



Minutes of the Canadian Nuclear Safety
Commission (CNSC) Meeting held on
December 13 and 14, 2023

Minutes of the Canadian Nuclear Safety Commission (CNSC) meeting held in person and virtually on Wednesday, December 13, 2023, beginning at 8:30 a.m. EST, and Thursday, December 14, 2023, beginning at 9:00 a.m. EST at the Outaouais Room, 140 Promenade du Portage, Phase IV, Gatineau, Quebec. This meeting was webcast live via the CNSC website, and video archives are available on the CNSC website.

Present:

T. Berube, Acting President
A. Hardie
R. Kahgee
M. Lacroix
V. Remenda

M. Bacon-Dussault, Acting Commission Registrar
L. Thiele, Senior General Counsel
M. McMillan, Recording Secretary

CNSC staff advisors were: R. Jammal, K. Murthy, R. Richardson, A. Mathai, M. Hornof, K. Hazelton, M. Chirila, N. Petseva, R. Tennant, G. Khawaja, A. Levine, E. Dagher, F. Dagenais, S. Watt, L. Casterton, L. Hunter, S. Langille, M. Fabian Mendoza and T. Tarekegn

Other contributors were:

- Bruce Power: G. Newman, C. Mudrick, D. Lacroix, J. Scongack, J. Marshall and A. Kahgee
- Ontario Power Generation: K. Carew, J. Franke, C. John, K. Aggarwal, E. Tarle, D. Rogers, S. Preston, R. McCalla, K. Fairservice, A. MacDonald and T. Decker
- NB Power: J. Nouwens, S. Bagshaw, K. Duguay and J. Perley
- Hydro-Québec: P. Desbiens
- Emergency Management Ontario: R. Reid
- Environment and Climate Change Canada: D. Kim

Constitution

1. With the notice of meeting [Commission Member document \(CMD\) 23-M47](#) 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, [CMD 23-M35 to CMD 23-M37, and CMD 23-M50 to CMD 23-M52](#) were distributed to Commission Members. These documents are further detailed in Appendix A of these minutes.

Adoption of the Agenda

3. The revised agenda, [CMD 23-M49.A](#), was adopted as presented.

Chair and Registrar

4. The Acting President, Dr. T. Berube, chaired the meeting of the Commission, assisted by M. Bacon-Dussault, Acting Commission Registrar.

Participant Funding Program

5. In its *Notices of Participation at a Commission Meeting and Participant Funding*, the CNSC invited members of the public to intervene by way of written submission only regarding the [Regulatory Oversight Report for Uranium and Nuclear Substances Processing Facilities in Canada: 2022](#) and the [Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022](#), and by way of written submission with accompanying oral presentation regarding the [Regulatory Oversight Report for Canadian Nuclear Power Plants for 2022 and the mid-term update for Pickering Nuclear Generating Station \(NGS\)](#). In the spirit of reconciliation and in recognition of the Indigenous oral tradition for sharing knowledge, Indigenous Nations and communities were invited to also make oral presentations regarding CNSC staff's Regulatory Oversight Reports.
6. The CNSC announced the availability of funds through the [Participant Funding Program \(PFP\)](#) to assist in the review of CNSC staff's Regulatory Oversight Reports and the Pickering NGS mid-term report. A [Funding Review Committee](#) – independent of the CNSC – reviewed funding applications and made recommendations for funding to the eligible applicants.

Minutes of the Commission Meeting Held September 20-21, 2023

7. The minutes of the Commission meeting held on September 20 and 21, 2023 were approved secretarially in advance of this meeting. The Minutes of the Commission Meeting held on November 1 and 2, 2023 were not available at the time of this meeting and would be provided to the Commission for approval ahead of the next Commission meeting in February 2024.

STATUS REPORT ON POWER REACTORS

8. With reference to [CMD 23-M50](#), which includes the Status Report on Power Reactors, CNSC staff presented the following updates:
 - Ontario Power Generation (OPG) targeted December 15, 2023, to remove the public address (PA) system impairment that was declared on October 12, 2023
 - Pickering NGS Unit 1 was lowered to 98% full power on December 12, 2023 due to fuelling unavailability
 - Pickering NGS Unit 5 returned to 100% full power on December 1, 2023, following a service valve replacement discovered during governor valve safety related system testing
9. The Commission sought additional information on the status of the PA system impairment at the Darlington NGS. An OPG representative said that OPG was on track to remove the impairment by December 15, 2023 noting that extensive troubleshooting had impacted repair timelines. OPG provided information on its PA system repair strategy. The OPG representative clarified that the external public alert system remained fully functional and was not impacted by the internal PA system impairment.
10. The Commission asked Bruce Power for additional information on research and development activities concerning hydrogen equivalent concentration ([Heq]). A Bruce Power representative explained that its research and development activities were primarily focused on modelling [Heq] in the inlet and outlet regions of pressure tubes; other ongoing activities included testing unirradiated material for crack initiation, crack growth, and fracture toughness. The Bruce Power representative said that the research and development activities were on track for completion in 2026.

UPDATES ON ITEMS FROM PREVIOUS COMMISSION PROCEEDINGS

Update on the Unit 4 Primary Heat Transport Purification System Leak at Bruce Nuclear Generating Station A

11. With reference to [CMD 23-M52](#), CNSC staff provided an update on the compliance activities conducted following the primary heat transport (PHT) purification system leak at Bruce NGS A Unit 4 that occurred on April 25, 2023. CNSC staff previously reported to the Commission on the event in an Event Initial Report ([CMD 23-M20](#)) at the [June 28, 2023 Commission meeting](#),¹ during which the Commission directed CNSC staff to provide an update on the event at a future Commission meeting. CNSC staff reported that it was satisfied with the actions taken by Bruce Power both during and after the event, and that it was of the view that the safety of workers, the public and the environment was protected during the event and continues to be protected.
12. CNSC staff provided details on the compliance verification activities that it carried out in response to the event, including inspections. CNSC staff noted that all identified non-compliances² were of low-risk and that Bruce Power was taking appropriate corrective actions.
13. CNSC staff noted corrections to two errors on page 4 of CMD 23-M52 regarding the preventive maintenance frequency for pressure boundary hoses. Additionally, regarding its statement in CMD 23-M52 that “Bruce Power is on the right path to meeting regulatory requirements,” CNSC staff clarified that it is satisfied that Bruce Power was taking appropriate corrective actions to address the identified non-compliances.
14. With reference to [CMD 23-M52.1](#), Bruce Power provided an update on its actions following the event, including a root cause investigation and extent of condition inspections. Bruce Power noted that, following the extent of condition inspections, it repaired five leak detection beetles,³ added redundant detection mechanisms to critical locations, and replaced 32 PHT hoses. Bruce Power reiterated that no regulatory limits were reached or exceeded during the event and that it had made information on the event publicly available on its website.

¹ *Minutes of the Canadian Nuclear Commission Meeting Held on June 28, 2023*, CNSC, September 11, 2023.

² CNSC staff reported identifying 6 non-compliances regarding: procedure and flowsheet adequacy, procedural adherence, availability and readiness of personal protective equipment, use of dosimetry, spill response management, and Bruce Power’s emergency response program.

³ Leak detection beetles are the primary leak detection elements within a plant. Currently, these elements are designed as open circuits, which would close and alarm if a leak occurred.

15. Bruce Power explained that its root cause investigation identified two direct causes:

- the PHT purification filter return hose ruptured
- the ruptured PHT purification hose was not isolated until after Unit 4 was shut down and depressurized

The root cause investigation also identified two root causes:

- a gap between the pressure boundary and preventive maintenance programs with respect to hose replacements
- the absence of a program to manage and improve response to abnormal operation events

In addition to the PHT hose failure, Bruce Power noted that the local leak detection beetle had failed to alarm, which contributed to the duration of the event.

16. Bruce Power informed the Commission that, following the event, it developed a plan to address gaps and improve performance related to radiological and environmental safety, operational response, maintenance practices, organizational effectiveness, and emergency response. Bruce Power noted that it has also designed an enhanced leak detection beetle which will be implemented both online and during scheduled outages between 2024 and 2029.
17. Bruce Power also provided information on a pulse safety culture survey that it conducted to obtain employee feedback related to the event. Based on the results from 188 survey participants, Bruce Power developed safety culture goals along with an implementation action plan. Bruce Power noted that it will continue to use its safety culture monitoring program to track the progress of the action plan.
18. The Commission asked for clarification regarding the amount of heavy water released during the event. A Bruce Power representative explained that 135 megagrams⁴ (Mg) of heavy water (approximately 121 kilolitres [kL]) leaked from the PHT purification system during the event, but that the majority of the heavy water had been captured and returned to the system. Bruce Power estimated that up to 20 L of heavy water may have been released through an inactive drain.

⁴ 1 Mg equals 1,000,000 grams or 1,000 kilograms

19. The Commission asked for more information on CNSC staff's June 9, 2023 inspection. CNSC staff said that, during the inspection, it reviewed Bruce Power's spill maps and flowsheets. CNSC staff said that it observed 3 minor discrepancies in the documentation, all of which had since been corrected by Bruce Power.
20. The Commission noted that CNSC staff had reported that the highest dose received by a nuclear energy worker (NEW) because of the event was 1.98 mSv whereas Bruce Power had reported that it was 2.36 mSv. CNSC staff explained that the dose reported by Bruce Power was the preliminary dose determined immediately after the event and that the dose reported by CNSC staff was the final dose calculated after further assessment. A Bruce Power representative said that tritium inhalation during the event was the primary contributor to worker dose.
21. The Commission was satisfied with the information provided by Bruce Power and CNSC staff during this update. Action item #30587 is closed.

ACTION
#30587
Closed

INFORMATION ITEMS

Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Update of Licensed Activities for the Pickering NGS

22. With reference to [CMD 23-M36](#), [CMD 23-M36.A](#), and [CMD 23-M36.B](#), CNSC staff presented its *Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2022* (the NPGS ROR). The NPGS ROR summarizes licensees' safety performance at the following nuclear power plants and waste management facilities (WMFs) in the 2022 calendar year:
- OPG's Darlington NGS, which includes the Tritium Removal Facility and Retube Waste Processing Building
 - OPG's Darlington WMF, which includes the Retube Waste Storage Building
 - OPG's Pickering NGS and Pickering WMF
 - Bruce Power's Bruce A NGS and Bruce B NGS
 - OPG's Western WMF and Radioactive Operations Site-1 at the Bruce site
 - New Brunswick (NB) Power's Point Lepreau NGS which includes the Solid Radioactive WMF
 - Hydro-Québec's Gently-2 facilities

23. The NPGS ROR includes the following information:
- CNSC staff's regulatory oversight activities
 - operational highlights for each NPGS, including reportable events
 - CNSC staff's assessment of NPGS performance across all 14 [safety and control areas](#) (SCAs)
 - engagement with Indigenous Nations and communities
 - a summary of issues raised by intervenors during the 2021 NPGS ROR
 - other matters of regulatory interest including public engagement, financial guarantees, and the CNSC's Independent Environmental Monitoring Program (IEMP)
 - CNSC staff's perspective regarding OPG's Pickering NGS mid-term update

In addition, CNSC staff presented an update on the discovery of elevated hydrogen equivalent concentration in pressure tubes of reactors in extended operation.

24. CNSC staff reported that all nuclear power plants and WMFs operated safely in 2022. CNSC staff rated all SCAs for each NPGS as "satisfactory" except for the security SCAs at the Darlington NGS and the Pickering NGS, both of which were rated "below expectations".
25. Representatives from each of the NPGS licensees provided oral comments regarding the NPGS ROR. The licensee representatives also discussed safety performance and operational highlights for their facilities in 2022. Overall, the licensee representatives agreed with CNSC staff's conclusions in the NPGS ROR.
26. As had been directed in the [2018 licence renewal](#)⁵ for the Pickering NGS, OPG provided the Commission with a written submission and an oral presentation ([CMD 23-M36.1](#) and [CMD 23-M36.1A](#)) on licensed activities at the Pickering NGS during the first half of its current licence term (the Pickering NGS mid-term update). In its submissions, OPG provided an overview of its activities at the Pickering NGS over the past 5 years with a focus on nuclear safety, operating performance, emergency preparedness, environmental protection, public information, and Indigenous engagement. OPG also included a summary of future initiatives for the Pickering NGS including:

⁵ Record of Decision, *Application to Renew the Nuclear Power Reactor Operating Licence for the Pickering Nuclear Generating Station*, December 2018.

- OPG's application to operate the Pickering NGS Units 5-8 until 2026
 - the Pickering NGS refurbishment feasibility assessment
 - the transition of Pickering NGS to storage with surveillance state
27. Appendix H of the NPGS ROR (CMD 23-M36) provided the CNSC staff submission respecting the licensee's Pickering NGS mid-term update. The appendix includes a summary of Pickering NGS's safety performance ratings and of CNSC staff's regulatory oversight activities at the Pickering NGS since 2018. Based on CNSC staff's oversight activities, CNSC staff reported that OPG had safely operated the Pickering NGS throughout the past 5 years.
28. The Commission expects CNSC staff to keep it informed of OPG's progress with respect to improving its performance in the security SCA for the Darlington NGS and the Pickering NGS.

Interventions

29. With respect to the CNSC's [PFP availability for the 2022 NPGS ROR and OPG's Pickering NGS mid-term update](#), the Funding Review Committee (FRC) recommended that [up to \\$59,018.25 in participant funding](#) be provided to 6 PFP applicants. These applicants, along with their interventions, are listed below:
- Canadian Environmental Law Association ([CMD 23-M36.4](#) and [CMD 23-M36.4A](#))
 - Paul Sedran ([CMD 23-M36.5](#) and [CMD 23-M36.5A](#))
 - Nuclear Transparency Project ([CMD 23-M36.12](#) and [CMD 23-M36.12A](#))
 - Passamaquoddy Recognition Group Inc. ([CMD 23-M36.13](#))
 - Hiawatha First Nation ([CMD 23-M36.15](#))
 - Grand Conseil de la Nation Waban-Aki ([CMD 23-M36.16](#))

All PFP recipients, except for Hiawatha First Nation and the Grand Conseil de la Nation Waban-Aki, provided both written and oral interventions.

30. In addition to the interventions received from PFP recipients, the Commission also received the following interventions regarding the NPGS ROR and/or PNGS mid-term:
- Town of Saugeen Shores ([CMD 23-M36.2](#))
 - CANDU Owners Group Inc. ([CMD 23-M36.3](#))
 - Society of United Professionals ([CMD 23-M36.6](#))
 - Canadian Nuclear Association ([CMD 23-M36.7](#))
 - Kinectrics Inc. ([CMD 23-M36.8](#))

- Canadian Nuclear Workers' Council ([CMD 23-M36.9](#))
 - Mississaugas of Scugog Island First Nation ([CMD 23-M36.10](#))
 - Gordon Dalzell ([CMD 23-M36.11](#))
 - Barry Pettit and Chris Hill ([CMD 23-M36.14](#))
 - Grey Bruce Public Health ([CMD 23-M36.17](#))
 - Pickering Harbour Company Ltd. and Frenchman's Bay Harbour & Marine Service Company Ltd. ([CMD 23-M36.18](#))
 - Municipality of Kincardine ([CMD 23-M36.19](#))
31. To focus its questions during the meeting, the Commission had separate discussions on the NPGS ROR and the Pickering NGS mid-term update. As several oral interventions discussed both the NPGS ROR and the Pickering NGS mid-term update, there was some overlap in topics.

Interventions focused on the NPGS ROR

32. The Passamaquoddy Recognition Group Inc. (PRGI) provided the Commission with an oral presentation and written submission that focused on the Point Lepreau NGS. In its submissions, PRGI raised concerns related to the operating performance of the Point Lepreau NGS, including two unplanned reactor trips caused by electrical failures. PRGI also raised several issues that it had previously raised during the [2022 Point Lepreau NGS renewal hearing](#) including moderator tritium concentration and the suitability of condenser relief valves. Regarding the overall NPGS ROR, PRGI recommended that future RORs discuss developments in nuclear regulatory legal and policy developments as well as licensee compliance with the [United Nations Declaration on the Rights of Indigenous Peoples](#)⁶ (UNDRIP).
33. The Commission sought additional information pertaining to PRGI's intervention, including:
- how CNSC staff ensure that licensees comply with changes to law or policy
 - how the extended planning distances around Canadian NPGSs align with International Atomic Energy Agency (IAEA) guidance
 - the reliability of the electrical power system at the Point Lepreau NGS
 - the status of the Point Lepreau NGS moderator replacement project

⁶ *United Nations Declaration on the Rights of Indigenous Peoples*, The United Nations Department of Economic and Social Affairs, September 2007.

34. In response to the Commission's questions, CNSC staff provided the Commission with information, including:
- regulations are law and, as such, licensees are required to comply as soon as new or revised regulations come into force. Changes to regulations made by the Commission pursuant to its authority in the NSCA occur through the process set out in the *Statutory Instruments Act*⁷ and are published in the Canada Gazette, which includes a consultative period that the licensees are involved in.⁸
 - the size of the extended planning distance is based on the reactor technology. The IAEA guidance document referenced by PRGI is a lower-tiered technical document that is based on a 1,000 megawatt PWR reactor, not a CANDU reactor.⁹
35. In response to the Commission's questions, NB Power representatives provided the Commission with information, including:
- the electrical power system at Point Lepreau NGS has multiple levels of defence in depth to ensure the reliability of the power supply to the station.
 - NB Power has an integrated implementation plan commitment to replace or detritiate the Point Lepreau NGS moderator by 2028. NB Power is currently on track in the design phase of the project.
36. The Commission also asked for further information specific to Indigenous engagement and consultation, including NB Power's engagement with Indigenous Nations and communities and the efforts of each NPGS licensee to adopt UNDRIP in accordance with the Truth and Reconciliation Commission of Canada's Call to Action No. 92 (CTA 92).
37. Representatives from NB Power, Bruce Power, OPG, and Hydro-Québec described their respective organizations' engagement activities and initiatives to the Commission:
- an OPG representative said that CTA 92 formed the basis of OPG's reconciliation action plan, which includes commitments to increase Indigenous representation in OPG's workforce, to provide OPG staff with cultural awareness training, and to engage with a focus on obtaining free, prior, and informed consent

⁷ R.S.C., 1985, c. S-22.

⁸ Further information on the development of regulations under the *Nuclear Safety and Control Act* can be found on the [CNSC website](#).

⁹ Further information on the IAEA's documentation structure can be found on the [IAEA website](#).

- a Bruce Power representative said that Bruce Power has implemented CTA 92 in its hiring practices, its prioritization of early, community-specific engagement activities, and in its provision of cultural awareness training
 - an NB Power representative stated that NB Power is completing benchmarking activities with Indigenous Nations and communities to build a reconciliation plan in alignment with CTA 92
 - a Hydro-Québec representative detailed Hydro-Québec's Indigenous engagement efforts since 2019 and noted that engagement is a top priority in Hydro-Québec's Action Plan 2035
38. The Commission asked CNSC staff to describe its interpretation of “meaningful engagement.” CNSC staff explained that, from its perspective, meaningful engagement is the process of participating in a two-way dialogue where both sides work to understand each other. CNSC staff said that meaningful engagement starts by understanding a community's history, rights, interests, and concerns which then helps CNSC staff share appropriate information with that community. CNSC staff provided examples of engagement activities that it had completed with PRGI to support the CNSC's goal of meaningful engagement.
39. Representatives from NB Power, Bruce Power, OPG, and Hydro-Québec provided responses to what meaningful engagement means to the licensees. The representatives agreed that early and consistent two-way dialogue is critical to meaningful engagement. The Bruce Power representative highlighted the importance of providing Indigenous Nations and communities with adequate capacity. The OPG representative noted that meaningful engagement also includes learning about treaties and understanding the difference between engagement with rights-holders and other interested parties.
40. Regarding the matter of meaningful engagement, the Commission was encouraged by the licensees and CNSC staff's responses but noted that much work still needs to be done. The Commission agreed that it was important for licensees to develop a full understanding of treaties and to use appropriate language to describe engagement activities.
41. The Nuclear Transparency Project (NTP) provided the Commission with an oral presentation and written submission that raised concerns related to both the NPGS ROR and Pickering NGS mid-term update. Regarding the NPGS ROR, NTP's concerns related to the public availability of monitoring data, the level of detail in the NPGS ROR, and public

participation in the ROR process. Regarding the Pickering NGS mid-term update, NTP's concerns focused on the quality of information provided by OPG, the timing of the update, and the review time allotted to intervenors.

42. The Commission asked CNSC staff if the environmental data requested by NTP could be made available on the Open Government portal. CNSC staff clarified that the environmental data is available in the licensees' annual compliance reports which are available on the licensees' websites. Regarding data on the Open Government portal, CNSC staff explained that it is currently prioritizing the posting of data on nuclear facility releases and that it is also looking to expand the data posted on the portal. CNSC staff noted that making data available on the Open Government portal requires significant resources.

Interventions focused on the Pickering NGS mid-term update

43. Canadian Environmental Law Association (CELA) provided the Commission with an oral presentation and written submission that raised concerns related to both the NPGS ROR and the Pickering NGS mid-term update. Regarding the NPGS ROR, CELA requested additional information on radiation protection, outage lengths, radionuclide releases, climate change, human performance trends, and the removal of defective fuel bundles. Regarding the Pickering NGS mid-term update, CELA expressed concern that the update lacked substantive information on Pickering NGS's performance, emergency response plans, and plans to mitigate the impacts of climate change.
44. The Commission asked for additional information related to CELA's intervention, including:
- OPG's efforts to increase public awareness of potassium iodide (KI) pill¹⁰ availability around the Pickering NGS
 - how a severe precipitation event could impact the Pickering NGS
 - OPG's consideration of climate change in its safety assessments and how that consideration was validated by CNSC staff
 - the potential for a low-safety significant non-compliance to contribute to a future finding of higher safety significance

¹⁰ In the unlikely event of a nuclear emergency, KI pills are effective in reducing the threat of thyroid cancer for residents at risk of inhaling or ingesting radioactive iodine. More information on KI pills can be found on the [CNSC website](#).

45. OPG representatives provided responses to the Commission's questions, including:
- OPG participates in public awareness and education campaigns to inform the public on emergency preparedness and KI pills. More information is available on the [Prepare to be Safe website](#).
 - Pickering NGS buildings are protected from floodwater and there is no path for effluent from facility operations to enter the stormwater system during any precipitation event
 - OPG follows the requirements of [REGDOC-2.4.2, Probabilistic Safety Assessment \(PSA\) for Reactor Facilities](#)¹¹ and updates its PSA every 5 years. Per REGDOC-2.4.2, OPG includes current weather data as part of these updates.
46. In response to the Commission's questions, CNSC staff informed the Commission that:
- CNSC staff assess the safety significance and consequence of all non-compliances to determine if there is a potential for progression to a higher safety concern. CNSC staff also ensure that licensees implement timely corrective actions
 - CNSC staff regularly engages with Environment and Climate Change Canada (ECCC) and Natural Resources Canada to ensure that the climate data being used by licensees are up to date
47. In its intervention, CELA claimed that the Pickering NGS's performance data do not support OPG's statement that "Pickering NGS is exhibiting its strongest performance ever, including achieving its highest yearly production output". The Commission asked OPG to provide additional context to this statement. An OPG representative explained that CELA's comment was in response to the length of time that each reactor was in service, which does not consider that outage durations can be dependent on the scope of planned work. The OPG representative explained that reliability is best captured by forced loss rate¹² and that Pickering NGS's average forced loss rate over the previous 5 years was the best in its history.

¹¹ CNSC REGDOC-2.4.2, *Probabilistic Safety Assessment (PSA) for Reactor Facilities*, May 2022.

¹² Per [REGDOC-3.1.1, Reporting Requirements for Nuclear Power Plants, Version 2](#), forced loss rate is defined as "the ratio of all unplanned forced energy losses during a given period of time to the reference energy generation minus energy generation losses corresponding to planned outages and any unplanned outage extensions of planned outages, during the same period, expressed as a percentage."

48. Paul Sedran provided the Commission with an oral presentation and written submission that focused on the fitness-for-service of fuel channels at the Pickering NGS. Paul Sedran's submission discussed the calibration of calandria tube-pressure tube gap measurements and raised concern that the gap calibration approach may be technically unsound.
49. The Commission asked OPG to comment on Paul Sedran's concerns. An OPG representative explained that gap calibration, or "normalization" as it is called by OPG, is a process used to account for a known pressure tube aging mechanism which impacts the size of the gap between the pressure tube and the calandria tube. The OPG representative submitted that the technical basis for normalization is well documented by the industry and is supported by ongoing pressure tube surveillance activities. CNSC staff noted that it is satisfied with the current methodology used by OPG to assess pressure tube-to-calandria tube gap measurements and predictions.
50. Barry Pettit and Chris Hill, partial owners of the Pickering Harbour Company Ltd. (PHC), provided the Commission with an oral presentation and written submission that focused on a land dispute near the Pickering NGS. The intervenors claimed that land owned by the PHC falls within the Pickering NGS exclusion zone, which has prevented the PHC from developing the land for residential occupation. The intervenors claimed that the Pickering NGS operating licence was issued in violation of paragraph 3(c) of the [*Class I Nuclear Facilities Regulations*](#)¹³ which requires that an applicant for an operating licence must show "evidence that the applicant is the owner of the site or has authority from the owner of the site to carry on the activity to be licensed." The intervenors also requested a ruling from the Commission per Rule 20 of the [*CNSC Rules of Procedure*](#) (the Rules).
51. The PHC and the Frenchman's Bay Harbour and Marine Service Company Ltd. also provided the Commission with an oral presentation and written submission that focused on the overlap of the intervenors' property with the Pickering NGS exclusion zone. The intervenors requested that the Pickering NGS exclusion zone be recalculated as part of the [upcoming hearing](#) for OPG's application to operate PNGS Units 5-8 until 2026.

¹³ SOR/2000-204.

52. CNSC staff confirmed that the City of Pickering had previously raised this issue to CNSC staff in 2016 through formal correspondence. The City of Pickering had requested that the exclusion zone be reduced to exclude the properties in question and, in 2017, CNSC staff informed the City of Pickering that the city would have to make the request directly to OPG. According to the intervenors, a response was never received from OPG. An OPG representative stated that OPG does not intend to seek to modify the exclusion zone surrounding the Pickering NGS at this time.
53. The Commission appreciated the information presented by the intervenors. With respect to the request for a ruling, as Rule 20 of the Rules applies to public hearings and not public meetings of the Commission, the Commission will not consider the request at this time. As there is an upcoming hearing regarding the Pickering NGS, the Commission is of the view that this hearing would be the appropriate forum in which to consider issues that may be raised by intervenors respecting the licensed activities at the Pickering NGS, in a context where the Commission can make a regulatory decision based on the evidence and submissions made in that public hearing.

Discussion on the 2022 NPGS ROR

54. The Commission sought additional information on the four events related to packaging and transport reported by the licensees during 2022. CNSC staff explained that the events were all minor and involved issues such as minor damage to a package and anomalies with a package certificate. CNSC staff said that the licensees took appropriate corrective actions in response to the events.
55. The Commission, referencing the 2022 event initial report [CMD 22-M28](#), asked how Bruce Power would prevent future non-compliances related to the inadequate control of suspect¹⁴ end fittings. A Bruce Power representative said that Bruce Power had applied corrective actions to ensure that the suspect end fittings were properly quarantined and to reinforce the use of related procedures. The Bruce Power representative explained that a procedural change was not needed as the issue was with adherence to existing procedures.

¹⁴ In CMD 22-M28, Bruce Power explained that “suspect” is used to refer to items categorized as counterfeit, fraudulent, or suspect.

56. The Commission asked Hydro-Québec to comment on the possibility of new nuclear developments on the Gentilly-2 site. A Hydro-Québec representative responded that Hydro-Québec was evaluating potential nuclear power options on the Gentilly-2 site as part of its broader assessment of Québec's energy generation capacity.
57. The Commission asked CNSC staff how it would incorporate the [UNDRIP Action Plan](#)¹⁵ into its engagement and consultation efforts. CNSC staff responded that in alignment with the federal government, it had begun taking steps to such as expanding the availability of funding, working on a reconciliation action plan, and sharing objective scientific information with Indigenous Nations and communities with the goal of moving in the direction toward consent-based processes. CNSC staff also said that it was working on updating [REGDOC-3.2.2, Indigenous Engagement](#)¹⁶ with the goal of aligning its parameters with the principles set out by UNDRIP. The Commission encouraged CNSC staff to work expeditiously on this update.
58. The Commission sought additional information on waste management at nuclear power plants and WMFs, including:
- waste characterization and segregation practices
 - waste storage at the Western WMF
 - CNSC staff's oversight of NPGS waste management programs
59. In response to the Commission's questions on waste management:
- an OPG representative described OPG's process of characterizing and segregating waste
 - an OPG representative clarified that, at the Western WMF, low-level radioactive waste is stored in above-ground storage buildings and intermediate level waste is stored in below-ground containers
 - CNSC staff explained that it verifies licensees' compliance with waste management regulatory requirements by conducting inspections and assessing various aspects of each licensee's waste management programs such as the waste characterization process, waste acceptance criteria, and waste records

¹⁵ *The United Nations Declaration on the Rights of Indigenous Peoples Act Action Plan*, Department of Justice Canada, 2023.

¹⁶ CNSC REGDOC-3.2.2, *Indigenous Engagement*, February 2022.

60. The Commission asked for more information on a concern raised by CELA regarding releases from WMFs and tritium contamination underneath the Western WMF. CNSC staff confirmed that no significant releases of solid radioactive waste from WMFs had occurred. CNSC staff added that groundwater monitoring at the Western WMF before 2010 had identified higher tritium levels associated with contaminated condensation; however, this was not related to a release of solid radioactive waste.
61. The Commission inquired about the status of the Ontario Provincial Nuclear Emergency Response Plan (PNERP) and related KI pill distribution efforts. An Emergency Management Ontario (EMO) representative explained that the PNERP revision was delayed because the Province of Ontario was completing a three-year Nuclear Emergency Management Program Enhancement Project, which included the development of a new technical study and planning basis for the PNERP. The EMO representative noted that the results of the new technical study would impact emergency planning zones and KI pill distribution in Ontario. Public consultation for the revised PNERP was scheduled for spring and summer 2024, with a targeted approval date of December 2024.
62. Regarding the status of [REGDOC-2.2.4, *Fitness for Duty, Volume II: Managing Drug and Alcohol Use, Version 3*](#),¹⁷ CNSC staff explained that there was an application for judicial review challenging the REGDOC's provisions for random and pre-placement alcohol testing. The Federal Court decision concluded that the REGDOC was lawful.¹⁸ The applicants appealed this decision to the Federal Court of Appeal and that process is ongoing. The Court issued a stay against the implementation of the REGDOC's random and pre-placement alcohol and drug testing until a decision on the appeal is rendered, likely in 2024. CNSC staff noted that licensees have implemented the majority of the REGDOC's other requirements.
63. The Commission found the NPGS ROR to be informative and thorough. The Commission commended licensees for strong conventional health and safety performance and successful full-scale emergency exercises in 2022. The Commission also noted its expectation that OPG improve its "below expectations" security SCA ratings for the Darlington NGS and the Pickering NGS.

¹⁷ CNSC REGDOC-2.2.4, *Fitness for Duty, Volume II: Managing Drug and Alcohol Use, Version 3*, January 2021.

¹⁸ *Power Workers' Union v. Canada (Attorney General)* 2023 FC 793.

Discussion on the Pickering NGS Mid-Term Update

64. The Commission asked for additional information related to the Pickering mid-term update, including:
- the status of OPG’s feasibility study regarding the potential refurbishment of Pickering NGS Units 5-8
 - concerns raised by the NTP regarding intervention timelines for the Pickering NGS mid-term update
 - how members of the public can get involved in the CNSC’s IEMP
65. In response to the Commission’s question, an OPG representative explained that OPG had completed its refurbishment feasibility study for Pickering NGS Units 5-8 and that the study was under review by the Province of Ontario. The OPG representative confirmed that the study found that refurbishment was feasible, and that OPG would be able to provide additional information following a decision by the Province of Ontario.
66. Further in response to the Commission’s questions, CNSC staff said that:
- the IEMP has evolved to focus on trust building and improved collaboration with Indigenous Nations and communities. CNSC staff is working to improve public involvement with the program.
 - in alignment with standard practice for Commission meetings, intervenors were provided 60 days to submit an intervention from the date that OPG and CNSC staff’s materials were made available on the CNSC website. There may be an opportunity for extended timelines for future mid-term updates.
67. The Commission appreciated and was satisfied with the information provided by OPG, CNSC staff, and intervenors related to the Pickering NGS mid-term update. Action item #14544 is closed. **ACTION**
#14544
Closed
68. Following the public portion of the meeting on December 13, 2023, the Commission convened for two closed sessions related to the NPGS ROR. The first closed session was held with NB Power and pertained to a non-compliant finding of medium safety significance related to cyber security at Point Lepreau NGS. The second closed session was held with OPG to discuss details related to the “below expectations” security SCA ratings for the Darlington NGS and the Pickering NGS (CMD 23-

M36.C¹⁹). These portions of the Commission meeting were not open to the public and were held *in camera* because they related to “prescribed information” as defined in the [General Nuclear Safety and Control Regulations](#)²⁰ (GNSCR), in respect of which there are regulatory requirements and restrictions on disclosure.

69. During the Commission’s closed session with OPG, an OPG representative also provided an update on a security-related event that occurred during an OPG training activity. The Commission had requested this update during a closed session following the [March 2, 2023 Commission meeting](#). The Commission was satisfied with the update provided by OPG. Action item #27642 is closed.

ACTION
#27642
Closed

Regulatory Oversight Report on the Uranium and Nuclear Substance Processing Facilities in Canada: 2022

70. With reference to [CMD 23-M35](#) and [CMD 23-M35.A](#), CNSC staff presented its *Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022* (the UNSPF ROR). The UNSPF ROR summarizes the safety performance of the following facilities:
- Uranium processing facilities:
 - Cameco Corporation’s (Cameco) Blind River Refinery
 - Cameco’s Port Hope Conversion Facility (PHCF)
 - Cameco Fuel Manufacturing Inc.
 - BWXT Nuclear Energy Canada Inc. (BWXT NEC)
Toronto and Peterborough
 - Nuclear substance processing facilities:
 - SRB Technologies (Canada) Inc. (SRBT)
 - Nordion (Canada) Inc. (Nordion)
 - Best Theratronics Ltd. (BTL)
 - BWXT Medical Ltd. (BWXT Medical)
71. The UNSPF ROR included the following information:
- CNSC staff’s regulatory oversight of the relevant UNSPFs, including performance ratings
 - CNSC staff’s assessment of safety at the UNSPFs across all 14 SCAs, with a focus on the radiation protection, conventional health and safety, and environmental protection SCAs

¹⁹ CMD 23-M36.C contains prescribed information and is not available to the public.

²⁰ SOR/2000-202

- engagement with Indigenous Nations and communities
 - reportable events and other matters of regulatory interest, including public engagement and the CNSC's IEMP
 - a description of changes made to the format of the 2022 UNSPF ROR, including the inclusion of a new appendix which summarizes issues and recommendations submitted by Indigenous Nations and communities who intervened in the previous (2021) UNSPF ROR
72. In addition, CNSC staff presented the following information:
- key themes from interventions received regarding the UNSPF ROR, including Indigenous engagement and consultation, CMD content, and the overall ROR process
 - minor errata to the UNSPF ROR
 - an update on reactive inspections and issuance of a warning letter regarding the Port Hope Conversion Facility
73. CNSC staff reported that UNSPFs in Canada operated safely in 2022. CNSC staff rated licensee performance in all 14 SCAs as “satisfactory” for each of the facilities covered in the UNSPF ROR. Through compliance verification activities, CNSC staff confirmed that radiation protection programs at all facilities were effective at keeping doses as low as reasonably achievable (ALARA), environmental protection programs at all facilities were effective in protecting people and the environment, and conventional health and safety programs at all facilities continued to protect workers.
74. Representatives from each UNSPF licensee provided oral comments regarding the UNSPF ROR. Overall, licensee representatives agreed with CNSC staff's conclusions. Licensee representatives also highlighted both the safety performance of UNSPF facilities and their engagement with Indigenous Nations and communities in 2022.
75. Following the public portion of the meeting on December 13, 2023, the Commission convened for a closed session related to a security-related event reported by Cameco Corporation. 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 GNSCR, in respect of which there are regulatory requirements and restrictions on disclosure.

Interventions

76. With respect to the CNSC's [PFP availability for the 2022 UNSPF ROR](#), the FRC recommended that [up to \\$39,872.76 in participant funding](#) be provided to 3 applicants. These applicants, along with their interventions, are listed below:

- Algonquins of Pikwakanagan First Nation ([CMD 23-M35.5](#) and [CMD 23-M35.5A](#))
- NTP ([CMD 23-M35.6](#))
- Hiawatha First Nation ([CMD 23-M35.7](#))

In addition, the [CNSC awarded up to \\$25,212 in funding](#) to Kebaowek First Nation (KFN; [CMD 23-M35.3](#)) to meet with CNSC staff to discuss the UNSPF ROR and to participate in the Commission meeting.

77. In addition to the interventions received from PFP recipients, the Commission also received the following interventions regarding the UNSPF ROR:

- Canadian Nuclear Society ([CMD 23-M35.1](#))
- Canadian Nuclear Workers' Council ([CMD 23-M35.4](#))

78. Algonquins of Pikwakanagan First Nation (AOPFN) provided the Commission with an oral presentation and written submission that focused on the four UNSPFs located within AOPFN's traditional territory (SRBT, Nordion, BTL, and BWXT Medical). AOPFN provided recommendations regarding information sharing and engagement, incorporation of Indigenous Knowledge into monitoring and reporting programs, and the addition of an Aboriginal Rights SCA in CNSC staff's assessment of UNSPF operations. AOPFN also rated each of the four UNSPFs according to its proposed Aboriginal Rights SCA and raised specific concerns with a lack of engagement from Nordion and BTL.

79. The Commission asked CNSC staff for additional information pertaining to AOPFN's submission, including:

- how CNSC staff consider Indigenous engagement when assessing licensee performance
- how Indigenous Knowledge is incorporated into the CNSC's IEMP and licensee environmental monitoring programs
- how CNSC staff support Indigenous Nations and communities with their understanding of environmental monitoring data

80. In response to the Commission’s questions, CNSC staff explained that:
- [REGDOC-3.2.1, *Public Information and Disclosure*](#)²¹ provides the framework to assess a licensee’s ongoing engagement activities. REGDOC-3.2.1 is currently being updated alongside REGDOC-3.2.2.
 - CNSC staff engages with Indigenous Nations and communities to incorporate Indigenous Knowledge into the CNSC’s IEMP campaigns and understanding of the results within communities. CNSC staff also noted that AOPFN has made significant progress in establishing its Guardians program, which will include environmental monitoring initiatives.
81. Asked to describe engagement efforts with AOPFN, representatives from SRBT, Nordion, BTL, and BWXT Medical’s provided the Commission with details of their respective organization’s relevant engagement activities. Each representative also noted that their organization was willing to work with AOPFN regarding the Guardians program.
82. The Commission asked AOPFN if it had any concerns regarding the safety performance of the UNSPFs. An AOPFN representative confirmed that AOPFN was not concerned with the safety performance of the facilities but rather with the effectiveness of communication between licensees and AOPFN community members to combat fear and stigma.
83. Kebaowek First Nation (KFN) provided the Commission with an oral presentation and written submission in which KFN raised concerns including on the adequacy of Indigenous engagement, the transportation of nuclear waste, and the absence of consideration of UNDRIP or the impacts of climate change in the UNSPF ROR.
84. KFN raised specific concern with CNSC staff’s characterization of its own engagement efforts as “meaningful”. KFN is of the view that CNSC staff should not rank its own performance as meaningful and that it is up to Indigenous Nations and communities to determine whether or not they have been meaningfully engaged. The Commission agrees that it is not appropriate for CNSC staff to subjectively determine itself whether engagement is “meaningful” and directs CNSC staff to work with Indigenous Nations and communities to use appropriate language to describe CNSC staff’s engagement efforts in future RORs.

ACTION
by
December 2024

²¹ CNSC REGDOC-3.2.1, *Public Information and Disclosure*, May 2018.

85. The Commission sought additional information regarding KFN's submission, including:
- an update on the status of the upgrade to the PHCF sanitary sewer system and CNSC staff's oversight of the project
 - more detail regarding the 3 notices of non-compliance issued to BTL for the "frivolous posting of radiation symbols"
 - CNSC staff's capacity for engagement with Indigenous Nations and communities
 - how the impacts of climate change are managed for UNSPFs
86. In response to the Commission's questions, a Cameco representative informed the Commission that Cameco has completed significant repairs to the PHCF sewer infrastructure and is continuing repair efforts as part of Cameco's ongoing Vision in Motion project.
87. In response to the Commission's questions, CNSC staff explained that:
- Cameco is required to submit an annual progress report to the CNSC on its Vision in Motion project, which includes repairs to the PHCF sanitary sewer. CNSC staff also request periodic project updates and conduct on-site inspections.
 - the notices for "frivolous posting of radiation symbols" were issued after CNSC inspectors found radiation signage posted on rooms in which no radioactive materials were present. BTL has removed the inaccurate signs and updated its procedures to prevent reoccurrence.
 - the CNSC has adequate resources and processes in place to ensure that sufficient staffing is maintained to fulfill the CNSC's engagement responsibilities.
 - consideration of climate change is incorporated throughout the CNSC's regulatory framework and is required as part of each facility's environmental risk assessment and safety analysis.
88. On the topic of climate change, CNSC staff acknowledged that there is room for improvement regarding its communication with the public about climate change considerations. CNSC staff said that it would include a climate change section in its environmental protection review reports, which are updated on a 5-year cycle in alignment with the environmental risk assessments. CNSC staff also noted that it is working on adding a climate change landing page to the CNSC website in 2024.

Discussion

89. The Commission asked for further information on the following matters related to the UNSPF ROR:
- licence limits for atmospheric emissions of uranium fluoride and ammonia
 - the 2 occasions that the beryllium occupational exposure limit was exceeded at the BWXT NEC Peterborough facility in 2022
 - tritium emissions from SRBT and the related impacts to groundwater
 - BRR's performance in 2022
 - the sewer system in the municipality of Port Hope
 - how municipal sewage treatment facilities manage effluent from UNSPF facilities
90. In response to the Commission's questions, CNSC staff informed the Commission that:
- the licence limits for atmospheric emissions of uranium fluoride and ammonia are based on facility type and are licence-specific
 - CNSC staff verify that UNSPF licensees have adequate controls in place to manage effluent within regulatory limits
91. The UNSPF licensee representatives provided the following responses to the Commission's questions:
- in response to the 2 beryllium occupational exposure exceedances, BWXT NEC improved ventilation and increased monitoring. Though BWXT NEC is confident that the ventilation improvements have been effective, its workers will continue to wear respirators until more data is collected.
 - in 2022, SRBT's tritium releases were well below the licence limit
 - tritium groundwater contamination at the SRBT site is the result of past operations during heavy precipitation events. In 2007, SRBT changed its operating procedures and groundwater conditions have since improved.
 - Cameco's BRR received 23 notices of non-compliance in 2022, most of which were low risk and related to documentation issues. BRR had the highest dose to a NEW and the highest concentration of uranium in ambient air of any UNSPF in 2022, though both values were well below regulatory limits and within the range of BRR's performance over the past 5 years.

- Port Hope has separate sanitary and storm sewer systems
 - the UNSPF licensees do not rely on municipal sewage treatment facilities to manage effluent; effluent from each UNSPF is treated onsite to ensure that it is within release limits prior to release
92. The Commission noted its satisfaction with the performance of the UNSPF licensees in 2022. Referencing an incident when Cameco staff interfered with a CNSC inspection at the PHCF, as detailed in section 7.2 of CMD 23-M35, the Commission reinforced its expectation that licensees fully cooperate with CNSC inspectors during all inspections.
93. Following the public portion of the meeting on December 13, 2023, the Commission convened for a closed session related to a security-related event reported by Cameco Corporation. 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 GNSCR, in respect of which there are regulatory requirements and restrictions on disclosure.

Discovery of Inaccuracies Between Paper Records and Screening Tests for Thyroid Monitoring at Vancouver General Hospital

94. With reference to [CMD 23-M51.A](#), CNSC staff provided an oral update regarding an event at the Vancouver General Hospital involving the falsification of thyroid monitoring records by the site Radiation Safety Officer. CNSC staff provided updated information from the licensee, Vancouver Coastal Health (VCH), on the number of NEWs impacted by the event. VCH confirmed that 9 NEWs missed between 1 and 4 thyroid screenings and 3 NEWs had their thyroid screening records falsified. CNSC staff also reported that the VCH had audited four of its other hospital sites as requested by CNSC staff. CNSC staff reviewed the results of the audits and found that the issue was isolated to the Vancouver General Hospital.
95. The Commission sought additional information on enforcement action taken by CNSC staff. CNSC staff, noting the complexity of the incident, stated that it was in the process of considering the appropriate enforcement action. A VCH representative added that the Radiation Safety Officer was put on suspended leave following the discovery of falsified records and had since returned to work.

96. The Commission noted that the falsification of records is unacceptable and underscored the importance of proper radiation safety practices.
97. The Commission directed CNSC staff to include the following in CNSC staff's final report on the matter:

- verification of the extent to which thyroid screening records were falsified
- a discussion of potential impacts on the families of workers who missed thyroid screenings

ACTION
by
Fall 2024

Regulatory Oversight Report on the Uranium Mines and Mills in Canada: 2022

98. With reference to [CMD 23-M37](#) and [CMD 23-M37.A](#), CNSC staff presented its *Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022* (the UMM ROR). The UMM ROR summarizes the safety performance of the following uranium mines and mills that were licensed to operate in 2022:
- Cameco's Cigar Lake Mine (Cigar Lake)
 - Cameco's McArthur River Mine (McArthur River)
 - Cameco's Rabbit Lake Mine and Mill (Rabbit Lake)
 - Cameco's Key Lake Mill (Key Lake)
 - Orano Canada Inc.'s (Orano) McClean Lake Mine and Mill (McClean Lake)
99. The UMM ROR includes the following information:
- an overview of CNSC staff's regulatory oversight activities
 - an overview of recent operational activities at each UMM
 - CNSC staff's assessment of performance for each UMM across all 14 SCAs, with a focus on the radiation protection, conventional health and safety, and environmental protection SCAs
 - engagement with Indigenous Nations and communities
 - reportable events and other matters of regulatory interest including public engagement and the CNSC's IEMP
 - a new appendix summarizing the status of issues raised by intervenors regarding the previous (2021) UMM ROR
 - a dashboard summarizing the results of the UMM ROR

100. In addition, CNSC staff's presentation provided:
- key themes from interventions received regarding the UMM ROR, including Indigenous engagement and consultation and public access to reporting data
 - minor errata to the UMM ROR
 - an update on CNSC staff's collaboration with the Province of Saskatchewan
 - an update on the 2022 Inspector's Order issued to Cameco regarding the volume of waste rock in Cigar Lake's Stockpile 'C'
 - an update on the 2023 Inspector's Order issued to Cameco regarding the use of expired personal protective equipment (PPE) by the Rabbit Lake Emergency Response Team
101. In 2022, CNSC staff rated all SCAs for each UMM as "satisfactory" except for the management system and radiation protection SCAs at Cigar Lake, which were both rated "below expectations".
102. CNSC staff concluded that, in 2022, workers at each facility were protected from radiation and conventional health and safety hazards, and that there were no environmental releases that could harm the environment or the health and safety of people.
103. Representatives from Cameco and Orano provided the Commission with oral comments on the UMM ROR. The representatives noted their organizations' agreement with the conclusions of the UMM ROR, provided additional information on the activities of their respective organizations in 2022, and highlighted their organizations' commitments to meaningful relationship building with Indigenous Nations and communities. The Cameco representative also acknowledged the "below expectations" SCA ratings for Cigar Lake.

Interventions

104. With respect to the CNSC's [PFP availability for the 2022 UMM ROR](#), the FRC recommended that [up to \\$109,801.70 in participant funding](#) be provided to 4 applicants. These applicants, along with their interventions, are listed below:
- English River First Nation ([CMD 23-M37.4](#))
 - Ya'thi Néné Land and Resource Office ([CMD 23-M37.6](#) and [CMD 23-M37.6A](#))
 - Kineepik Métis Local #9 ([CMD 23-M37.9](#))
 - NTP ([CMD 23-M37.8](#))

105. In addition to the interventions received from PFP recipients, the Commission also received the following interventions regarding the UMM ROR:
- Saskatchewan Mining Association ([CMD 23-M37.1](#))
 - Athabasca Joint Engagement and Environmental Subcommittee ([CMD 23-M37.2](#))
 - Canadian Nuclear Association ([CMD 23-M37.5](#))
 - Canadian Nuclear Workers' Council ([CMD 23-M37.7](#))
 - Saskatchewan Ministry of Governmental Relations ([CMD 23-M37.10](#)).
106. English River First Nation (ERFN) provided the Commission with an oral presentation and written submission that included a report by R. Kusch, an environmental scientist hired by ERFN to review the technical aspects of the UMM ROR. The report reviewed the findings of the UMM ROR and provided several recommendations and requests for clarification. ERFN reported that it had no reason to object to CNSC staff's conclusions in the UMM ROR.
107. The Commission sought additional information regarding ERFN's submission, including on:
- R. Kusch's recommendation regarding environmental monitoring results and public risk perception
 - arsenic sampling completed in Seru Bay
 - any potential connection between mining activities and cancer rates in local communities
 - the perception of cancer risk by ERFN community members
108. In response to the Commission's question, R. Kusch clarified that the intent of their recommendation was for CNSC staff to better illustrate how the data being collected are meant to reassure the public and Indigenous Nations and communities of their safety in terms of air quality and the safety of country foods.
109. CNSC staff provided responses to the Commission's questions, including:
- CNSC staff and Cameco have both conducted arsenic sampling at Seru Bay. CNSC staff verified that arsenic levels are below water quality guidelines and are relatively stable. A Saskatchewan Health Authority (SHA) representative agreed with CNSC staff.

- the regulatory dose limit for a member of the public of 1 mSv/yr is set low enough that a person would not be at risk of developing cancer from receiving a dose at or below the limit. Environmental monitoring has shown that public doses from UMM operations in Canada are well below the regulatory dose limit. An SHA representative confirmed that public monitoring has shown no link between UMM activities and local cancer rates.
 - CNSC staff is on track to sign terms of reference with ERFN in early 2024, which would help improve communication and understanding with the community
110. The Commission noted its appreciation of ERFN's detailed intervention and of ERFN's efforts to continue relationship building with the CNSC, including through the IEMP. ERFN confirmed its intention to participate in the 2024 IEMP campaign.
111. Kineepik Métis Local #9 (KML) provided the Commission with an oral presentation and written submission that focused on the use of Indigenous Valued Ecosystem Components in environmental assessments for new mining developments. During its presentation, KML noted its appreciation for the increasing support from the CNSC, UMM licensees, and the provincial government regarding engagement efforts and capacity funding. KML also expressed its view of the importance of developing science, technology, engineering, and mathematics (STEM) capacity in Indigenous Nations and communities so that community members may better understand the operation and impact of UMM facilities.
112. A Cameco representative provided information on various resources that Cameco had offered to Indigenous Nations and communities. An Orano representative explained that Orano provides ongoing support for educational institutions in Saskatchewan.
113. The Commission asked KML if it had any concerns regarding the safe operation of the UMM facilities. A KML representative explained that they had not heard safety concerns from KML community members.
114. Ya'thi Néné Land and Resource Office (YNLR) provided the Commission with an oral presentation and written submission that focused on its engagement with CNSC staff. YNLR recommended the addition of a new SCA for community comprehension, raised concerns regarding the safety of country foods around the Beaverlodge site, and noted its view that YNLR's concerns on recent licence renewal files were not fully

heard by CNSC staff. YNLR noted that it is looking forward to continuing collaboration with CNSC staff through its terms of reference.

115. The Commission sought additional information regarding YNLR's submission, including on:
 - whether guidance is available to assist licensees in determining the effectiveness of their engagement activities
 - use of the word "safe" to describe the environment around the decommissioned Beaverlodge site
 - how CNSC staff consider cumulative effects in its oversight activities

116. In response to the Commission's questions, CNSC staff informed the Commission that:
 - REGDOC-3.2.2 provides guidance on engagement to licensees whose application has the potential to raise the Crown's duty to consult. CNSC staff encourages all licensees to communicate with Indigenous Nations and communities to understand how they wish to be engaged.
 - CNSC staff appreciated the feedback from YNLR regarding use of the word "safe" and noted that it will work to use more specific language in the future
 - though cumulative effects are primarily considered during environmental assessments or impact assessments, CNSC staff also considers cumulative effects when reviewing the results of environmental risk assessments, IEMP campaigns, and other monitoring programs

117. Lac La Ronge Indian Band (LLRIB) provided the Commission with an oral presentation and written submission ([CMD 23-M37.3](#)) that expressed LLRIB's support for Cameco and its UMM operations, noting that Cameco is an experienced and qualified operator. LLRIB reported that it signed a collaboration agreement with Cameco in 2017 that has supported LLRIB's community programs and relationship building with Cameco.

118. The Commission asked if LLRIB's community had any concerns regarding the safety of UMM operations. A representative from LLRIB said that LLRIB does not have any safety concerns pertaining to the facilities. The LLRIB representative noted that many LLRIB community members are employed by Cameco or Cameco contractors and have seen Cameco demonstrate its commitment to safety.

Discussion

119. The Commission asked for further information on the following matters related to the UMM ROR:
- the increase in notices of non-compliance issued to UMM licensees in 2022
 - the two “below expectations” SCA ratings at Cigar Lake
 - where the volume of waste rock removed from Cigar Lake’s Stockpile ‘C’ had been moved
 - CNSC staff’s resources and compliance enforcement tools
 - arsenic levels in Cigar Lake’s effluent
 - how pH level affect effluent from UMM facilities
 - environmental monitoring of blueberries near McArthur River
120. Representatives from the UMM licensees informed the Commission that:
- Cameco is committed to improving its two “below expectations” SCA ratings at Cigar Lake.
 - the excess waste rock from Cigar Lake’s Stockpile ‘C’ is being crushed for use as aggregate in concrete for construction purposes and in underground mining. Cameco is aiming to reach the targeted stockpile volume of 400,000 m³ in the third quarter of 2024.
 - the concentration of arsenic in Cigar Lake’s effluent varies as the concentration of arsenic varies throughout the ore body. Despite this variation, arsenic in Cigar Lake’s effluent remained below discharge limits.
121. CNSC staff provided the following responses to the Commission’s questions:
- the increase in notices of non-compliance issued to UMM was due to multiple factors including increased CNSC oversight during the restart of Key Lake and McArthur River, as well as the two “below expectations” SCA ratings at Cigar Lake
 - Cameco provided an action plan with respect to the two “below expectations” ratings. Only one item remained open as of November 2023.
 - CNSC staff will continue to monitor Cameco’s activities to reduce the volume of Cigar Lake Stockpile ‘C’
 - CNSC staff described its regulatory enforcement tools as set out by the NSCA and its regulations and noted that the CNSC has sufficient resources to fulfill its regulatory oversight obligations

- pH level affects whether certain metals dissolve in water or precipitate out to sediment
 - blueberry stems are sampled as part of the CNSC's IEMP and Cameco's environmental monitoring at McArthur River
122. Further regarding the environmental monitoring of blueberries, CNSC staff also provided information on a recent study completed by a CNSC staff member which compared the quality of blueberries grown in the Athabasca Basin to those found in Ontario grocery stores. CNSC staff said that the study found that all tested blueberries were safe to eat; however, blueberries from the Athabasca Basin had lower levels of most contaminants.
123. The Commission noted that, during the June 7-8, 2023 public hearing for [Cameco's application to renew its uranium mill licence for Key Lake](#), the Commission had requested that additional information concerning the movement of uranium in groundwater under Key Lake be included in future UMM RORs. The Commission noted that it was looking forward to an update on the status of the contaminant plume, as well as its migration mechanism, in the next UMM ROR.
124. Regarding UMM operations in 2022, representatives from the Saskatchewan Ministry of Environment and the Saskatchewan Ministry of Labour Relations and Workplace Safety noted that their organizations also inspected the UMM facilities in 2022, and that they did not have safety concerns with the operation of the facilities.
125. The Commission recognized the quality of the UMM ROR and expressed its appreciation for the information provided by CNSC staff, licensees, and intervenors during the question period. The Commission noted that it expects to see improvement from Cameco regarding its performance in the management system and radiation protection SCAs.
126. The Commission acknowledged the effort that engagement asks of Indigenous Nations and communities, particularly in light of UNDRIP and CTA 92. The Commission noted that it is encouraged by the efforts of CNSC staff and by the commitments that it heard from both CNSC staff and licensees in this regard.

Closure of the Public Meeting

127. The public meeting closed at 4:43 p.m. EST on December 14, 2023. These minutes reflect both the public meeting itself and the Commission's consideration in the closed portion of the meeting.

McMillan
Megan



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Recording Secretary

Salmon,
Candace



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c=Salmon, Candace
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Commission Registrar

APPENDIX A

23-M47	2023-11-20	7168034
Notice of Meeting of the Commission on December 13 and 14, 2023		
23-M49	2023-11-22	7161644
Agenda of the Meeting of the Canadian Nuclear Safety Commission (CNSC) to be held on December 13 and 14, 2023		
23-M49.A	2023-12-07	7181483
Revised agenda of the Meeting of the Canadian Nuclear Safety Commission (CNSC) to be held on December 13 and 14, 2023		
23-M48	2023-11-02	7162446
Approval of the Minutes of Commission Meetings held on September 20 and 21, 2023		
23-M50	2023-12-04	7180539
Status Report		
Status Report on Power Reactors		
Written submission from CNSC Staff		
23-M52	2023-11-28	7172376
Updates on an item from a previous Commission proceeding		
Bruce Power: Update on the Unit 4 Primary Heat Transport Purification System Leak at the Bruce Nuclear Generating Station A		
Written submission from CNSC Staff		
23-M52.1	2023-11-24	7175081
Updates on an item from a previous Commission proceeding		
Bruce Power: Update on the Unit 4 Primary Heat Transport Purification System Leak at the Bruce Nuclear Generating Station A		
Written submission from Bruce Power		
23-M36	2023-08-31	7118809
Information Items		
Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station		
Written submission from CNSC Staff		

23-M36.A	2023-12-05	7181055 - English 7181362 - French
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Presentation from CNSC Staff</p>		
23-M36.B	2023-12-06	7180562
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Supplementary submission from CNSC Staff</p>		
23-M36.C	2023-12-01	7177652 - Protected
<p>IN CLOSED SESSION</p> <p>Ontario Power Generation – Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022</p> <p>Written submission from CNSC Staff on security events related to Ontario Power Generation</p>		
23-M36.13	2023-10-30	7157796
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from Passamaquoddy Recognition Group Inc.</p>		
23-M36.12	2023-10-30	7157789
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from Nuclear Transparency Project</p>		
23-M36.12A	2023-12-06	7182357
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Presentation from Nuclear Transparency Project</p>		

23-M36.1	2023-08-31	7118901
Information Items		
Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station		
Written submission from Ontario Power Generation		
23-M36.1A	2023-12-06	7182251
Information Items		
Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station		
Presentation from Ontario Power Generation		
23-M36.1B	2023-12-06	Protected
IN CLOSED SESSION		
Ontario Power Generation – Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022		
Written submission from Ontario Power Generation		
23-M53	2023-12-04	7180496 - Protected
IN CLOSED SESSION		
Security event reported by Cameco Corporation		
Written submission from CNSC Staff		
23-M36.4	2023-10-30	7157781
Information Items		
Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station		
Written submission from the Canadian Environmental Law Association		
23-M36.4A	2023-12-05	7181384
Information Items		
Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station		
Presentation from the Canadian Environmental Law Association		
23-M36.5	2023-10-30	7157801
Information Items		
Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station		
Written submission from Paul Sedran, RESD Inc.		

23-M36.5A	2023-12-05	7181450
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Presentation from Paul Sedran, RESD Inc.</p>		
23-M36.14	2023-10-30	7157952
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from Barry Pettit and Chris Hill</p>		
23-M36.18	2023-10-30	7167980
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Pickering Harbour Company Limited, Frenchman's Bay Harbour & Marine Service Company Limited</p>		
23-M36.2	2023-10-30	7157980
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Town of Saugeen Shores</p>		
23-M36.3	2023-10-30	7157994
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from CANDU Owners Group Inc.</p>		
23-M36.6	2023-10-30	7157832
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Society of United Professionals</p>		

23-M36.7	2023-10-30	7157843
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Canadian Nuclear Association</p>		
23-M36.8	2023-10-30	7157871
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from Kinectrics Inc.</p>		
23-M36.9	2023-10-30	7157876
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Canadian Nuclear Workers' Council</p>		
23-M36.10	2023-10-30	7157880
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Mississaugas of Scugog Island First Nation</p>		
23-M36.11	2023-10-30	7157902
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from Gordon Dalzell</p>		
23-M36.15	2023-10-30	7162363
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Hiawatha First Nation</p>		
23-M36.16	2023-11-06	7162375
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Grand Conseil de la Nation Waban-Aki</p>		

23-M36.17	2023-10-27	7164667
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Grey Bruce Public Health</p>		
23-M36.19	2023-10-20	7170061
<p>Information Items</p> <p>Regulatory Oversight Report on Nuclear Power Generating Sites in Canada: 2022 and Mid-Term Report on Ontario Power Generation's Pickering Nuclear Generating Station</p> <p>Written submission from the Municipality of Kincardine</p>		
23-M35	2023-08-21	7045516
<p>Information Items</p> <p>Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022</p> <p>Written submission from CNSC Staff</p>		
23-M35.A	2023-11-28	7146503 – English 7176560 – French
<p>Information Items</p> <p>Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022</p> <p>Presentation from CNSC Staff</p>		
23-M35.5	2023-10-30	7158490
<p>Information Items</p> <p>Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022</p> <p>Written submission from the Algonquins of Pikwakanagan First Nation</p>		
23-M35.5A	2023-12-05	7181486
<p>Information Items</p> <p>Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022</p> <p>Presentation from the Algonquins of Pikwakanagan First Nation</p>		

23-M35.3	2023-10-30	7158522
Information Items		
Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022		
Written submission from the Kebaowek First Nation		
23-M35.1	2023-10-30	7158510
Information Items		
Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022		
Written submission from the Canadian Nuclear Society		
23-M35.4	2023-10-30	7158524
Information Items		
Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022		
Written submission from the Canadian Nuclear Workers' Council		
23-M35.6	2023-10-30	7158499
Information Items		
Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022		
Written submission from the Nuclear Transparency Project		
23-M35.7	2023-11-06	7162442
Information Items		
Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2022		
Written submission from the Hiawatha First Nation		
23-M51.A	2023-11-24	7174725
Event Initial Report		
Vancouver General Hospital – Discovery of inaccuracies between paper records and screening test for thyroid monitoring		
Written submission from CNSC Staff		
23-M37	2023-09-12	7117524
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from CNSC Staff		

23-M37.A	2023-12-05	7181453 – English 7181445 – French
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Presentation from CNSC Staff		
23-M37.4	2023-11-12	7167633
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from the English River First Nation		
23-M37.9	2023-11-14	7167273
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from the Kineepik Métis Local #9		
23-M37.6	2023-11-13	7167412
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from the Ya'thi Néné Land and Resource Office		
23-M37.6A	2023-12-05	7181427
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Presentation from the Ya'thi Néné Land and Resource Office		
23-M37.3	2023-11-12	7167141
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from the Lac La Ronge Indian Band		
23-M37.1	2023-11-13	7167129
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from the Saskatchewan Mining Association		

23-M37.2	2023-11-13	7167110
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from the Athabasca Joint Engagement and Environmental Subcommittee		
23-M37.5	2023-11-13	7167158
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from Canadian Nuclear Association		
23-M37.7	2023-11-13	7167209
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from the Canadian Nuclear Workers' Council		
23-M37.8	2023-11-13	7167222
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from the Nuclear Transparency Project		
23-M37.10	2023-11-07	7167663
Information Items		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2022		
Written submission from the Saskatchewan Ministry of Government Relations		