



Minutes of the Canadian Nuclear Safety
Commission (CNSC) Meeting held on
January 26 and 27, 2022

Minutes of the Canadian Nuclear Safety Commission (CNSC) meeting held virtually on Wednesday, January 26, 2022, starting at 1:00 p.m. EST and Thursday, January 27, 2022, starting at 10:00 a.m. EST. 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 determinations made as a result of the meeting.

Present:

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

D. Saumure, Registrar
L. Thiele, Senior General Counsel
R. Dranga, Recording Secretary
D. MacDonald, Recording Secretary

CNSC staff advisors were: R. Jammal, A. Viktorov, L. Casterton, C. Ducros, K. Heppell-Masys, A. Bellingham, A. Mathai, K. Lee, N. Tran and R. Ramsey

Other contributors were:

- NB Power: J. Nouwens and N. Reicker
- Bruce Power: M. Burton
- Ontario Power Generation: V. Bevacqua and D. Dickey
- Atomic Energy Canada Limited: F. Demarkar, A. MacDonald, M-É. Page, S. Bushby and J. Cameron
- Canadian Nuclear Laboratories: J. McBrearty, J. Griffin, M. Vickard, P. Boyle, P. Quinn and K. Schruder
- Ontario's Office of the Fire Marshal and Emergency Management: R. Kinchlea
- Regional Municipality of Durham: J. Kilgour and S. Struna
- Regional Municipality of York: K. Garpenfeldt
- City of Kawartha Lakes: B. Mayer
- Natural Resources Canada: M. Johnson

Constitution

1. With the notice of meeting [Commission member document \(CMD\) 22-M1](#) having been properly given and all permanent Commission members being present, the meeting was declared to be properly constituted.
2. Since the Commission meeting held December 15 and 16, 2021, [CMD 22-M1 through CMD 22-M9](#) were distributed to members. These documents are further detailed in Appendix A of these minutes.

Adoption of the Agenda

3. The agenda, [CMD 22-M2](#), was adopted as presented.

Chair and Registrar

4. The President chaired the meeting of the Commission, assisted by D. Saumure, Registrar; R. Dranga, Recording Secretary; and D. MacDonald, Recording Secretary.

Minutes of the CNSC Meetings Held in November and December 2021

5. The Commission had secretarially approved the minutes of the [November 23 and 25, 2021](#) (CMD 22-M3) and December 15 and 16, 2021 (CMD 22-M9) Commission meetings.

STATUS REPORT ON POWER REACTORS

6. With reference to [CMD 22-M4](#), the Status Report on Power Reactors, CNSC staff presented the following updates:
 - Bruce Power Nuclear Generating Station (NGS) Unit 7 has been returned to service following a planned maintenance outage and is operating at full power;
 - Ontario Power Generation's (OPG) Pickering NGS Unit 1 and Unit 4 are operating at 94% and 95% full power, respectively, due to fueling deficits;
 - New Brunswick Power's (NB Power) Point Lepreau NGS is operating at 99.9% full power; and
 - The implementation of the pre-placement and random testing requirements in [REGDOC-2.2.4: Fitness for Duty, Volume II: Managing Alcohol and Drug Use, Version 3](#) was put on hold

due to a January 21, 2022 Federal Court decision¹ to issue an interlocutory injunction that has the effect to temporarily prevent the implementation of these requirements until the Court has heard the merits of a judicial review application brought by the unions that are subject to the REGDOC testing and has made a decision on the constitutionality of the matter. CNSC staff noted that it would amend the Licence Condition Handbooks for nuclear power plants, if necessary.

7. The Commission asked for more information regarding the derating of Pickering NGS Units 1 and 4 due to fuel deficits. An OPG representative responded that OPG fuels its reactors every day to maintain optimum reactivity, following a reactivity management plan that considers fueling machine availability. The OPG representative noted that the fueling machines for Unit 1 were out of service as part of a planned outage, while those for Unit 4 were taken out of service due to an emergent issue. Thus, both units were derated, consistent with the reactivity management plan.
8. The Commission asked about the timeframe for CNSC staff's review of the licensees' validity analyses for the hydrogen uptake model for [pressure tubes](#), following the [September 3, 2021 meeting](#). CNSC staff stated that it had received information from the licensees on the ongoing results of their inspections and laboratory testing, and that CNSC staff was in the process of reviewing this information. CNSC staff expects to complete its review in the coming months and to provide the Commission with an update later in 2022. The Commission directed CNSC staff to provide a timeline for this topic at the next Commission meeting.
9. The Commission acknowledged Bruce Power's installation of a Lutetium-177 Isotope Production System (IPS) and asked for information regarding how the IPS would affect the operation of the reactor. A Bruce Power representative explained that Bruce Power's safety analysis, performed prior to installation of the system, determined that there would be a negligible impact since the targets are small. The Bruce Power representative noted that the safety analysis assessed a scenario where the targets remain in the reactor core for a period of 2 years, until a planned outage, with no impact on operations. CNSC staff concurred with the licensee's statements.
10. Asked about the implementation of lessons learned from the health care sector and the impact of the revised Health Canada guidelines related to COVID-19 on minimum shift complements, the licensees noted that they are aligning their COVID-19 policies with public health recommendations and applying lessons learned from health

¹ [Federal Court](#) File Number: T-1222-21

- officials. Despite the recent increase in COVID-19 cases, no impact to the minimum shift complement was noted, except for one instance at the Point Lepreau NGS. An NB Power representative noted that NB Power's emergency response team was affected for 6.5 hours on December 24, 2021, and that NB Power followed protocols to ensure that additional resources were in place.
11. The Commission noted that at the December 15, 2021 Commission meeting, Bruce Power had advised that it was awaiting commissioning of equipment it installed to address vibrations in the turbine steam supply system at Bruce NGS Unit 2. The Commission asked for an update on this matter. A Bruce Power representative responded that, following the installation, the vibrations shifted from the original area of concern to another area of the system. The Bruce Power representative stated that Bruce Power is conducting an overall system assessment and noted that Unit 2 will continue to operate until its planned outage in spring 2022.

UPDATES ON ITEMS FROM PREVIOUS COMMISSION PROCEEDINGS

Update from CNSC Staff on the Assessment of the Relevance of the Inclusion of Radionuclides as a Chemical of Mutual Concern

12. By way of a memo filed on December 2, 2021 ([CMD 22-M8](#)), CNSC staff provided an update regarding the assessment of the relevance of the inclusion of radionuclides as a chemical of mutual concern under Annex 3 of the Canada-United States Great Lakes Water Quality Agreement, as considered in the [2018 Pickering NGS renewal hearing](#) and in Commission Action Item #19575. The memo includes information on events since the previous update in December 2020, including the December 2021 meeting of the Great Lakes Executive Committee. The Commission is satisfied with the information provided by CNSC staff in CMD 22-M8 and anticipates that another update will be provided to the Commission via memo at the end of 2022.

INFORMATION ITEMS

Potassium Iodide Pill Working Group, Phase I Report

13. With reference to [CMD 22-M6](#) and [CMD 22-M6.A](#), CNSC staff presented the Phase I report of the [Potassium Iodide \(KI\) Pill Working Group \(KIPWG\)](#)². The KIPWG is comprised of

² The KIPWG was established in 2019 to address questions raised during the 2018 Pickering NGS relicensing hearing. Paragraphs 540 and 541 of the [Record of Decision](#) direct the creation of a KI working

representatives from OPG, the province of Ontario, local municipalities, and CNSC staff. The Phase I report details existing plans and associated responsible authorities for the emergency distribution of KI pills in the Pickering NGS Ingestion Planning Zone (IPZ). Regarding next steps, CNSC staff noted that Phase II will consider feasibility, the establishment of detailed plans, and further topics identified during Phase I. CNSC staff anticipated completion of the Phase II report in early 2023.

Discussion

14. The Commission asked why Indigenous Nations and communities are not part of the KIPWG or the related advisory committee. CNSC staff explained that participation in the advisory committee would not provide sufficient engagement and reported that it has instead communicated information on the KIPWG through existing meetings that the CNSC regularly conducts with Indigenous Nations and communities. With respect to participation on the working group, CNSC staff noted that the KIPWG supports expanding its engagement with Indigenous Nations and communities early in the Phase II process. The Commission strongly encourages the KIPWG to consider representation from Indigenous Nations and communities for Phase II.
15. Regarding the COVID-19 pandemic, CNSC staff explained that the KIPWG has discussed lessons learned from the pandemic, such as misinformation and how to provide information to the public. Municipal representatives from the KIPWG further highlighted insights in the logistics of rapid distribution to a large population, the need for collaboration with community partners, and the importance of advanced planning. On the topic of possible public anxiety around the ingestion of KI, CNSC staff noted that it was important that emergency workers have access to information to address concerns of the public, and that Phase II will include the development of such information. The Commission noted that it would be beneficial to hear from the Ontario Ministry of Health at the next KIPWG update to the Commission.
16. Asked about the feasibility of distributing a central stockpile of KI pills in the IPZ during an emergency, CNSC staff explained that Phase II will consider splitting the stockpile into the municipalities and that Ontario's Office of the Fire Marshal and Emergency Management (OFMEM) has, to date, not evaluated the timing of distribution. An OFMEM representative provided that 5.3 million people live within the Pickering NGS IPZ and noted that the entire IPZ would not require KI during an emergency. The OFMEM

- representative explained that the specific area within the IPZ that may require KI during an emergency will be informed by weather modelling. A representative of the Regional Municipality of Durham highlighted the stockpiling of KI at [Durham's reception centres](#) as an example to apply in other jurisdictions.
17. The Commission noted that the questions pertaining to KI pill distribution in the IPZ raised at the 2018 Pickering NGS renewal hearing will be addressed only as part of Phase II and expressed concern regarding the KIPWG timelines as they relate to the currently licensed end of commercial operations of the Pickering NGS in 2024. A representative of the Haliburton, Kawartha, Pine Ridge District Health Unit stated that the work of the KIPWG will also be relevant for the Darlington NGS IPZ. Asked about the possibility of expediting Phase II, CNSC staff explained that it would discuss with the KIPWG the possibility of producing some deliverables in advance of the Phase II report. CNSC staff added that it will need to remain flexible regarding the competing resources of pandemic response on many members of the KIPWG.
 18. The Commission appreciates the availability of members of the KIPWG to provide answers to Commission members' questions. The Commission is discouraged by the slow progress in addressing its direction from 2018. Further, the Commission is of the view that the information provided pertaining to the feasibility of distributing KI to residents of the IPZ during an emergency is insufficient. The Commission expects the KIPWG to expedite Phase II objectives, particularly those originating from the 2018 Pickering NGS renewal hearing. The Commission directs CNSC staff to provide an update on a plan to expedite these Phase II objectives at the next public meeting of the Commission.

Discussion on the Future of the Chalk River Laboratories

19. With reference to [CMD 22-M7](#), representatives of Atomic Energy Canada Ltd. (AECL) and Canadian Nuclear Laboratories (CNL) presented an information update on the future of the Chalk River Laboratories (CRL). AECL and CNL's presentation and associated [video](#) provided a general overview of the current CRL site and highlighted ongoing and future decommissioning, waste management, infrastructure, and science and technology projects.
20. The Commission noted that it was not considering any regulatory submissions at this time and would not engage on issues that are presently, or will be in the near future, before the Commission. This information item provided CNL and AECL with an opportunity to inform the Commission about the future plans for the CRL site in a general manner.

Discussion

21. Regarding decommissioning, the Commission asked about remediation, repatriation efforts, and the reactor facilities on the CRL site. A CNL representative stated that CNL's decommissioning process considers all hazards in remediation, including radiological contamination and asbestos. The CNL representative confirmed that most of the waste generated in decommissioning is non-radioactive and will be moved off site, while radiological waste will remain onsite. The CNL representative noted that no new materials that would require repatriation will be brought onsite, and that it will continue its efforts to repatriate remaining materials. Finally, the CNL representative explained that CNL expects a 10- to 15-year timeline for decommissioning the National Research Experimental (NRX) reactor, with the lower-risk MAPLE I and II reactors planned for decommissioning at a later date.
22. Asked where to find information on proposed CRL projects, an AECL representative explained that many of the projects are captured in AECL's [Corporate Plan Summary](#). A CNL representative added that CNL has provided the CNSC with a 5-year outlook of anticipated activities that may require consideration by the Commission. The Commission encourages AECL and CNL to consolidate their information related to probable future licensed activities in a single accessible location, as this would provide a clearer understanding.
23. The Commission noted the extent of the future changes to the CRL site and asked about factors that could affect CNL's plans. A CNL representative stated that commercial revenue accounts for half of the available funding and highlighted opportunities to work with industry partners. The CNL representative added that recruitment of staff is a priority, and that remote work allows for more flexibility.
24. Asked about ongoing science and technology initiatives at CRL, representatives from CNL and Natural Resources Canada (NRCAN) provided information on current areas of focus, including [hydrogen technologies](#), [small modular reactors](#), low dose radiation research, and fusion.
25. The Commission asked about international and domestic partnerships, including the role of CNL and AECL in the development of Canada's integrated waste management strategy. An NRCAN representative explained that NRCAN is responsible for the policy framework and that the role of waste owners is the eventual strategic implementation. An AECL representative stated that, as a waste owner, AECL contributes to the [Nuclear Waste](#)

- [Management Organization](#) (NWMO) public consultation process. A CNL representative described CNL’s working relationships with NRCan and the NWMO to ensure expert input regarding the unique CRL site. A CNL representative also highlighted CNL’s relationship with the United States Department of Energy, its support of the international CANDU industry, and the recent participation in [the National Laboratories Energy Summit](#).
26. On the topic of engagement with the public and Indigenous Nations and communities, CNL and AECL representatives provided information on recent relationship-building activities and public webinars. An AECL representative noted the availability of capacity funding to facilitate participation and stated that AECL is focused on meeting regularly with Indigenous Nations and communities to develop long-term relationship agreements and rebuild partnerships. A CNL representative highlighted:
- the building of guardian programs;
 - inclusion of Indigenous Nations and communities in the monitoring program at CRL;
 - improvements intended to make the supply chain more accessible to Indigenous Nations and communities;
 - the preparation of an Indigenous procurement policy; and
 - the first in a planned series of webinars, which included questions on the Near Surface Disposal Facility, SMRs, and CRL site resourcing.
27. The Commission appreciates the efforts of AECL, CNL, and NRCan representatives to provide clear information pertaining to the future of the CRL site and answer the questions of Commission members.

Review of the Regulatory Oversight Report Process

28. With reference to [CMD 22-M5](#), CNSC staff presented an update on its review of the Regulatory Oversight Report (ROR) process. CNSC staff’s presentation included background on the RORs, the results of the CNSC staff review, feedback received on the [ROR discussion paper](#), currently implemented improvements, and the proposed path forward. The proposed path forward involves the use of a more streamlined ROR that targets the Commission as the primary audience and the implementation of new engagement tools, such as dashboards, to inform members of the public and Indigenous Nations and communities. CNSC staff also noted a correction to page 30 of CMD 22-M5 pertaining to the definition of the “unacceptable” performance rating, which has been captured in [CMD 22-M5.A](#).

Discussion

29. The Commission asked how the proposed ROR process would meet the needs of both the Commission and the public, and what other regulators use. CNSC staff emphasised the need to use separate tools to meet the needs of different stakeholders. CNSC staff explained that the proposed dashboard graphic would be unique to each facility and could include links to more detailed information on the CNSC website. To meet the needs of the Commission, CNSC staff would produce a more efficient, streamlined annual ROR. Regarding tools used by other regulators, CNSC staff stated that the ROR is unique. CNSC staff noted that the United States Nuclear Regulatory Commission (USNRC) holds meetings with the public to discuss inspection findings and uses colour-coded graphical reporting cards to communicate licensee performance in a simple manner.
30. The Commission expressed its concerns pertaining to the timeliness of RORs and asked CNSC staff about the timelines for the implementation of a new process. CNSC staff explained that the proposed ROR process could help Commission members receive more timely information. Regarding implementation, CNSC staff noted that it would need to redirect resources from the existing ROR process into developing the new tools and mechanisms, such as graphics and the CNSC website. CNSC staff noted that this approach would be incremental, with some changes able to happen sooner.
31. On the topic of online publishing and webpage activity statistics, CNSC staff noted that the RORs are published on the CNSC website several months after being presented to the Commission, and roughly 10% of the webpage visits are to the French ROR documents. CNSC staff explained that the short average length of webpage visits indicates that the RORs are likely used to reference a specific piece of information. CNSC staff proposed placing the background information contained in the RORs, which does not change year-over-year, on the CNSC website so that it can instead be linked to in the ROR.
32. The Commission appreciates CNSC staff's efforts in preparing the information presented, answering Commission members' questions, and clearly identifying the Commission as the primary audience of the RORs. Further, the Commission values the systematic and thoughtful disposition of stakeholder comments by CNSC staff.

Decision

- 33. The Commission is satisfied that CNSC staff’s proposed path forward for the 2022 RORs presented in 2023 will ensure that the needs of the Commission, members of public, Indigenous Nations and communities, and other stakeholders continue to be met. On this basis, the Commission endorses CNSC staff’s proposed approach as outlined in CMD 22-M5. The Commission encourages CNSC staff to expedite the creation and implementation of the proposed communications tools, such as web-based dashboards, and begin to streamline upcoming RORs.
- 34. The Commission notes the need to provide its consolidated feedback regarding the desired content of the more streamlined ROR documents. The Commission directs CNSC staff to solicit this feedback in a structured manner through the Commission Registry in advance of the next public meeting of the Commission.

Closure of the Public Meeting

- 35. The public meeting closed at 2:13 p.m. EST. The Commission convened for a closed session to consider the matters raised for its decision.

Dranga, Ruxandra
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Recording Secretary

March 1, 2022

Date

MacDonald, Daniel
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Recording Secretary

March 1, 2022

Date

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Registrar

March 1, 2022

Date

APPENDIX A

CMD	Date	e-Docs No.
22-M1	2021-12-21	6697747
Notice of Virtual Meeting of the Commission on January 26 and 27, 2022		
22-M2	2022-01-12	6713911
Agenda of the Meeting of the Canadian Nuclear Safety Commission (CNSC) to be held remotely on January 26 and 27, 2022		
22-M3	2022-01-13	6719399
Approval of the Minutes of Commission Meetings held on November 23 and 25, 2021		
22-M9	2022-01-19	6723164
Approval of the Minutes of Commission Meetings held on December 15 and 16, 2021		
22-M8	2021-12-02	6714061
Update on an item from a previous Commission proceedings Update from CNSC staff on the assessment of the relevance of the inclusion of radionuclides as a chemical of mutual concern under Annex 3 of the Canada-United States Great Lakes Water Quality Agreement (Action item #19575) Written submission from CNSC Staff		
22-M4	2022-01-18	6719818
Status Report Status Report on Power Reactors Written submission from CNSC Staff		
22-M6	2022-01-12	6714752
Information Items Potassium Iodide Pill Working Group, Phase I Report Written submission from CNSC Staff		
22-M6.A	2022-01-19	6720713
Information Items Potassium Iodide Pill Working Group, Phase I Report Presentation from CNSC Staff		
22-M7	2022-01-12	6716626
Information Items Discussion on the Future of the Chalk River Laboratories Presentation from the Canadian Nuclear Laboratories and Atomic Energy of Canada Limited		

22-M5	2022-01-12	6716515
Information Items		
Review of the Regulatory Oversight Report Process		
Presentation from CNSC Staff		
22-M5.A	2022-02-11	6737756
Information Items		
Review of the Regulatory Oversight Report Process		
Supplementary submission from CNSC Staff – to correct errors in CMD 22-M5		