15) Issues, events, occurrences that the Directors-General (DGs) or their designates judge to have potential for repercussions outside the CNSC and for which the DGs or their designates believe the Commission should be informed.

Description:

On July 19, 2023, the Regional Radiation Safety Officer from Vancouver Coastal Health Authority informed the CNSC that an internal audit discovered inaccuracies between paper records and the actual screening tests for thyroid monitoring of their staff under the Therapeutic Nuclear Medicine licence (CNSC licence no. 17119-18-27.1). The licensee informed the CNSC that they were conducting an internal investigation and would report back once the investigation was completed. On August 9, 2023, the Corporate Radiation Safety Officer provided the result of their investigation related to the records for thyroid screening. The internal investigation revealed that the Site Radiation Safety Officer (Site RSO), who is also a supervisor and a nuclear energy worker (NEW), responsible for the day-to-day safety activities in the nuclear medicine department at the Vancouver General Hospital, had falsified written records related to thyroid screening. The details of the investigation are as follows:

1. The licensee discovered some missing thyroid screening results on the therapy verification record. They decided to closely monitor the situation over the following months of 2023 and discovered that there was a delay in completing the therapy verification records. As per Licence Condition 2046-17, this should be done between 24 hours to 5 days after the therapy. Some of the records were completed weeks later. In addition, after looking at the saved data from the thyroid screening probe, they were unable to find the relevant numbers listed in the records on paper versus the data saved by the instrument.

2. The Regional RSO and the Regional Radiation Safety Coordinators crosschecked all electronic records available on the thyroid probe system with a hard copy of the therapy verification sheets from December 2021 to June 2023. The result of this verification concluded that the thyroid screening probe instrument did not record or did not show evidence that the screening tests were performed, while the paper copies claim they were. During this time frame, 28 NEWs were required to perform thyroid screening, as per Licence Condition 2046-17.

    a. 17 of the 28 NEWs consistently performed their screening.
    b. 10 NEWs missed between 1 to 4 thyroid screenings and
    c. 1 NEW – the Site RSO – failed to undergo 33 out of 37 required screening reports over a period of more than 1 year.

3. The Site RSO was interviewed by the Operations Director and the Regional RSO on June 19, 2023, to discuss the issue, as the above results indicated that the records were falsified. The Site RSO indicated that he was prioritizing clinical duties and therefore did not find time to perform thyroid screening. He admitted to falsifying records for himself and for other staff who had also missed their thyroid screening requirements. At the time of writing this report, the licensee had interviewed all workers with the exception of one who is away on leave, and they confirmed that they were unaware that their records were falsified.

Cause(s):

The Site RSO indicated that he was prioritizing clinical duties and therefore did not find time to perform thyroid screening. As previously mentioned, he failed to undergo 33 out 37 required thyroid screening and 10 NEWs missed between 1 to 4 thyroid screenings. The Site RSO intentionally falsified records to show compliance not only for his own records but for 10 other technologists as well.

Impact of the Event

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On People:

How many workers have been (or may be) affected? 11 workers were affected including the Site RSO, who falsified the documents: 10 workers were missing between 1 and 4 thyroid screenings and the Site RSO failed to undergo 33 out of 37 required screenings.

How many members of the public have been (or may be) affected by the event? 0

How were they affected?

The licensee estimated the thyroid uptakes for the workers who missed their thyroid screenings at less than 1 kBq per occurrence, based on their previous 18-month activity history, during which the workload was comparable, and on the assumption they handled the Iodine-131 in similar conditions when administering the dose to patient.

On the Environment: No effect on the environment.

Other Implications: Although it is not possible to confirm, the licensee estimates the thyroid uptakes for the workers at less than 1 kBq, based on historical trending, which would represent negligible health risk for the affected workers (an uptake of 1 kBq of Iodine-131 is translated to approximately 0.1 mSv of Committed Effective Dose). Other than this estimation, there is no way of knowing whether the 11 involved workers may have had an uptake to their thyroid. Furthermore, the information provided in the Annual Compliance Report (ACR) for 2022 may not be accurate since the licensee is unable to ascertain if the levels exceeded the reportable limit. In addition, no thyroid uptakes greater than 1 kBq have been reported by the licensee since 2016 in their ACRs.

Licensee Actions

Taken or in Progress:

The licensee informed the CNSC of the audit findings on August 9 and the fact that they had engaged with their Human Resources to further discuss the situation since this was a serious event. In addition, the licensee indicated that the audit identified a program/system failure to identify repetitive behavior. The licensee is in the process of implementing corrective actions to prevent similar occurrences in the future: the measures include a review of the screening requirements with the Site Radiation Safety Officers. This was completed in July 2023. In addition, when applicable, the licensee will implement additional verification during internal audits to include an evaluation of the electronic data vs hard copy data. The licensee also reminded workers from all nuclear medicine department in the lower Mainland about the importance of thyroid screening. The Regional RSO and her team attended the department staff meeting and delivered a presentation on the thyroid screening requirements as per regulations and licence conditions.

The situation has been elevated to the Site Operations Director and Occupational Health and Safety Division of Vancouver Coastal Health Authority and the licensee is committed to improve their training and inspection/audit process.

Planned: Further education will be provided to Site RSOs related to CNSC licence requirements. Support to improve the safety program at individual sites will be provided by the Regional RSO and Regional Radiation Safety Coordinators. This recommendation commenced at a site leadership meeting on July 27th, 2023, and the Regional Safety Coordinators will continue to reinforce this message at the site level; with both front-line technologists and site Nuclear Medicine supervisors over the next 6 months.

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CNSC Actions

Taken or in Progress:
CNSC staff followed-up with the licensee upon reception of the investigation report requesting the name of the individual involved in the falsification of the records and to request an update on the status of any disciplinary actions taken against the worker. The licensee provided the name of the individual and confirmed that disciplinary actions have not yet been taken as the investigation is ongoing.

In addition, CNSC staff enquired about the potential of the Site RSO having falsified other records and if this was included in their investigation. The licensee confirmed that the Site RSO was not involved with other records except for the contamination checks for Lutetium-177 decommissioning. These records demonstrate that all checks were performed as required by the Site RSO and were performed six (6) times this year. The Site RSO also approved the disposal of two (2) Iodine-131 bags, which were properly documented as required.

CNSC staff also requested the licensee to perform audits at four (4) other sites to verify whether this is a systemic issue across the organization. At the time of writing this report, the licensee conducted audits at two (2) of the four (4) other sites and no thyroid screening records have been falsified. The licensee has until November 30, 2023, to perform the audits.

Planned: CNSC staff have concerns about the reported situation and are considering enforcement actions against the Site RSO who falsified the records, since this is a violation under the *Nuclear Safety and Control Act* and associated Regulations. CNSC staff will also publish a DNSR Digest article for licensees' awareness and to continue emphasizing the importance of internal audits by licensees.

Additional reporting to the Commission Members anticipated:

☐ Yes

☒ No

If Yes, provide method of reporting:

Name and Title	Signature
Claire Pike **DNSR**	Pike, Claire Digitally signed by Pike, Claire DN: C=CA, O=GC, OU=CNSC-CCSN, CN="Pike, Claire" Reason: I am the author of this document Location: Date: 2023.11.24 10:52:08-05'00' Foxit PDF Editor Version: 12.1.2 Acting Director General Date