



Minutes of the Canadian Nuclear Safety
Commission (CNSC) Meeting held on
May 22, 2024

May 22, 2024

Minutes of the Canadian Nuclear Safety Commission (CNSC) meeting held virtually on Wednesday, May 22, 2024 beginning at 9:00 a.m. EST. The meeting was webcast live via the CNSC website, and video archives are available on the [CNSC website](#).

Present:

T. Berube, Acting President
A. Hardie
J. Hopwood
M. Lacroix
V. Remenda

C. Salmon, Commission Registrar
L. Thiele, Senior General Counsel
M. McMillan, Recording Secretary

CNSC staff advisors were: A. Viktorov, M. Young, L. Sigouin, T. Panichevska, L. Désaulniers, P. Bourassa, A. McAllister, C. Pike, L. Pozihun and S. Faille.

Other contributors were:

- Ontario Power Generation: S. Irvine and D. Rogers
- Bruce Power: M. Burton
- Cameco Corporation: L. Mooney and D. Clark
- Canadian Nuclear Laboratories: A. Tisler

Constitution

1. With the notice of meeting Commission Member document ([CMD 24-M12](#)) having been properly given and quorum for a meeting of the Commission being met, the meeting was declared to be properly constituted.
2. For the meeting, [CMDs 24-M14, 24-M15, 24-M21 to 24-M25, and 24-M27](#) were distributed to Commission Members. These documents are further detailed in Appendix A of these minutes.

Adoption of the Agenda

3. The agenda, [CMD 24-M13](#), was adopted as presented.

Chair and Registrar

4. The Acting President, Dr. T. Berube, chaired the meeting of the Commission, assisted by C. Salmon, Commission Registrar.

Minutes of the Commission Meetings Held December 13-14, 2023 and February 21, 2024

5. The minutes of the Commission meetings held on December 13 and 14, 2023 and February 21, 2024, were approved secretarially in advance of this meeting.

STATUS REPORT ON POWER REACTORS

6. With reference to [CMD 24-M15](#), which includes the Status Report on Power Reactors, CNSC staff presented the following updates:
 - Bruce Power Nuclear Generation Station (NGS) Units 5, 6, and 8 are operating at full power following completion of the vacuum building outage
 - Darlington NGS Unit 2 returned to service on May 17, 2024, and is operating at 100% full power
 - Pickering NGS Unit 4 was shut down on May 18, 2024, due to switchyard electrical protection circuitry that led to a loss of Class IV power and subsequent reactor trip. The unit was successfully placed in a guaranteed shutdown state following the event, and is currently being returned to service
 - Pickering NGS Unit 5 was shut down on May 12, 2024, due to the unavailability of the west fuelling machine

- Pickering NGS Unit 7 is scheduled to return to service on May 21, 2024, following a planned maintenance outage
 - Pickering NGS Unit 8 is operating at 78% full power following return to service of the east fuelling machine
7. Referencing the update provided by CNSC staff regarding Bruce Power and OPG's progress in hydrogen equivalent concentration¹ ([Heq]) research and development, the Commission requested an update on the progress towards improving the characterization of the 'blip'² and expected evolution of the inlet region of elevated [Heq] with continued reactor operation. A Bruce Power representative submitted that industry was targeting to update the Commission on the matter by the end of 2025; however, it could work with CNSC staff to provide an earlier progress update if the Commission desired. The Commission directs OPG and Bruce Power to work with CNSC staff to provide an update on this matter in, or around the time of, the Commission's consideration of the *Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2023*.
8. The Commission asked for more information on the unavailability of fueling machines at the Pickering NGS. CNSC staff clarified that each unit has its own east and west fueling machines. An OPG representative explained that the fueling machines that were recently unavailable were the Unit 5 west fueling machine, due to an issue with procedural adherence by an operator, and the Unit 8 east fueling machine, due to a mechanical failure of the drive mechanism. The OPG representative informed the Commission that the unavailability of the two fueling machines did not impair fuel cooling or result in any fuel damage.
9. The Commission asked if the mechanical failure of the Unit 8 east fueling machine at the Pickering NGS had presented a radiation protection risk. An OPG representative explained that:
- radiological exposure to workers during the fueling machine repair process remained low
 - fuel from the fueling machine was placed back into the reactor core prior to maintenance being conducted on the machine
 - the maintenance activities occurred in a shielded service room

ACTIONDecember
2024

¹ Hydrogen equivalent (Heq) concentration ([Heq]) is the concentration of hydrogen by weight that would be present in a pressure tube if the deuterium atoms were replaced by hydrogen atoms [Heq] is expressed in parts per million (ppm) by weight.

² The localized region of elevated Heq is referred to as a "blip" by the industry, which is based on the shape of the Heq profile.

10. The Commission asked Bruce Power to provide information on the root cause of the unexpected manual turbine trip that occurred on Bruce NGS Unit 8 during a safety system test. A Bruce Power representative explained that the root cause of the event was an issue with a main control room pushbutton. The Bruce Power representative said that the pushbutton was replaced and that Bruce Power had been in contact with the manufacturer to understand why the pushbutton failed.

EVENT INITIAL REPORT

Cameco Corporation – Workplace injury at Cameco Corporation’s Port Hope Conversion Facility

11. Regarding [CMD 24-M25](#), CNSC staff provided the Commission with an Event Initial Report (EIR) on a workplace injury that occurred at Cameco Corporation’s [Port Hope Conversion Facility \(PHCF\)](#) Site 2. On April 9, 2024, a worker was replacing roof panels on a storage building when they fell approximately 7.6 m through a translucent panel to the concrete floor below. The worker was air lifted to a Toronto hospital where they were found to be in stable condition and were treated for their injuries.
12. In the EIR, CNSC staff provided information on Cameco’s emergency response efforts and initial actions, CNSC staff’s initial actions in response to the event, and the next steps to be taken by both Cameco and CNSC staff. CNSC staff also committed to provide a future update on this event in the *Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities: 2024*.
13. A Cameco representative provided verbal remarks on the event and informed the Commission that Cameco has both a contractor management program and a conventional health and safety program in effect at the PHCF. Under its conventional health and safety program, Cameco also has a fall protection procedure that requires work at heights to have a fall protection and rescue plan. The Cameco representative noted that a fall protection plan was in place at the time of the event. The representative added that Cameco was in the process of conducting a root cause investigation to identify corrective actions in response to this event.
14. The Commission asked Cameco for additional information on the event, including:
 - the estimated completion date for the root cause investigation
 - the measures put in place while the investigation is ongoing
 - the status of the injured worker

15. Cameco representatives provided the following responses to the Commission's questions:
- Cameco would complete the root cause investigation in the near future and provide the report to CNSC staff
 - Cameco has stopped all roof work – work will not restart until the root cause investigation is complete and corrective actions have been implemented
 - the injured worker had returned home and was expected to continue their rehabilitation over the next few months
16. The Commission was satisfied with the preliminary information provided on this event and noted that it anticipates receiving an update on this matter in the *Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities: 2024*.

ACTION
December
2025

INFORMATION ITEM

Update on the Designated Officer Program: 2023

17. With reference to [CMD 24-M14](#), CNSC staff presented the status of the designated officer (DO) program for 2023. CNSC staff provided information on the number of CNSC DOs and their authorities under the [Nuclear Safety and Control Act](#)³ (NSCA), and reported on the DO duties⁴ carried out in 2023. CNSC staff informed the Commission that DOs carried out 3,244 DO duties in 2023, of which 96 were reportable to the Commission per subsection 37(5) of the NSCA. CNSC staff also presented information on the DO duties carried out by the CNSC's Personnel Certification Division.
18. The Commission asked CNSC staff for additional information on the DO program, including:
- clarification on the hierarchy of DO positions and their authorities
 - how CNSC staff ensure that applicants comply when a DO rejects an application for an export licence
 - whether DOs must complete refresher training
 - whether the number of DO positions is appropriate

³ S.C. 1997, c. 9.

⁴ Under section 37 of the NSCA, the Commission may designate, by name, title of office or class of persons, any person whom the Commission considers qualified as a designated officer and any officer so designated shall be provided with a certificate setting out the duties that the designated officer is authorized to carry out.

19. CNSC staff informed the Commission that:
- DOs in more senior positions have all of the authorities of DO positions that report to them, and that DOs decision-making is in line with the statutory authorities of their position, which are independent of the hierarchy
 - CNSC staff have a compliance program and, depending on the nature of the application for an export licence, CNSC staff will inform other government departments such as Global Affairs Canada and the Canada Border Services Agency that an application has been rejected
 - all DOs undertake training when they are first appointed to a DO position and additional training is provided, such as through the DO forum, as applicable
 - there are currently 37 DO positions, which is sufficient for the current workload
20. The Commission expressed its appreciation for CNSC staff's presentation on the DO program and CNSC staff's clear responses to the Commission's questions. The Commission also acknowledged the large number of DO duties carried out in 2023 and thanked DOs for their efforts.

Update on New Brunswick Power Corporation – CNSC Financial Security and Access Agreement

21. In [CMD 24-M27](#), CNSC staff presented an update on the status of NB Power's *CNSC Financial Security and Access Agreement*. In its submission, CNSC staff informed the Commission that NB Power had completed its corrective action plan to verify the financial instruments which form the Financial Guarantee Funds, following administrative amendments that were made to the financial instruments after the May 2022 Point Lepreau NGS licence renewal hearing.
22. The Commission was satisfied with the information provided by CNSC staff in its submission on this matter.

UPDATES ON ITEMS FROM PREVIOUS COMMISSION PROCEEDINGS

Update from CNSC staff on lapses in radiation protection training at Canadian Nuclear Laboratories

23. In [CMD 24-M21](#), CNSC staff provided an update on a January 2024 event in which Canadian Nuclear Laboratories (CNL) identified that its electronic learning management system was not properly

configured to notify workers at the Chalk River Laboratories site when their training requirements were approaching expiration. As a result of this event, CNL identified over 400 employees with expired radiation protection training. The Commission had directed CNSC staff to provide this update following the February 21, 2024 Commission Meeting.⁵

24. CNSC staff provided information on the event and the response actions taken by both CNL and CNSC staff. CNSC staff reported that CNL had committed to completing a root cause analysis of the event by May 30, 2024. CNSC staff noted that it had verified the effectiveness of CNL's corrective actions to date and that there was no risk to the public or the environment related to this event.
25. A CNL representative provided a verbal update on the event, in which they provided additional information on CNL's event response. The CNL representative noted that CNL had immediately paused related activities, ensured that only qualified employees were performing work, and prioritized training for affected employees. CNL also conducted a review to identify any other potentially impacted training courses. The CNL representative reported that CNL's safety performance was not affected by this event.
26. The Commission asked CNL for additional information on the radiation protection training event, including:
 - whether all 400 affected staff had received the required training
 - whether employees were aware that they would need refresher training
 - how CNL would improve its safety culture based on the findings from this event
 - how CNL's training program is monitored
27. CNL representatives provided the following information in response to the Commission's questions:
 - all workers that require radiation protection training have been trained
 - some of the 400 employees initially identified as having expired training no longer require radiation protection training
 - employees were aware that they would require refresher training several years after completing their initial training
 - this event has encouraged CNL to reinforce its human performance tools, including pre-job briefs

⁵ Minutes of the February 21, 2024 Commission Meeting, CNSC, June 3, 2024.

- CNL monitors the health of its training program via its executive Training Oversight Committee and through assessments conducted under CNL's Integrated Assessment Program
 - CNL clarified that no workers in safety-sensitive positions had expired radiation protection training
28. The Commission emphasized the importance of employees being accountable and monitoring their own training requirements. A CNL representative agreed and noted that, following the training event, CNL held a meeting with staff and issued an executive management directive to reinforce that each employee has a responsibility to ensure that their training is up to date. CNL management staff were also reminded of their role in verifying employee training prior to work execution.
29. The Commission notes its concern regarding how this matter and other recent events reflect on CNL's safety culture. Such events include the 2023 safety stand-down at CNL's Whiteshell Laboratories and two 'below expectations' SCA ratings as reported to the Commission in the [Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022](#).⁶ The Commission directs CNSC staff to work with CNL to include a review of CNL's safety culture in the *Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2024*.

ACTION
December
2025

Update on Mississauga Metals & Alloys Inc.

30. Regarding [CMD 24-M22](#), CNSC staff provided an update on the safety and security of the Mississauga Metals & Alloys Inc. (MM&A) site and of the nuclear substances located on it. The Commission had directed CNSC staff to provide this update in its 2023 [decision](#)⁷ on the DO Order issued to MM&A; 1420561 Ontario Inc.; and Richter Advisory Group Inc.
31. CNSC staff's updates included the following:
- CNSC staff continue to have a contracted, third-party security provider provide 24/7 presence to ensure that the nuclear substances on the site remain secure
 - CNSC staff continue to inspect the site periodically, most recently in early May 2024, to confirm that substances remain safely stored

⁶ *Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022*, CMD 23-M30, CNSC, August 2, 2023.

⁷ *Record of Decision on the review of Designated Officer Order dated March 21, 2023*, CNSC, November 1, 2023.

- CNSC staff is seeking to acquire the services of a qualified contractor to characterize the nuclear substances present on the MM&A site
 - CNSC staff will provide an update to the Commission when further progress is made on this matter as part of the *Regulatory Oversight Report on the Use of Nuclear Substances in Canada*
32. The Commission asked CNSC staff for the following information pertaining to its submission:
- clarity on the role of the Richter Advisory Group Inc.
 - whether CNSC staff anticipate any issues acquiring the services of a qualified contractor to characterize the nuclear substances present on the MM&A site
 - how long the characterization would take
 - whether the MM&A bankruptcy caused staff to review how other licensees provide their financial guarantees
33. CNSC staff provided the following information in response to the Commission's questions:
- Richter Advisory Group Inc. is the Bankruptcy Trustee appointed to the MM&A file
 - CNSC staff are hopeful that a qualified contractor will bid on the characterization project because such companies typically have CNSC-issued licences to do similar work, and an earlier request for proposal had received interest from multiple qualified contractors
 - characterization would likely take months; however, a specific timeline would be determined at the time of bid award
 - MM&A's licence predated the CNSC's current financial guarantee approach⁸ and CNSC staff do not anticipate a similar situation to occur in the future with another licensee

Update on the scope of the environmental assessment for Global First Power's proposed Micro Modular Reactor Project at the Canadian Nuclear Laboratories

34. In the Commission's 2020 [decision](#)⁹ on the scope of factors for the environmental assessment (EA) for [Global First Power's proposed Micro Modular Reactor \(MMR\) Project](#) at the Canadian Nuclear Laboratories, the Commission directed CNSC staff to "report to the Commission on any issues arising during the conduct of the EA that

⁸ In [2014](#), the Commission accepted CNSC staff's proposed Financial Guarantee Requirement for Nuclear Substances, Prescribed Equipment and Class II Nuclear Facility Licensees (CMD [14-M44](#)).

⁹ *Record of Decision on the scope of an environmental assessment for the proposed Micro Modular Reactor Project at the Chalk River Laboratories*, CNSC, 16 July 2020.

could warrant Commission reconsideration of the [...] scoping decision.”¹⁰ CNSC staff submitted [CMD 24-M24](#) in response to the Commission’s direction.

35. In August 2023, Global First Power informed CNSC staff of proposed updates to the MMR Project design and description. CNSC staff reviewed the proposed updates and found that:
- the scope of factors is broadly applicable, and therefore remains valid and that the project changes are adequately bound to be assessed during the environmental impact statement technical review phase of the EA
 - the project changes do not introduce the need for any additional factors to be included in the EA
 - there will be several additional opportunities for Indigenous and public engagement and consultation on the MMR Project throughout the remaining phases of the EA
36. The Commission was satisfied with the information provided by CNSC staff in its submission on this matter. The information provided does not warrant Commission reconsideration of the scoping decision at this time.

Overview of Medical Sector Performance in the Radiation Protection Safety and Control Area in 2023

37. Regarding [CMD 24-M23](#), CNSC staff provided an update on the available data for 2023 regarding performance of the medical sector under the Radiation Protection [safety and control area](#)¹¹ (SCA). The Commission had directed CNSC staff to provide this update in the [Minutes of the November 1 and 2, 2023 Commission Meeting](#)¹² in response to CNSC staff’s presentation of the [Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2022](#).¹³
38. CNSC staff provided information on the regulation of nuclear medicine, compliance results for 2023, and actions taken by CNSC staff. CNSC staff reported that:
- the nuclear medicine subsector remains safe and secure

¹⁰ Ibid., page 4.

¹¹ SCAs are the technical topics used by CNSC staff across all regulated facilities and activities to assess, evaluate, review, verify and report on regulatory requirements and performance.

¹² *Minutes of the November 1 and 2, 2023 Commission Meeting*, CNSC, February 16, 2024.

¹³ *Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2022*, CMD 23-M31, CNSC, August 11, 2023.

- changes to [*Radiation Protection Regulations*](#)¹⁴ continue to affect the Radiation Protection SCA performance of the nuclear medicine subsector
 - based on inspection frequency and licensing periods, CNSC staff expect performance to begin to improve in 2025
 - licensees are responsible for safe operations and compliance with regulatory requirements
39. Referencing CNSC staff's position that a "below expectations" rating does not necessarily mean that a licensee is operating unsafely, the Commission asked CNSC staff to clarify the meaning of the "below expectations" rating. CNSC staff clarified that a "below expectations" rating is given when a licensee's performance doesn't meet CNSC staff expectations, the licensee has risk-significant non-compliances or performance issues, or the non-compliances or performance issues are not being adequately corrected. This differs from an "unacceptable" rating which is given when the risk associated with the non-compliance is unreasonable, or at least one significant non-compliance exists with no associated corrective actions.
40. The Commission asked CNSC staff for the following additional information pertaining to CNSC staff's presentation:
- whether staff thought a SCA rating system specific to nuclear medicine licensees should be created
 - whether CNSC staff have identified any data trends with respect to the different types of licensees
 - what CNSC staff considers to be "good" compliance
 - if the use of new medical isotopes will impact CNSC staff's compliance monitoring approach
 - potential impacts of radiation protection SCA performance on the public
41. CNSC staff provided the following information in response to the Commission's questions:
- the CNSC's common SCA rating system across sectors is beneficial for consistency
 - CNSC staff have not identified any significant trends across nuclear medicine licensees
 - CNSC staff view a radiation protection SCA grade of 70% or above to be "good" compliance
 - when CNSC staff assess an application for a new medical isotope, CNSC staff also assesses the applicant's radiation

¹⁴ SOR/2000-203

protection program to ensure that it is adequate for the introduction of the new isotope

- the notices of non-compliance received by nuclear medicine licensees were related to worker radiation protection
- CNSC inspectors also consider impacts to patients and members of the public when conducting inspections of nuclear medicine licensees

42. The Commission asked CNSC staff to specify which members of licensee staff receive the notice of non-compliances when they are issued by CNSC inspectors. CNSC staff explained that, following the completion of an inspection, CNSC staff provide a preliminary inspection report and any notices of non-compliance to the licensee's Radiation Safety Officer. CNSC inspectors may also provide the preliminary inspection report to the applicant authority¹⁵ if there are significant or repeat non-compliances.
43. The Commission underscores that licensees are responsible for allocating appropriate resources to ensure compliance with CNSC regulatory requirements. The Commission expects CNSC staff to monitor licensees' implementation of sufficient and timely corrective actions in response to notices of non-compliance. The Commission recommends that CNSC inspectors consider providing future notices of non-compliance related to the radiation protection SCA to the applicant authority in addition to the licensee's Radiation Safety Officer, when appropriate.

Closure of the Public Meeting

44. The public portion of the Commission meeting closed at 11:53 EST on May 22, 2024. These minutes reflect both the public meeting itself and the Commission's considerations following the meeting.

CLOSED SESSION

Security Event Reported by Ontario Power Generation

45. Following the public portion of the meeting on May 22, 2024, the Commission convened for a closed session to discuss a security event reported by OPG (CMD 24-M28¹⁶).

¹⁵ Refer to section 15 of the *General Nuclear Safety and Control Regulations*, SOR/2000-202.

¹⁶ CMD 24-M28 contains prescribed information and is not publicly available.

This portion of the Commission meeting was not open to the public and was held *in camera* because it related to “prescribed information” as defined in the [General Nuclear Safety and Control Regulations](#),¹⁷ in respect of which there are regulatory requirements and restrictions on disclosure.

McMillan
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09-July-2024

Date

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¹⁷ SOR/2000-202.

APPENDIX A

24-M12	2024-03-27	7247816
Notice of Virtual Commission Meeting of May 22, 2024		
24-M13	2024-05-09	7248217
Agenda for May 22, 2024 Virtual Commission Meeting		
24-M14	2024-05-07	7240473 – English 7270694 – French
Update on the Designated Officer Program: 2023		
Presentation from CNSC Staff		
24-M15	2024-05-14	7283026 – English 7283031 – French
Status Report on Power Reactors		
Written submission from CNSC Staff		
24-M21	2024-05-08	7272174 – English 7272180 – French
Update on lapses in radiation protection training at Canadian Nuclear Laboratories		
Written submission from CNSC Staff		
24-M22	2024-05-06	7266154 – English 7276675 – French
Update on Mississauga Metals & Alloys Inc		
Written submission from CNSC Staff		
24-M23	2024-05-07	7273520 – English 7273771 – French
Medical Sector Performance in the Radiation Protection Safety and Control Area (SCA) for 2023		
Presentation from CNSC Staff		
24-M24	2024-05-07	7273521 – English 7273525 – French
Update on the scope of the Environmental Assessment for Global First Power's proposed Micro Modular Reactor Project at the Canadian Nuclear Laboratories		
Written submission from CNSC staff		
24-M25	2024-05-10	7272070 – English 7272072 – French
Event Initial Report on Worker Injury at Cameco Corporation's Port Hope Conversion Facility		
Written submission from CNSC Staff		

24-M27	2024-05-02	7277583 – English 7277584 – French
Update on New Brunswick Power Corporation – CNSC Financial Security and Access Agreement		
Written submission from CNSC Staff		
24-M28	2024-05-21	7296697
Update on Security Event at OPG		
Written submission from CNSC Staff		
This document contains prescribed information and is not publicly available.		