



Notice of Violation (Corporation)

Date of notice: June 18, 2024

AMP number: 2024-AMP-03

Violation committed by:	Amount of penalty:
Thompson Creek Metals Company Inc.	\$ 1000.00

Violation

Failure to comply with a condition of a licence in violation of Section 48(c) of the Nuclear Safety and Control Act.

Relevant facts

I, Karen Owen-Whitred, Acting Executive Vice-President, Chief Regulatory Operations Officer, and designated officer authorized by the Canadian Nuclear Safety Commission (CNSC) to issue notices of violations, believe on reasonable grounds that Thompson Creek Metals Company Inc. committed the above violation. The facts relevant to the violation and the penalty calculation are as follows:

- Thompson Creek Metals Company Inc. with an address in Prince George (Mount Milligan site located 90 miles northwest of Prince George), British Columbia, holds CNSC licence No. 16736-2-24.1 authorizing the possession, transfer, import, use and storage of fixed gauges (radiation devices). The licensee has been licenced by the CNSC since 2011.
- On February 24, 2024, the licensee reported an event to the CNSC duty officer that occurred on February 23, 2024. According to the report, a mill maintenance lead hand was asked by workers to remove the department locks from the previous work. The lead hand checked the board in the mill maintenance shop to confirm the locks were accounted for and removed the department locks. The workers then put their personal locks and proceeded to perform their work without locking the shutter located on the radiation device. It was noted that the vessel had (1) radiation device installed on it. Upon discovery, the night shift crew noticed that the shutter of the radiation device was not locked out. The work stopped and the licensee initiated an investigation.
- On February 26, 2024, CNSC staff requested additional information to estimate the doses received by the workers.
- On February 27, 2024, CNSC staff and the licensee's Radiation Safety Officer held a virtual meeting to discuss the event and to provide guidance on how to estimate the doses received by the workers.



- On March 13, 2024, the licensee submitted a final report to the CNSC as required by Paragraph 29(2) of *General Nuclear Safety and Control Regulations*.
- According to the final report, two (2) workers entered the vessel. The time spent inside the vessel and the distance from the radiation device were well documented. The doses received by the two (2) workers were estimated at 13.95 μSv and 73.08 μSv .
- As per Licence Condition 2052-3 and the company's lockout procedure for entering the vessel which is described in their Radiation Safety Manual and referenced on CNSC licence No. 16736-2-24.1, the shutter on the radiation device is required to be locked in the closed position, and verified with a radiation survey meter that it is safe prior to anyone entering the vessel.
- CNSC staff determined a contravention of Section 48(c) of the Nuclear Safety and Control Act – a non-compliance with Licence Condition 2052-3 (Vessel or Hopper Entry) of Thompson Creek Metals Company Inc.'s licence: "The licensee shall ensure that the entry into the vessel or hopper is performed in accordance with written procedures acceptable to the Commission or a person authorized by the Commission; and prior to any entry, every radiation device on or in the vessel or hopper has had the source shielded or otherwise made safe, and, has been verified to be safe for a person to enter the vessel or hopper."

Supporting facts

- The CNSC has been proactive in providing fixed gauge licensees with the precautions to take when locking out radiation devices and entering vessels or hoppers to which such devices have been installed. Entry into a vessel/hopper mounted with a fixed gauge is associated with significant radiation dose risk to workers if a fixed gauge is not made safe and is not verified with a radiation survey meter that it is safe prior to entry. This represents an occasion in which a worker could be inadvertently exposed to an unshielded radioactive sealed source.
- On August 15, 2014, the CNSC issued a safety notice via email to all fixed gauge licensees notifying them of a change to Licence Condition 2052 following an event involving exposure to a number of workers while working inside a vessel where radiation devices were not locked in the shielded position. This updated licence condition added specific requirements for vessel entry such as: Every radiation device on or in the vessel or hopper has been identified, has had the source shielded or otherwise made safe, and has been verified to be safe for a person prior to enter the vessel or hopper. These requirements were updated to assist licensees in formulating appropriate procedures to protect worker safety.
- On October 4, 2014, the updated licence condition was incorporated in Thompson Creek Metals Company Inc. licence along with the licensee revised procedures. (E-docs #4535328).
- On March 3, 2017, an information bulletin related to vessel/hopper entry was published and posted on the CNSC website.
<http://nuclearsafety.gc.ca/eng/pdfs/nuclear-substances/vessel-entry-march-2017-ENG.pdf>
- In May 2019 the CNSC published a newsletter (DNSR Newsletter – Spring 2019) regarding lessons learned from a confined-space event and reminded licensees of the importance of ensuring that their workers carefully follow their vessel entry procedures. Licensees that perform



these entries were requested to consider radiation exposure along with all other hazards involved with confined space entry.

https://www.nuclearsafety.gc.ca/pubs_catalogue/uploads/DNSR-Newsletter-spring-2019-eng.pdf

- The CNSC conducted a routine Type II compliance inspection on October 9th, 2019, at the Mount Milligan site. Amongst the findings were that the requirements indicated in the vessel entry licence condition were not respected:
 - The permit issued for a vessel entry involving the Endress and Hauser FQG61/5 (S/N UK640) gauge in October 2019 was not available (missing entrants tracking log, dose evaluation and dose rate where work is conducted). Also, the training record for one worker was not available.
 - The lockout documentation for a vessel entry involving the Endress and Hauser FQG61/5 (S/N UK640) gauge in December 2018 was not available.
- In September 2021 the CNSC sent an email to fixed gauge licensees regarding concerns over the number of non-compliance related to vessel entry and provided a checklist that was developed to assist licensees in ensuring that workers could safely enter vessels or hoppers mounted with radiation devices.
- In September 2023, the checklist provided to licensees by email in September 2021 was posted on the CNSC Website.

<https://www.nuclearsafety.gc.ca/eng/pdfs/vessel-hopper-entry-compliance-checklist-eng.pdf>

Based on my review of this matter, I am of the opinion that an administrative monetary penalty will deter recurrence of the above violation and promote future compliance with CNSC regulatory requirements. In consideration of the seven factors in section 5 of the *Administrative Monetary Penalties Regulations (Canadian Nuclear Safety Commission)*, the amount of the penalty was determined based on the following relevant facts:

1. Compliance history: Assessed score = +1

A +1 has been assigned, given that there is a previous history of non-compliance regarding vessel entry.

On October 9, 2019, the CNSC performed an inspection at the Mount Milligan site located 90 miles northwest of Prince George. The licensee was cited for not meeting the requirements specified in licence condition 2052-3. The tracking log, dose evaluation and dose rate where work was conducted were not available and the lock out documentation for a vessel entry that took place in December 2018 was not available.

2. Intention or negligence: Assessed score = +1



A +1 has been assigned because a small degree of negligence can be demonstrated.

The licensee has demonstrated negligence with respect to worker safety. The event report concluded that vessel entry was performed while the installed radiation device had not been made safe. This event demonstrate that the licensee did not take proactive steps to avoid such events. The event resulted from the failure to properly lock-out the radiation device as well as the failure to follow the requirements of the confined space entry procedures & permits as listed on their CNSC licence, especially the failure to confirm the dose rate inside the vessel and failure to display a tag at the vessel entry stating that the vessel was tested for safe radiation levels. Therefore, the licensee failed to meet their obligation to ensure the health and safety of persons. As reported by the licensee, the procedure for vessel entry was not followed.

3. Actual or potential harm: Assessed score = +1

A +1 has been assigned, since there was both real and potential harm to persons, and the incident footprint was contained within the immediate area of the radiation device.

If a similar incident had occurred in closer proximity to an unsafe radiation device the dose to workers could have been significantly higher. Such a circumstance could have exceeded the regulatory dose limits for the workers in question. The potential for harm was to two workers.

4. Competitive or economic benefit: Assessed score = 0

A 0 has been assigned as the licensee does not appear to have derived any competitive or economic benefit due to the violation.

5. Efforts to mitigate or reverse effects: Assessed score = -2

A -2 has been assigned, as the licensee took successful mitigation measures after the event. The licensee stopped the work and started an investigation. No vessel entry was performed during the investigation.

Following this event, the licensee performed the required actions to investigate and mitigate further occurrence of the issue once the unsafe situation was identified.

6. Assistance to Commission: Assessed score = -2

The licensee provided all the information, follow-up questions were responded to as requested and the final event report was submitted on time.

The licensee provided the requested assistance to the Commission.

7. Attention of Commission: Assessed score = -2

The event was reported as per event reporting requirements. The licensee was required by GN Reg 29(1)(b) (possible overexposure) and NSRD Reg 38(1)(b) to report this event.



Penalty calculation:

(See *Administrative Monetary Penalties Regulations (Canadian Nuclear Safety Commission) SOR/2013-139*)

(a) Category of violation

Category A Category B **Category C**

(b) Penalty range

Category	Minimum	Maximum	Maximum – minimum
A	\$1,000	\$12,000	\$11,000
B	\$1,000	\$40,000	\$39,000
C	\$1,000	\$100,000	\$99,000

(c) Determining factors

Factors	Scale of regulatory significance	Assessed score
1. Compliance history	0 <input type="checkbox"/> +1 <input checked="" type="checkbox"/> +2 <input type="checkbox"/> +3 <input type="checkbox"/> +4 <input type="checkbox"/> +5 <input type="checkbox"/>	+1
2. Intention or negligence	0 <input type="checkbox"/> +1 <input checked="" type="checkbox"/> +2 <input type="checkbox"/> +3 <input type="checkbox"/> +4 <input type="checkbox"/> +5 <input type="checkbox"/>	+1
3. Actual or potential harm	0 <input type="checkbox"/> +1 <input checked="" type="checkbox"/> +2 <input type="checkbox"/> +3 <input type="checkbox"/> +4 <input type="checkbox"/> +5 <input type="checkbox"/>	+1
4. Competitive or economic benefit	0 <input checked="" type="checkbox"/> +1 <input type="checkbox"/> +2 <input type="checkbox"/> +3 <input type="checkbox"/> +4 <input type="checkbox"/> +5 <input type="checkbox"/>	0
5. Efforts to mitigate or reverse effects	-2 <input checked="" type="checkbox"/> -1 <input type="checkbox"/> 0 <input type="checkbox"/> +1 <input type="checkbox"/> +2 <input type="checkbox"/> +3 <input type="checkbox"/>	-2
6. Assistance to Commission	-2 <input checked="" type="checkbox"/> -1 <input type="checkbox"/> 0 <input type="checkbox"/> +1 <input type="checkbox"/> +2 <input type="checkbox"/> +3 <input type="checkbox"/>	-2
7. Attention of Commission	-2 <input checked="" type="checkbox"/> -1 <input type="checkbox"/> 0 <input type="checkbox"/> +1 <input type="checkbox"/> +2 <input type="checkbox"/> +3 <input type="checkbox"/>	-2
Total		-3
÷ 29 ⁽¹⁾ [rounded to 2 decimal points] =		-0.10
X [difference between category minimum and maximum]		99,000
[total] =		-9,900
+ \$ 1000 [minimum for the category] =		-8,900
Actual total [based on minimum for the category] =		\$1,000

⁽¹⁾29 being the maximum value of regulatory significance



To request a review

As a person subject to an administrative monetary penalty, you have the right to request a review of the amount of the penalty or the facts of the violation, or both. Your request must be made in writing indicating the reasons why you are requesting a review and providing supporting information.

If you choose to request a review, you must do so in writing by July 18, 2024 to:

Canadian Nuclear Safety Commission
c/o Candace Salmon
Commission Registrar
P.O. Box 1046, Station B
Ottawa, ON K1P 5S9

Fax: (613) 995-5086
Telephone: (613) 995-6506
Email: registry-greffe@cnsccsn.gc.ca

Payment

You may pay this administrative monetary penalty by sending a cheque to:

Receiver General for Canada
c/o Canadian Nuclear Safety Commission
Finance Division
P.O. Box 1046, Station B
Ottawa, ON K1P 5S9

For other payment methods and further instructions, please refer to the attached notice of payment due.

Should you neither pay the penalty nor exercise your right to a review, you will be considered as having committed the violation and will be liable to the penalty set out herein.



Issued by

Karen Owen-Whitred
Designated Officer

Date

Telephone: (613) 410-8644

Email: karen.owen-whitred@cnsccsn.gc.ca