Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

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Update from CNSC Staff

Mise à jour du personnel de la CCSN

Follow up from December 13-14, 2023 Commission Meeting

Suivi à la suite de la réunion de la Commission du 13-14 décembre 2023

Vancouver General Hospital: Update on the Discovery of inaccuracies between paper records and screening test for thyroid monitoring

Hôpital Général de Vancouver : Mise à jour au sujet de la découverte d'inexactitudes entre les dossiers papier et le test de dépistage pour la surveillance de la thyroïde

Commission Meeting

Réunion de la Commission

September 12, 2024

Le 12 septembre 2024

Canada

BRIEFING NOTE FOR THE COMMISSION

ISSUE OR PURPOSE

This briefing note is to provide the Commission with an update to the Event Initial Report (EIR) on the falsification of records related to thyroid monitoring at the Vancouver General Hospital (VGH) [1]. The Commission placed an action on CNSC staff to provide an update on the extent to which thyroid screening records were falsified and potential impacts on families of the workers who missed thyroid screenings. This memo is intended to fulfill that action.

BACKGROUND

On July 19, 2023, the Regional Radiation Safety Officer (RSO) from Vancouver Coastal Health Authority informed the CNSC that during an internal audit, inaccuracies between paper records and the actual screening tests for thyroid monitoring of staff under the Therapeutic Nuclear Medicine licence (CNSC licence no. 17119-18-27.1) were discovered. A subsequent investigation by the licensee revealed that the Site RSO, who is also a supervisor and a nuclear energy worker (NEW), responsible for the day-to-day licensed activities in the nuclear medicine department at the VGH, falsified written records related to thyroid screening. The 2023 EIR presented to the Commission detailed the actions taken by the licensee and the CNSC. During the meeting, CNSC staff confirmed that the audit of the four other hospital sites that the CNSC requested the licensee to conduct, demonstrated that the issue was isolated to the VGH.

Finally, CNSC staff noted during the Commission proceeding that enforcement action was being considered against the Site RSO who falsified the records as this is a violation under the *Nuclear Safety and Control Act* and associated Regulations.

UPDATES

The Commission requested an update from CNSC staff on the extent to which thyroid screening records were falsified and the potential impacts on the families of workers who missed thyroid screening.

Verification of the extent to which thyroid screening records were falsified

Between December 15, 2021, and May 31, 2023, 218 radioiodine patient treatments were administered at the VGH. A license condition, which is intended to protect workers by requiring the routine screening of radioiodine thyroid uptakes, stipulates that every person who uses a total quantity of I-131 (as well as I-124 and I-125) above a prescribed activity, shall undergo screening within a period between 24 hours and 5 days after use. These screenings allow the licensee to be alerted to any unusual thyroid uptakes (in most cases, for routine work, there are no uptakes above detection thresholds), and to ascertain and manage doses to workers.

The site RSO was involved in preparing or administrating 45 of these treatments. Of those 45, the site RSO falsified 33 of their required thyroid screening results. The site RSO also falsified 7 thyroid screening results related to 3 technologists. Therefore, of the 218 treatments administered at the VGH, 40 thyroid screening results were falsified by the site RSO.

The licensee has modified its internal process following the discovery of records falsification. The updated procedure requires that the printout from the instrument, demonstrating that thyroid screening was performed, is attached to the file. This added step ensures that the records are accurate and cannot be falsified.

Potential impacts on the families of workers who missed thyroid screenings

Routine thyroid screening must be performed to ensure that radioiodine has not been inhaled by and subsequently absorbed into the worker's thyroid gland.

The potential health impacts associated with an uptake under typical working conditions would be restricted to the worker. While iodine-131 is a gamma emitter, the activity that would likely be found in a worker's thyroid gland due to an occupational incident during handling is, for example, in the order of one million times lower than the activity found in a high-dose thyroid gland ablation out-patient therapy for which precautions must be taken to reduce external dose to family members. In the unlikely event that a worker who had missed a thyroid screening had an iodine-131 uptake, the level of activity in their thyroid gland would likely be too low to pose an external hazard to family members.

In conclusion, CNSC staff believe that there are no anticipated impacts to the families of workers who missed their thyroid screening.

ENFORCEMENT ACTION

The Site RSO admitted to intentionally falsifying records to demonstrate compliance with the licensee's procedures. On February 2, 2024, an Administrative Monetary Penalty (AMP) of $10 000 was issued to the Site RSO to prevent recurrence and to ensure that the consequences of their actions were understood. The amount was paid on March 1, 2024. In addition, the AMP was posted on the CNSC website. [2]

CORRECTIVE ACTIONS TAKEN BY THE LICENSEE

Following the assessment of the event, the licensee implemented changes in four areas, and as previously noted, modified their internal process to require that the printout from the instrument be attached to the thyroid screening file demonstrating that it was performed.

Communication

To improve communication between hospital administration and the radiation safety teams, two new positions, a Medical Imaging Director, and a Vancouver General Hospital Manager, have been created. Both individuals will be members of the radiation safety committee along with the Lower Mainland Medical Imaging Director. The licensee is currently working on updating their radiation safety manual to include the roles and responsibilities of these new positions.

Discussions on radiation safety matters will be held between the Site RSO, the Medical Imaging Director, Regional RSOs and Regional Radiation Safety Coordinators. The Medical Imaging Director will be included in all communication between the Site RSO, and the Regional Radiation Safety Coordinators related to radiation safety. Also, the Vancouver General Hospital Manager and Regional RSOs will be kept informed of these communications.

In addition, a radiation safety topic has been added as a standing agenda item for monthly meetings between the Site RSO, the Medical Imaging Director, and the Vancouver General Hospital Manager. Finally, a standing item on radiation safety has been added to the monthly staff meeting agenda and an invitation to participate has been extended to the Regional Radiation Safety Coordinators and the Medical Imaging Director.

Training and Education

A new requirement for Site RSOs and their alternates was put in place mandating that they both participate in annual Radiation Safety Officer refresher training. This will support the licensee in ensuring continuing education of its Site RSOs and their alternates, as well as awareness of the latest radiation safety protocols, regulations, and best practices. The training seeks to enhance the overall effectiveness of the licensee's radiation safety program. The training involves the Vancouver Coastal Health regional radiation safety team, Occupational Health and Safety members, British Columbia Institute of Technology (BCIT) Radiation Safety Officer/instructor and other invited speakers. The last session took place in May 2024, marking the start of this requirement.

Internal Audits

The internal audits for the VGH Site RSO activities related to radiation safety have been increased from annually to monthly. These audits verify thyroid screening, hand monitoring, therapy administrations, disposal records and training records. The increased frequency of audits will allow the licensee to promptly address any identified issues. This schedule will continue until the end of 2024, at which point it will be re-assessed based on the findings.

Administrative Duties

Under the guidance of the Medical Imaging Director, the VGH Site RSO implemented changes to ensure a sufficient allocation of time for their administrative responsibilities. This adjustment was made to balance the workload and compliance with radiation safety responsibilities associated with the RSO position.

CONCLUSION

CNSC staff believe that there is no impact on the families of workers who missed their thyroid screening. CNSC staff reviewed and assessed the corrective actions implemented by the licensee. The addition of the mandatory printout of the instrument probe following completion of thyroid screening and the inclusion of this printout in the records will support the licensee in ensuring that records are not falsified. The other corrective actions adopted by the licensee should also allow for early identification of potential issues and, therefore, improve the management of the radiation safety program.

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REFERENCES

[1] Event Initial Reporting (EIR), CMD 23-M51.A (e-Docs 7174725).

[2] Administrative monetary penalty issued to an individual (cnsc-ccsn.gc.ca).