



Minutes of the Canadian Nuclear Safety
Commission (CNSC) Meeting held on
June 8, 2021

Minutes of the Canadian Nuclear Safety Commission (CNSC) meeting held virtually on June 8, 2021, starting at 1:00pm EDT. The public portion of the meeting was webcast live via the CNSC website, and video archives are available on the CNSC's website. These minutes reflect both the public portion of the meeting and the Commission's decisions as a result of the meeting.

Present:

R. Velshi, President
T. Berube
S. Demeter
R. Kahgee
M. Lacroix
I. Maharaj
S. McKinnon

M. Leblanc, Secretary
L. Thiele, Senior General Counsel
M. McMillan, Recording Secretary

CNSC staff advisors were: A. McAllister, K. Murthy, A. Levine, A. Viktorov, W. Stewart, K. Owen-Whitred, C. Purvis, K. Mayer, H. Tadros, L. Forrest and C. Dodkin

Other contributors were:

- Bruce Power : M. Burton
- Ontario Power Generation : V. Bevacqua, A. Grace and G. Khawaja
- New Brunswick Power: N. Reicker
- Alberta Health Services: J. Lee and E. Niven

Constitution

1. With notice of the meeting having been properly given in Commission member document (CMD) [21-M19](#), and all permanent Commission members being present, the meeting was declared to be properly constituted.
2. Since the Commission meeting held on April 27, 2021, CMD 21-M21 through CMD 21-M27 were distributed to members. These documents are further detailed in Appendix A of these minutes.

Adoption of the Agenda

3. The agenda, [CMD 21-M20](#), was adopted as presented.

Chair and Secretary

4. The President chaired the meeting of the Commission, assisted by M. Leblanc, Secretary, and M. McMillan, Recording Secretary.

Minutes of the CNSC Meeting Held April 27, 2021

5. The Commission approved the [minutes](#) of the April 27, 2021 Commission meeting.¹

UPDATES ON ITEMS FROM PREVIOUS COMMISSION PROCEEDINGS

Update from CNSC staff to provide clarifications on licensing requirements applicable to the transport of natural UF₆ in Canada

6. CNSC staff filed a memo on April 21, 2021 ([CMD 21-M25](#)) to clarify the requirements applicable to the transport of UF₆ from Cameco's Port Hope Conversion Facility following a statement made by CNSC staff at the December 8, 2020 public Commission meeting. The Commission Secretariat issued an [erratum](#) to correct the related section of the [December 8-9-10, 2020](#) meeting minutes, to reflect the clarification provided by CNSC staff.²

¹ The approved minutes were published on the CNSC website on July 27, 2021.

² The erratum was published on the CNSC website on July 5, 2021.

Update from CNSC staff on its Peterborough Public Engagement Plan

7. With reference to [CMD 21-M26](#), CNSC staff presented an update regarding its Peterborough Public Engagement Plan. CNSC staff provided the plan as a memo to the Commission in February 2021, after the Commission directed CNSC staff to conduct an information session in Peterborough, Ontario within six months of issuance of the December 2020 [Record of Decision](#) for BWXT's Toronto and Peterborough fuel facilities.³ The information session was to address the results of [beryllium resampling](#) around the Peterborough facility.
8. CNSC staff provided information regarding two public webinars it held in March 2021 to discuss the Peterborough [beryllium resampling](#) results with the public and to answer questions⁴. Based on before and after polling results, CNSC staff reported a noticeable increase in the webinar participants' understanding regarding beryllium.
9. In addition to the webinars, CNSC staff engaged with the public via meetings with the Peterborough Board of Health and the BWXT NEC Peterborough Community Liaison Committee. CNSC staff committed to continue discussions with concerned individuals or groups as requested. CNSC staff will summarize its Peterborough outreach activities in the *Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities* coming before the Commission in December 2021.
10. CNSC staff also completed Indigenous outreach activities as part of the Peterborough Engagement Plan. Curve Lake First Nation had intervened during the 2020 BWXT NEC hearing and requested to be kept informed of CNSC activities related to the Peterborough facility. Since the hearing, CNSC staff have met with Curve Lake First Nation on six occasions to discuss topics including the CNSC's Independent Environmental Monitoring Program (IEMP), the 2020 Record of Decision, and environmental protection matters. CNSC staff reported to the Commission that staff and Curve Lake First Nation continue to meet on a regular basis. CNSC staff also engage with the other Williams Treaties First Nations and the Métis Nation of Ontario.
11. CNSC staff plan to execute the 2021 Peterborough IEMP sampling campaign during the week of June 14th, 2021. Members of Curve Lake First Nation will be present to observe sampling activities. CNSC staff will disseminate the results to the public following lab analysis of the samples.

³ *Record of Decision* in the matter of BWXT Nuclear Energy Canada (NEC) Inc., Application for the renewal of the fuel facility licence for BWXT's Toronto and Peterborough Facilities., CNSC 2020, p. 5, para. 24.

⁴ Following the webinars, Commission Action item #22506 was closed.

12. To allow for valuable engagement with a larger audience, CNSC staff said that feedback from its activities highlighted the need to have both information available in simple language and technical experts available to answer complex questions. The use of webinars has increased accessibility and allowed a wider range of specialists and members of the public to attend outreach activities throughout the COVID-19 pandemic. CNSC staff plan to continue to use webinars to engage successfully with the public.
13. Asked to clarify, CNSC staff indicated that the Court application seeking judicial review of the Commission's 2020 decision regarding BWXT's licence did not constrain staff's efforts to disseminate information and do public engagement in Peterborough.

STATUS REPORT ON POWER REACTORS

14. With reference to [CMD 21-M21](#), the Status Report on Power Reactors, CNSC staff had no oral updates to provide.
15. With regard to the pressure tubes removed from Bruce Nuclear Generating Station (NGS) Unit 6 as part of the Major Component Replacement, the Commission asked whether the removed tubes would undergo materials testing. The Bruce Power representative said that Bruce Power chose two specific tubes for testing: one that had tight garter springs and one tube that had experienced flux at the center of the core. The Bruce Power representative stated that pressure tubes removed from other units have undergone sufficient testing and that Bruce Power does not plan to test the other tubes removed from Unit 6.
16. The Commission asked CNSC staff to explain how staff captures lessons learned from the regulatory oversight of the Darlington NGS Unit 3 and Bruce NGS Unit 6 refurbishments. CNSC staff stated that there are refurbishment-focused CNSC inspectors at each site who share experience with each other and with CNSC technical staff. CNSC staff also have experience from the oversight of previous refurbishments at the Darlington NGS and the Bruce NGS.
17. Asked about the scope of the planned outage for Pickering NGS Unit 8, an Ontario Power Generation (OPG) representative said that the major activities included seal repairs, a single fuel channel replacement, and three feeder replacements. The OPG representative stated that Unit 8 is on schedule to return to 100% full power operation on June 14, 2021.

18. The Commission sought information on the impact of COVID-19 variants on the safe operation of nuclear power plants (NPP) and on the availability of vaccines for NPP staff. The Bruce Power, New Brunswick (NB) Power, and OPG representatives stated that on-site testing programs are in place at each NPP and that their staff are encouraged to receive COVID-19 vaccines. Each licensee is working with their respective Public Health authority to track the spread of variants in their communities. The COVID-19 variants have not led to a notable increase in cases at any NPP. Surveys conducted by OPG and Bruce Power found that over 90% of staff were either vaccinated or planning to be vaccinated. Bruce Power has vaccinated over 3500 employees via on-site vaccination clinics.
19. The Durham Region Health Department had declared a COVID-19 outbreak at the Darlington NGS on March 8, 2021. The outbreak ended on May 6, 2021. Asked about the length of the outbreak, the OPG representative explained that, while the cases occurred in a specific trailer on the Darlington NGS site, the health department initially required that there be no further COVID-19 cases at the entire site before declaring the outbreak over. The end of the outbreak was declared once OPG demonstrated that there was no transmission related to the initial outbreak.
20. The Commission asked CNSC staff if it had identified any areas for improvement following a virtual conference where nuclear regulatory bodies from ten countries presented on their regulatory activities during the pandemic. CNSC staff found that the CNSC had a robust response to the pandemic in comparison with its international counterparts. Based on a good practice from the U.S. Nuclear Regulatory Commission, CNSC staff plan to formalize an existing practice by which CNSC inspectors have access to licensee databases. CNSC staff continue to communicate with international regulators to compare lessons learned.

INFORMATION ABOUT REPORTABLE EVENTS

Update on COVID-19 Outbreaks at Sites Regulated under the Nuclear Fuel Cycle Program

21. CNSC staff reported orally on two COVID-19 outbreaks at two sites regulated under the Nuclear Fuel Cycle Program. CNSC staff stated that the outbreaks had no impact on the environment or on the safe operation of either facility.
22. First, CNSC staff informed the Commission of an outbreak of COVID-19 at Cameco's Cigar Lake Operation in northern Saskatchewan, declared on May 14, 2021. In response, Cameco implemented a site-wide COVID-19 testing program. As of June 7,

- 2021, Cameco had completed over 800 tests and confirmed 50 positive cases associated with the outbreak, including some offsite transmissions. Vaccines were administered to site staff on May 28, 2021. The Saskatchewan Health Authority (SHA) completed an inspection at the Cigar Lake Operation and identified both good practices and areas for improvement. Cameco committed to communicate any reports or corrective actions issued by the SHA with regard to the outbreak to CNSC staff. CNSC staff is satisfied with Cameco's response to the outbreak and continue to monitor the situation.
23. The Commission asked how Cameco was ensuring adequate staffing levels at the Cigar Lake Operation during the outbreak. CNSC staff stated that approximately 6-7% of Cigar Lake's 600 employees tested positive and clarified that the outbreak had not affected the staffing of safety critical roles. CNSC staff took an action to provide the Commission with specific details regarding Cameco's staffing protocols during significant employee absences.⁵
24. Second, CNSC staff reported that a COVID-19 outbreak was declared at Canadian Nuclear Laboratories' (CNL) Port Granby Waste Water Treatment Plant on June 3, 2021, involving two positive cases among CNL staff. CNSC staff said that CNL was cooperating with local Public Health authorities. Contact tracing has been completed and CNL sanitized the waste water treatment plant. CNSC staff is satisfied with CNL's actions and continued notifications on the situation.
25. The Commission enquired about how licensees are documenting lessons learned related to the pandemic. CNSC staff said that, as the pandemic is still ongoing, it plans to hold discussions with licensees in the future to address lessons learned from the pandemic. CNSC staff noted that licensees, such as NPP operators, have programs in place to capture operating experiences. CNSC staff stated that licensees' response to the pandemic has been satisfactory.

⁵ CNSC staff provided information on Cameco's staffing protocols to the Commission on June 27, 2021. The Commission is satisfied with the information provided by Cameco confirming that Cameco managed personnel shortages through a variety of means – varying activity level to align with personnel availability, bringing on additional temporary personnel where possible and available and, in some rare instances, altering employee work schedules.

EVENT INITIAL REPORT (EIR)

Alberta Health Services - Exposure above regulatory limit of a Nuclear Energy Worker

26. With reference to [CMD 21-M27](#), CNSC staff presented information regarding the potential exposure of a nuclear energy worker to a radiation dose in excess of the dose limits prescribed by the [Radiation Protection Regulations](#). The Radiation Safety Officer of Alberta Health Services (AHS) reported to the CNSC on May 19, 2021 that a nuclear medicine technologist exceeded the effective dose limit of 50 mSv/year based on dosimeter results from the first quarter of 2021. The dosimeter readings were:
- Body: 145.83 millisieverts (mSv)
 - Lens: 291.41 mSv
 - Shallow: 449.53 mSv
27. CNSC staff explained that AHS had not yet completed its investigation; however, AHS's preliminary assessment is that the dose is likely non-personal and the result of improper dosimeter handling.
28. In November 2019, AHS experienced a similar dose exceedance event at the same location. CNSC staff reported the previous event to the Commission at the [June 2020 Commission meeting](#). In that case, the most probable cause of the dose was determined to be dosimeter contamination. Given the similarity of these two events over a short period, CNSC staff conducted a radiation protection inspection of the AHS facility on June 2, 2021. CNSC staff reported that it did not identify any immediate health and safety concerns, which supports the theory that the dose was non-personal. The inspection findings will be included in CNSC staff's final event report.

Discussion

29. The AHS representative described AHS's initial assessment of the event. AHS found that the individual in question had improperly stored their dosimeter in a hot lab when not in use. AHS determined, however, that the exposure the dosimeter experienced in the lab was too low to account for the reported dose. The AHS representative stated that AHS' preliminary conclusion is that the dosimeter may have been contaminated by Indium-111 or Gallium-67 in the nuclear medicine department. Understanding that the investigation was still underway, the Commission asked if AHS had identified how radionuclide contamination could have occurred. The AHS representative stated that the contamination mechanism had not been confirmed, though activity detected

- correlates to a small amount of radioactive material. The final report from AHS is due to CNSC staff on June 9, 2021, and CNSC staff expects AHS to consider all plausible contamination scenarios in this report.
30. The Commission emphasized the importance of proper dosimeter handling and, noting recent event reports, asked about radiation safety culture in the health sector. CNSC staff explained that it has a database of events that it monitors for trends of concern and, at this time, it does not see a trend in the health sector related to a lack of attention to radiation safety procedures. CNSC staff will continue to monitor licensees' performance and will take appropriate regulatory action if required.
 31. Asked about how the source of radiation could be distinguished based on the dosimeter reading, CNSC staff explained that the reported doses are indicative of either being exposed to a source emitting different types of radiation or, possibly, contamination on the surface of the dosimeter itself. CNSC staff will provide further information in its final report after it receives more information from the dosimetry service provider.
 32. The Commission expressed concern for the health of the individual potentially exposed. The AHS representative reported that the technologist had not experienced negative health effects and, though the dose was believed to be non-personal, the individual was undergoing blood dosimetry via Health Canada.
 33. Asked about measures in place to prevent event reoccurrence while the investigation is ongoing, the AHS representative said that AHS had implemented new radiation monitoring procedures. The procedures cover frequent hand monitoring, as well as the monitoring of dosimeters during routine department contamination checks and prior to shipment offsite. The Commission asked CNSC staff about the regulatory requirements for hand monitoring. CNSC staff said that hand monitoring is considered to be a best practice, and that licensees are encouraged to incorporate frequent hand monitoring into their procedures. CNSC staff noted that, previously, some nuclear medicine facilities did not have sufficient portable contamination meters to support frequent monitoring.
 34. For future reference, the Commission wishes to make it clear that licensees' accountable management should be present at Commission proceedings when discussing reportable events.
 35. The Commission looks forward to CNSC staff's final event report, which is expected by the fall of 2021.

ACTION
By
Fall 2021

DECISION ITEMS

Regulatory Documents REGDOC-2.7.1, *Radiation Protection* and REGDOC-2.7.2, *Dosimetry, Volume I: Ascertainning Occupational Dose*

36. With reference to [CMD 21-M23](#) CNSC staff presented the regulatory documents (REGDOC) REGDOC-2.7.1, *Radiation Protection*, and REGDOC-2.7.2, *Dosimetry, Volume I: Ascertainning Occupational Dose*, to the Commission for consideration and approval. CNSC staff noted that two other REGDOCs in the CNSC's Radiation Protection series were [previously published](#) in 2018 and 2020.⁶ CNSC staff intends for the two draft REGDOCs to supersede nine existing radiation protection documents, align with the CNSC's modernized regulatory framework structure, and also align with recent revisions to the [Radiation Protection Regulations](#) (RPR). CNSC staff noted that page 2 of CMD 21-M23 incorrectly states that the REGDOCs would supersede ten existing documents.
37. REGDOC-2.7.1, *Radiation Protection* provides guidance on the development of radiation protection programs as well as on the application of worker dose control and radiological hazard control principles. The document also includes guidance on meeting the updated RPR requirements for the provision of information for Nuclear Energy Workers (NEW) and on radiation detection and measurement instrumentation.
38. REGDOC-2.7.2, *Dosimetry, Volume I: Ascertainning Occupational Dose* updates previous guidance on methods and techniques to ascertain doses. The document also provides new guidance in the areas of external dosimetry, including ascertaining dose to the extremities and the lens of the eye, calculating whole body external effective dose from multiple dosimeters, the assessment of equivalent dose associated with skin contamination events, and the assessment of dose in relation to the infants of breastfeeding NEWs.
39. CNSC staff described the development of the two REGDOCs, which began in 2014 and included a five-year iterative consultation process with stakeholders and the public, information sessions, and targeted consultation with stakeholders. CNSC staff noted that it updated the draft REGDOCs to address comments received during the consultation process. Licensees submitted the majority of the comments; though civil society organizations had requested and been provided an opportunity to comment, no comments had been received on the final draft documents.

⁶ [REGDOC 2.7.2, *Dosimetry, Volume II: Technical and Management System Requirements for Dosimetry Services*](#), published in August 2020, and [REGDOC 2.7.3, *Radiation Protection Guidelines for the Safe Handling of Decedents*](#), published in June 2018.

40. CNSC staff noted that some of the key issues raised during public consultation included uncertainty regarding the purpose of the REGDOCs and concern regarding the prescriptive wording of specific sections. Stakeholders were unclear on whether the documents included requirements and requested greater flexibility with certain wording. CNSC staff revised the terminology in both documents to ensure consistency and to clarify that the documents provide guidance and do not introduce new requirements. CNSC staff also received some comments related to the RPR amendments. CNSC staff took note of the feedback and committed to analysing the issues raised during the next review of the RPR.

Discussion

41. The Commission asked CNSC staff if there is guidance for licensees regarding the storage of electronic information. CNSC staff said that Section 7 of draft REGDOC 2.7.1 provides guidance regarding the provision of information to NEWs. The document states that, when there is a record of written acknowledgement generated by a NEW, either on paper or in electronic format, the licensee must retain it per subsection 28(1) of [General Nuclear Safety and Control Regulations](#). The Commission encourages staff to consider setting expectations for how licensees secure electronic records.
42. Asked if concerns have been raised with regard to interpretation of regulations, CNSC staff explained that the purpose of REGDOCs is to clarify how licensees can satisfy the requirements imposed by regulations. CNSC staff noted that this is one reason why licensees engage in the REGDOC revision process. For licensees with Licence Condition Handbooks, CNSC staff recommend adding the two REGDOCs as guidance.
43. The Commission enquired how CNSC staff had addressed the feedback that the regulatory documents were too prescriptive. CNSC staff stated that it is undertaking a quality control assessment of regulatory documents to ensure consistency in the language used with the goal of adding clarity in terms of what is prescriptive and what is performance-based.
44. The Commission noted that the majority of the consultation respondents were licensees and asked CNSC staff about its efforts to engage members of the public. CNSC staff said that it had informed the public of the consultation process using social media, its email subscription service, and posts on the CNSC website. The Commission enquired if CNSC staff had considered issuing plain language summaries of regulatory documents to improve ease of use. CNSC staff did not issue plain language versions of the

- radiation protection REGDOCs but noted that the CNSC's consultation process has evolved in recent years. CNSC staff said that, for future regulatory document revisions, it could implement the recent practice of holding orientation sessions to explain changes to the public.
45. The Commission asked how CNSC staff would assess the effectiveness of the REGDOCs after implementation. CNSC staff explained that REGDOCs are always open for comment. CNSC staff reviews each document every five years, or earlier if changes are required.
 46. Asked to comment on the REGDOC consultation process, representatives from OPG, Bruce Power, and NB Power expressed satisfaction with CNSC staff's efforts to consider input from industry. The representatives noted that CNSC staff had addressed their concerns during the consultation process.

Decision on REGDOC 2.7.1 and REGDOC 2.7.2, Volume I

47. The Commission approves REGDOC-2.7.1, *Radiation Protection* and REGDOC-2.7.2, *Dosimetry, Volume I: Ascertaining Occupational Dose*, for publication and use.
48. The Commission recognizes CNSC staff's extensive efforts to collaborate with stakeholders during the development of the new radiation protection REGDOCs.
49. The Commission encourages CNSC staff to provide plain language documents during the public consultation process for new draft regulatory documents to encourage public engagement.

DECISION

Amending the Class II Nuclear Facilities and Prescribed Equipment Regulations

The Commission considered this matter in a closed session because CMD 21-M22 contains prescribed information that is not publicly available.

50. In CMD 21-M22, CNSC staff recommended that the Commission make the *Regulations Amending the [Class II Nuclear Facilities and Prescribed Equipment Regulations](#)* to correct two minor discrepancies between the French and English versions of those regulations.

51. After considering the recommendations submitted by CNSC staff, the Commission makes the *Regulations Amending the Class II Nuclear Facilities and Prescribed Equipment Regulations*. Following the Commission's decision, the regulations are to follow the process to receive approval by the Governor-in-Council in accordance with the NSCA, and then publication.

DECISION

Closure of the Public Meeting

52. The public meeting closed at 3:35 P.M. The Commission convened for a closed session to consider CMD 21-M22 and the matters raised for its decision. These minutes reflect both the public portion of the meeting and the Commission's decisions taken as a result of the meeting.

McMillan,
Megan

Digitally signed by McMillan, Megan
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CN="McMillan, Megan"
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Date: 2021-08-11 12:46:57
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Recording Secretary

August 11, 2021

Date

Leblanc,
Marc

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CN="Leblanc, Marc"
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Secretary

August 11, 2021

Date

APPENDIX A

CMD	Date	e-Docs No.
21-M19	2021-05-07	6557907
Notice of Virtual Meeting of the Commission on Tuesday, June 8, 2021		
21-M20	2021-05-28	6573388
Agenda of the Meeting of the Canadian Nuclear Safety Commission (CNSC) to be held remotely on June 8, 2021		
21-M24	2021-06-07	6576542
Approval of the Minutes of Commission Meeting held on April 27, 2021		
21-M25	2021-04-21	6573431
<p>Updates on items from previous Commission proceedings</p> <p>Update from CNSC staff to provide clarifications on licensing requirements applicable to the transport of natural UF6 in Canada (follow up from December 8, 2020 Commission meeting)</p> <p>Written submission from CNSC Staff</p>		
21-M26	2021-0	6573447
<p>Information Items</p> <p>Update from CNSC staff on its Peterborough Public Engagement Plan (Action item from Record of Decision DEC 20-H2, March 2020 Public Hearing)</p> <p>Written submission from CNSC Staff</p>		
21-M21	2021-06-02	6576797
<p>Status Report</p> <p>Status Report on Power Reactors</p> <p>Written submission from CNSC Staff</p>		
21-M27	2021-06-01	6573420
<p>Event Initial Report</p> <p>Alberta Health Services: Exposure above regulatory limit of a Nuclear Energy Worker</p> <p>Written submission from CNSC Staff</p>		
21-M23	2021-05-21	6531018
<p>Decision Items</p> <p>REGDOC-2.7.1, Radiation Protection REGDOC-2.7.2, Dosimetry, Volume I: Ascertain Occupational Dose</p> <p>Written submission from CNSC Staff</p>		

21-M23.A	2021-	6529624
<p>Decision Items</p> <p>REGDOC-2.7.1, Radiation Protection REGDOC-2.7.2, Dosimetry, Volume I: Ascertaining Occupational Dose</p> <p>Presentation from CNSC Staff</p>		
21-M22	2021-05-20	6568216
<p>Decision Item</p> <p>Discussed In Closed-Session</p> <p>Regulations Amending the Class II Nuclear Facilities and Prescribed Equipment Regulations (to correct two minor discrepancies between the English and the French versions)</p>		