



Minutes of the Canadian Nuclear Safety
Commission (CNSC) Meeting held on
December 8, 9 and 10, 2020

Minutes of the Canadian Nuclear Safety Commission (CNSC) public meeting held virtually on December 8, 9 and 10, 2020. The meeting was webcast live via the CNSC website. Video archives are available on the CNSC's website. These minutes reflect both the public meeting itself and the Commission's deliberations as a result of the meeting.

Present:

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

M. Leblanc, Secretary
L. Thiele, Senior General Counsel
S. Dimitrijevic, C. Moreau, W. Khan and D. MacDonald, Recording Secretaries

CNSC staff advisors were: K. Murthy, J. Thelen, M. Young, C. Ducros, A. Levine, K. Sauvé, C. Purvis, H. Tadros, A. McAllister, S. Lei, R. Jammal, M. Jones, M. Theriault, C. Cattrysse, C. Thompson, A. Viktorov, S. Karkour, M. Chirila, J. Burta, K. Campbell, L. Sigouin, H. Davis, B. Romanelli, N. Greencorn, L. Casterton, K. Heppell-Masys, E. Kanasewich, P. Elder, S. Yalaoui, P. Lahaie, B. Ellaschuk, C. Cianci, L. Désaulniers, N. Gadbois, S. MacDonald, B. Carroll, J. Sigetich, Y.C. Liu, A. Mathai, C. Loreti, J. Stevenson, P. Wong, A. Mostafa, J. McManus, B. Buhr, S. Thompson, N. Kwamena, P. Fundarek, R. Stenson, K. Owen-Whitred, M. Gerrish and S. Akhter.

Other contributors were:

- Cameco Corporation: R. L. Mooney, T. Smith, R. Peters and K. Nagy
- Orano Canada Inc.: V. Laniece and T. Searcy
- BWXT Nuclear Energy Canada Inc.: J. MacQuarrie
- SRB Technologies (Canada) Inc.: S. Levesque
- Nordion (Canada) Inc.: K. Brooks and R. Wassenaar
- Best Theratronics Ltd.: E. Sacay
- Canadian Nuclear Laboratories: S. Parnell, P. Boyle, J. Gilbert, B. Wilcox, P. Quinn, S. Brewer, S. Cotnam and K. Schruder
- Ontario Power Generation: E. Tarle, L. Morton, S. Gregoris, J. Frank, C. Brama, J. Vecchiarelli, V. Bevacqua, M. Duarte and G. Rose
- NB Power: J. Nouwens, J. Armstrong and K. Duguay

- Bruce Power: C. Mudrick and M. Burton
- Hydro-Québec: D. Olivier
- Environment and Climate Change Canada: N. Ali and D. Kim
- Department of Fisheries and Oceans: J. Thomas
- New Brunswick Emergency Measures Organization: R. Shepard
- Office of the Fire Marshall and Emergency Management: R. Lazarus
- Atomic Energy of Canada Limited: S. Quinn
- Saskatchewan Ministry of Environment: T. Moulding
- Saskatchewan Health Authority: J. Irvine
- Saskatchewan Energy and Resources: D. Zmetana
- Saskatchewan Ministry of Labour Relations and Workplace Safety: L. Kaskiw

Constitution

1. With the notice of meeting set out in Commission member document (CMD) [20-M39](#) having been published on November 7, 2020, and all permanent Commission members being present, the meeting was declared to be properly constituted.
2. Since the Commission meeting held November 5, 2020, [CMD 20-M22, CMD 20-M24, CMD 20-M25, CMD 20-M36 and CMDs 20-M39 to CMD 20-M41](#) were distributed to members. These documents are further detailed in Appendix A of these minutes.

Adoption of the Agenda

3. The revised agenda, [CMD 20-M40.A](#), was adopted as presented.

Chair and Secretary

4. The President chaired the meeting of the Commission, assisted by M. Leblanc, Secretary and S. Dimitrijevic, C. Moreau, W. Khan and D. MacDonald, Recording Secretaries.

STATUS REPORT ON POWER REACTORS

5. With reference to [CMD 20-M41](#), the Status Report on Power Reactors, CNSC staff spoke to the following updates:
 - Pickering Nuclear Generating Station (NGS) Unit 1 and Unit 8 were operating at full power;

- At Point Lepreau NGS, CNSC staff resumed onsite inspections the week of November 30th with the extra safety precautions required by New Brunswick Public Health; and
 - The [Potassium Iodide \(KI\) Pill Working Group](#) achieved concurrence on the Draft Phase I Report on December 8th, 2020. The report was undergoing translation and the public review was expected to begin in February 2021.
6. Asked by the Commission for details regarding fuelling machine maintenance at Pickering NGS, Unit 1, an OPG representative stated that fuelling machines themselves do undergo both planned and unplanned maintenance activities that prevent refuelling of the reactor. In this case, the maintenance had been planned to ensure reliability and was completed.
 7. With regard to international benchmarking and the [Nuclear Energy Agency Working Group on Inspection Practices](#), CNSC staff reported that the CNSC is an active participant in the working group. The working group has begun to share best practices on how to provide regulatory oversight effectively in light of limitations related to the pandemic. These best practices will be documented in a report following the upcoming meeting scheduled for the third quarter of the 2020/2021 fiscal year.¹
 8. On international benchmarking, CNSC staff added that the CNSC President is chair of the IAEA Commission of Safety Standards (CSS) and that there is a special discussion at the CSS regarding the impact of the pandemic on regulatory oversight. Additionally, the CNSC was the first regulator to re-enter licensee sites, based on public health instructions.

INFORMATION ITEMS: Regulatory Oversight Reports -2019

9. In its [Notices of Participation at the Commission Meeting](#), the CNSC invited members of the public and stakeholders who have an interest or expertise, to intervene in writing, respecting the CNSC staff's Regulatory Oversight Reports by November 16, 2020. While only written interventions were permitted, Indigenous intervenors were invited to make oral presentations in the spirit of reconciliation and in recognition of the Indigenous oral tradition for sharing knowledge. CNSC announced the availability of funds through the Participant Funding Program (PFP) to assist in the review of these reports. A Funding Review

¹ The Working Group on Inspection Practices third quarter meeting was thereafter delayed, until February 2021.

Committee (FRC) - independent of the CNSC - reviewed funding applications and made recommendations for funding to the eligible applicants.

Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019, and Update on Cameco Corporation's Vision in Motion Project

Update from Cameco Corporation (Cameco) on its Vision in Motion Project

10. With reference to [CMD 20-M36.1](#), Cameco presented an update on its [Vision in Motion Project](#) (VIM project) to clean up and renew the Port Hope Conversion Facility (PHCF) site and its surroundings.
11. Cameco reported that the VIM project included numerous activities at its PHCF such as:
 - Removal of up to 150,000 cubic metres of accumulated waste, contaminated soil and building debris;
 - Removal of some of the site's buildings;
 - Installation of a flood barrier on the east side of the property that will also provide radiation, noise and visual shielding;
 - Improvements to the site's storm water management infrastructures; and
 - Relocating the fence line at the south end of the property by about 16 metres to the north.
12. Presenting the VIM project's schedule, the Cameco representative indicated that Cameco anticipated completing the project by 2024, to coincide with the closure of the Long-Term Waste Management Facility.
13. In [CMD 20-M36.3](#), Canadian Nuclear Laboratories (CNL) submitted that CNL had worked co-operatively with Cameco for more than a decade to coordinate the planning of [CNL's Port Hope Area Initiative \(PHAI\)](#) and Cameco's VIM project. CNL also submitted that the coordination efforts resulted in the safe removal by CNL of approximately 20,000 m³ of historic waste in temporary storage on the Port Hope Harbour Centre Pier while the site was under the care and control of Cameco. CNL participated in the demolition of buildings on the Centre Pier by Cameco, and the turnover of the site to CNL to facilitate the Port Hope Harbour remediation responsibilities.

14. CNSC staff submitted that, after demolition of the buildings used for storing historic wastes from the Eldorado Mining refining operations and transfer of the waste to CNL's Waste Management Facility, the next step would be to remediate underlying contaminated soils related to historical activities.
15. Referring to the intervention by the Curve Lake First Nation (CLFN), [CMD 20-M36.2](#), which includes a statement that the CLFN was unfamiliar with the VIM project, the Commission enquired about Cameco's outreach regarding this project. The Cameco representative explained that the Williams Treaty First Nations, including CLFN, were part of Cameco's primary target audience. The Cameco representative added that correspondence had been sent to the CLFN as part of the outreach for the VIM project regarding the environmental assessments from 2007 to 2010 and during the Port Hope Conversion Facility licence renewal process in 2016. The Cameco representative further added that additional information had been also recently provided to the CLFN.
16. The Commission expressed its appreciation to Cameco for this status update and directed interested persons to [CMD 20-M36.1](#) and the meeting transcripts for more information on this topic.

Regulatory Oversight Report (ROR) on Uranium and Nuclear Substance Processing Facilities in Canada: 2019

17. With reference to [CMD 20-M36](#), CNSC staff presented its regulatory oversight report on Uranium and Nuclear Substance Processing Facilities in Canada: 2019 (the UNSPF ROR). This report summarized the performance of all uranium and nuclear substance processing facilities, as assessed by the CNSC staff during the 2019 calendar year.
18. The UNSPF ROR focussed on providing information about the following:
 - Compliance verification activities conducted by CNSC staff during the 2019 calendar year;
 - A review of the environmental protection, conventional health and safety and radiation protection safety control areas (SCAs); and
 - CNSC staff's efforts regarding the public and Indigenous consultation and engagement.

In addition, CNSC staff presented an update on its COVID-19 pandemic response and the oversight of uranium and nuclear substance processing facilities.

19. With respect to the compliance verification activities and the review of performance against all SCAs, CNSC staff submitted that the licensees' performance was satisfactory for all uranium and nuclear substance processing facilities, and confirmed that all such facilities in Canada were operating safely.
20. Specific environmental topics presented in the UNSPF ROR included the following:
 - Climate change effects on sewer releases at the PHCF;
 - Elevated uranium concentration in water at the Port Hope harbour;
 - Tritium level around SRBT and its deposition in groundwater; and
 - Elevated uranium concentration in groundwater upstream of the Blind River Refinery.

CNSC staff also informed the Commission about the Independent Environmental Monitoring Program (IEMP) and presented its sampling campaign conducted in 2019 and 2020 around BWXT Toronto and BWXT Peterborough facilities. CNSC staff was currently analyzing the collected samples and intends to report the results at a future Commission proceedings.

21. With respect to the Indigenous consultation and engagement, CNSC staff confirmed its ongoing commitment to ensuring that the CNSC meet its Crown responsibilities respecting consultation, engagement and accommodation. CNSC staff will continue to build relationships with Indigenous peoples with interests in Canada's uranium and nuclear substance processing facilities.
22. The Commission noted that several changes had been made to the ROR based on comments provided in regard to previous RORs and understood that a process was underway for a comprehensive review of regulatory oversight reports. The Commission also understood that interested persons would be consulted during this review in 2021. The Commission noted that the Canadian Environmental Law Association (CELA) had made several comments and suggestions regarding the content of the ROR and participation by third parties, and expressed its expectation that CELA would be an active participant in the review.

Intervenors and Issues Raised in the Interventions

23. In response to the invitation to intervene on the ROR, written submissions were received from the following intervenors:
- Curve Lake First Nation (CLFN) ([CMD20-M36.2](#));
 - Canadian Environmental Law Association (CELA) ([CMD 20-M36.4](#));
 - Algonquins of Pikwakanagan First Nation ([CMD 20-M36.5](#));
 - Swim Drink Fish Canada / Lake Ontario Waterkeeper ([CMD 20-M36.6](#)); and
 - Algonquins of Ontario (AOO) ([CMD 20-M36.7](#));
 - CNL ([CMD 20-M36.3](#));
 - Canadian Nuclear Workers' Council ([CMD 20-M36.8](#)); and
 - Municipality of Port Hope ([CMD 20-M36.9](#)).
24. An independent Funding Review Committee (FRC) reviewed five PFP applications. After considering FRC's recommendations, the CNSC approved funding of up to \$33,805 to the following recipients:
- Curve Lake First Nation (CLFN) (\$5,000);
 - Canadian Environmental Law Association (CELA) (\$5,676);
 - Algonquins of Pikwakanagan First Nation (\$8,579);
 - Swim Drink Fish Canada / Lake Ontario Waterkeeper (\$9,450); and
 - Algonquins of Ontario (AOO) (\$5,100).
25. The Commission noted that several intervenors, such as CLFN, AOO and Algonquins of Pikwakanagan First Nation had made recommendations for meaningful consultations and increased opportunities for Indigenous involvement in the regulatory processes. The Commission also noticed that the same group of intervenors had made similar recommendations regarding the ROR for CNL licensed sites. The Commission encouraged all interested parties to work towards a greater cooperation and involvement of interested local communities in regulatory activities performed by the licensees and CNSC staff.
26. Considering further the issue of informing the local communities, the Commission requested additional information related to reportable events. The Cameco representative indicated that Cameco made improvements on reporting the events based on

the feedback from stakeholders. Cameco will add contact information to facilitate communication with Indigenous peoples, civil society organizations and members of the public.

27. In its submission, CELA raised a number of issues and made 12 recommendations. Most of the recommendations were related to the contents of the ROR and requested further information, rationale, explanations or links to certain documents. As stated earlier, the Commission did not see the discussion of the content of these specific ROR information items to be appropriate forum in which to address the general issue of RORs, and hopes that CELA will participate in the ROR review process. In that context, the Commission anticipates hearing how CNSC staff has considered CELA's recommendations when it comes forward with a general proposal for ROR reporting.
28. On the process of developing action levels, CNSC staff reported that action levels were set at the upper limit of regular operations and were used to indicate whether there was a loss of control of an aspect of operation. CNSC staff added that action levels for environmental releases were set in accordance with CSA N288.8, *Establishing and Implementing Action Levels for Releases to the Environment from Nuclear Facilities*² and that licensees were required to go through a cyclical review of action levels to ensure that they were set at a level where occasional exceedances were observed. CNSC staff further added that action levels were set by the licensees, based on historical processes and that they were fluid, allowing for changes in operational activities.
29. On the reported exceedances of daily action levels at the PHCF, a Cameco representative explained that the action level for uranium at the sanitary sewer was a new action level implemented according to the PHCF licence renewed in 2017 and that it was based on 24-hour composition samples. The Cameco representative added that corrective actions were taken to repair and rehabilitate the sewer infrastructure, which significantly reduced the number of exceedances in 2020.
30. Swim Drink Fish Canada / Lake Ontario Waterkeeper (Waterkeeper) made 15 recommendations and raised issues regarding the contents of the ROR and the availability of environmental data. The Commission sought additional information regarding the following issues raised in the intervention:

² N288.8, *Establishing and implementing action levels for releases to the environment from nuclear facilities*, CSA group, 2017.

- Environmental data interpretation, reporting, and standardisation of reported results for different facilities;
 - Contamination levels of groundwater in the vicinity of the Port Hope Conversion Facility; and
 - Results of the groundwater monitoring and data availability for Cameco's Fuel Manufacturing facility.
31. On the recommendation to standardize the reporting of environmental data from facility to facility, CNSC staff submitted that environmental data were reported depending on how different licence limits were established: as concentration based or loading based data. CNSC staff added that it was involved with Environment and Climate Change Canada on a National Pollutant Registry Inventory project, where all radionuclide data from major nuclear facilities would be posted on an open government platform.
32. Further on environmental data reporting and their interpretation, CNSC staff explained that spikes in data were taken into account in accordance with CSA N288.1, *Guidelines for calculating derived release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities*,³ and that licensees must have proper sampling frequencies to capture any spikes.
33. In regard to groundwater and contaminant levels around the Port Hope Conversion Facility, the Cameco representative reported that groundwater pumps and treat wells had been installed to draw the source of the contamination. The Cameco representative added that variations from year to year were expected as the different pockets of contamination were moving towards the groundwater wells and the data were used to constantly update Cameco's comprehensive groundwater model.
34. The intervenor also expressed concerns regarding the data availability and transparency related to groundwater monitoring results around Cameco's Fuel Manufacturing facility. In response to the Commission's enquiry about this matter, CNSC staff stated that no information request was made to the CNSC and that CNSC staff would consider adding or summarizing groundwater monitoring results in future RORs.
35. In its intervention, the Algonquins of Ontario (AOO) raised an issue regarding the inclusion of Indigenous groups in the IEMP program, and recommended that the Kichi-Sibi Guardians

³ N288.1, *Guidelines for calculating derived release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities*, CSA group, 2014 (R2019).

program be integrated into CNSC's IEMP program. Asked for their comment, CNSC staff indicated that it was planning its IEMP sampling campaigns ahead of time, and was making schedules when to go in each community. On the AOO's recommendation to integrate the Kichi-Sibi Guardians program into CNSC's IEMP program, CNSC staff reported that it did some collaborative environmental sampling with one of AOO's knowledge holders, walked the land together and selected components of interest. CNSC staff added that it is committed to meet with the Guardians to provide more information about CNSC's IEMP and to see how the Guardians could be involved and potentially supported through CNSC's Participant Funding Program.

General questions

36. On the issue of climate change and the sewer releases at the PHCF due to the high water level of Lake Ontario, CNSC staff reported that the impact of climate change on the water level of Lake Ontario was reduced to some extent. The water level is currently regulated through the International Joint Commission between U.S. and Canada in order to meet different water use purposes. CNSC staff added that it updates environmental risk assessments on a five-year cycle to include the latest meteorological information and its potential impacts on the environment as well as external hazards, like flooding and high winds. These are also reviewed on a five-year cycle as part of the safety analysis.
37. The Commission enquired about models used to assess the climate change issue. CNSC staff explained that licensees were using the climate circulation model or the global circulation model for regional scale modelling.
38. On the issue of the elevated uranium concentration in water at the Port Hope harbour, the Cameco representative indicated that uranium was present in the harbour sediments and could be released into the water if those sediments were disturbed. The Cameco representative added that CNL would be dredging the harbour as part of its remediation efforts.
39. Asked for clarification on the tritium level around SRBT and its deposition in groundwater, CNSC staff explained that SRBT had taken all the measures to remove the potential sources identified since 2006, when a high tritium concentration was discovered near the facility in the groundwater. CNSC staff added that the monitoring results at the site confirmed its projection, that CNSC

staff had a good understanding of the tritium situation, and that the environment and humans were adequately protected.

40. On the elevated uranium concentration in groundwater upstream of the Blind River Refinery, CNSC staff indicated that it was related to historical practice, where contaminated containers were stored in the area and that the practice has been stopped. CNSC staff added that the situation was monitored and well understood and that there was no cause for concern for the environment.
41. On UF₆ transportation, CNSC staff indicated that packages were designed to survive a transport accident, such as a collision. CNSC staff added that the security of the shipments was fully addressed in the transport, as every shipment required a licence including a security plan.
42. On the removal of the Fully Satisfactory ratings in the 2019 RORs, CNSC staff explained that it allowed CNSC staff to focus on the performance of the facilities and that the binary rating approach, using Satisfactory and Below Expectation ratings, considerably reduced the effort to reach a consensus on final rating.
43. The Commission expressed its appreciation to CNSC staff for this ROR and to the intervenors for their important contributions. The Commission was of the view that the UNSPF ROR was well crafted, easily readable and rightly focussed on compliance monitoring. The Commission agrees with the use of a binary approach, using only Satisfactory or Below Expectations ratings, for future RORs.

Regulatory Oversight Report for Canadian Nuclear Power Generating Sites for 2019 and Darlington Refurbishment Update

44. With reference to [CMD 20-M24](#), [CMD 20-M24.A](#) and [CMD 20-M24.B](#), CNSC staff presented its annual Regulatory Oversight Report (ROR) on the safety performance of Canadian Nuclear Power Generating Stations (NPGS) for 2019. With this report, CNSC staff included an update on the refurbishment of Darlington Nuclear Generating Station (DNGS).
45. The ROR describes the regulatory oversight and safety performance in 2019 of nuclear power generating sites, consisting of nuclear power plants (NPPs) and waste management facilities (WMFs). The nuclear power generating

sites and waste facilities are governed under nine licences issued for the following facilities:

- Darlington Nuclear Generating Station (DNFS), which includes the Tritium Removal Facility and Retube Waste Processing Building;
 - Darlington Waste Management Facility (DWMF), which includes the Retube Waste Storage Building;
 - Pickering Nuclear Generating Station (PNGS);
 - Pickering Waste Management Facility (PWF);
 - Bruce A Nuclear Generating Station and Bruce B Nuclear Generating Station;
 - Western Waste Management Facility (WWMF) and Radioactive Waste Operations Site-1;
 - Douglas Point Waste Facility;⁴
 - Point Lepreau Nuclear Generating Station (PLNGS) and Solid Radioactive Waste Management Facility (SRWMF); and
 - Gentilly-2 Facilities.
46. CNSC staff explained its verification program and performance-based approach used to verify the compliance of the licensees with all regulatory requirements in the [*Nuclear Safety and Control Act*](#), regulations and the operating licences. After reviewing the safety performance of nuclear power generating sites, CNSC staff determined that NPPs and WMFs on these sites had operated safely during 2019.
47. This determination is based on the results of detailed assessments and compliance verification activities for each site in the context of the 14 safety and control areas (SCAs). General observations based those results could be summarized as follows:
- Radiation doses to members of the public were below the regulatory limit;
 - Radiation doses to workers were below the regulatory limits;
 - The frequency and severity of non-radiological injuries to workers were low;
 - No radiological releases to the environment exceeded the regulatory limits;
 - Licensees met requirements related to nuclear security and Canada's international obligations; and

⁴ The Douglas Point Waste Facility is not covered in this report, but in the *Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019*.

- Licensees had Indigenous engagement programs consistent with guidance and requirements.

In support of its findings, CNSC staff presented to the Commission highlights of the results of its performance assessment. The presentation encompassed licensing information for each of the facilities, and provided specifics of the results of its regulatory oversight and performance assessment for each of the facilities. These specifics included information on radiological hazard control, radiation doses, conventional health and safety, environmental protection, progress on integrated implementation plan (IIP) actions, maintenance deferrals and backlogs, community engagement and other aspects of licensees' activities.

48. CNSC staff further provided details about inspections and direct observations, and about events reported by the licensees. The licensees have taken appropriate corrective actions for all events reported to the CNSC, as well as appropriate corrective actions to address non-compliances or performance issues identified during compliance verification activities. CNSC staff noted that the vast majority of the findings were of low safety significance, and that there had been no Event Initial Reports related to WMFs presented to the Commission in 2019.
49. CNSC staff reported that all SCAs had been rated as "Satisfactory" (SA) for all NPPs and WMFs, and added that the fact that "Fully Satisfactory" ratings had not been awarded for 2019 did not indicate a decline in safety performance.
50. With respect to Darlington NGS, CNSC staff reported that, after completion of the refurbishment, Unit 2 had resumed commercial operation in June 2020, and in September 2020 Unit 3 had entered its refurbishment outage. All requirements for the safe return to service of Unit 2 had been met. CNSC staff added that it was satisfied with the progress made by OPG on IIP actions in 2019.
51. With respect to the Pickering NGS, CNSC staff submitted that OPG continued to address through its IIP the issues identified in the periodic safety review, conducted in support of the 2018 licence renewal and reflected in the renewed operating licence. OPG had completed 36 IIP related actions compared to the 28 that were planned for completion by 2019. CNSC staff confirmed that OPG had improved the indicators related to maintenance deferrals and backlogs.

52. CNSC staff reported that the total biomass of fish impinged at Pickering NGS had been approximately three times higher in 2019 than the 2018 total; however, none of the fish observed in 2019 were species identified as “species at risk” according to the federal [*Species at Risk Act*](#).
53. With respect to Bruce Power, CNSC staff reported that prerequisite activities for a major component replacement (MCR) for Unit 6 had started in January 2019, and work on MCR had started in January 2020. CNSC staff further reported that Bruce Power had demonstrated that the integrity of the steam generator tubes and the support structures was adequate. Bruce Power’s programs related to the reliability of special safety systems were satisfactory, and corrective actions taken to address the issue of unavailability of the emergency cooling injection system for Bruce B had been effective. CNSC staff noted that Bruce Power had improved preventive maintenance, and had reduced maintenance backlogs.
54. CNSC staff added that Bruce Power had demonstrated the ability to respond adequately to an emergency during the Huron Resilience corporate emergency exercise in 2019, which took place over three days and involved municipal, provincial and federal agencies.
55. CNSC staff informed the Commission about activities related to the Periodic Safety Review (PSR) at Point Lepreau NGS and reported on a major revision of the LCH. The revision included changes to the minimum shift complement, addition to the emergency response team, and change of the testing frequency of the reactor building leak rate. CNSC staff had also accepted NB Power’s update of its derived release limits. NB Power has achieved a low level of the critical corrective maintenance backlog and the number of critical preventative maintenance deferrals. CNSC staff was satisfied with quarterly reports, required by the operating licence, regarding the performance of the Solid Radioactive Waste Management Facility.
56. Regarding Gentilly-2 NGS, CNSC staff reported that Hydro-Québec (HQ) had continued with decommissioning activities and had met the plan and timeline. The transfer of heavy water off the Gentilly-2 site continued, and the spent fuel transfer has been successfully completed in 2019. A new revision of the LCH was made to reflect the transfer of the site into a status of safe dry storage. CNSC staff inspected spent fuel transfer, fire drills and environmental protection activities. Several minor nonconformities had been identified, and HQ had implemented the required corrective actions.

57. With respect to WMFs, CNSC staff reported that all airborne and waterborne radiological releases from the WMFs in 2019 were below regulatory limits and environmental action levels. The maximum doses received by workers were all below 5% of the regulatory limit for Nuclear Energy Workers, and there were no reported lost-time injuries at any of the WMFs in 2019. Several noncompliances observed during inspections of the fire drills at WMFs were addressed either by immediate or by long-term corrective actions, or by corrective action plans submitted by OPG. OPG had reported eight events and CNSC staff was satisfied with OPG's actions and corrective measures taken to prevent recurrence.

Indigenous Consultation and Engagement

58. CNSC staff informed the Commission that Terms of Reference were signed between the CNSC and the Saugeen Ojibway Nation (SON), the Métis Nation of Ontario (MNO) and the Historic Saugeen Métis (HSM). The purpose of these Terms of Reference is to strengthen the relationship between these Indigenous communities and the CNSC, and to meaningfully involve these communities in CNSC regulatory activities ongoing in their territories.

Regulatory Response to Pandemic

59. CNSC staff informed the Commission about activities undertaken in response to the COVID-19 pandemic. CNSC management suspended all regular compliance activities, identified activities that were considered critical, such as oversight of the Darlington Unit 2 refurbishment, and developed procedures to ensure continued regulatory oversight. While employees were directed to work from home, CNSC staff arranged for a comprehensive and remote access to licensees' information systems. On May 5, CNSC staff resumed onsite oversight activities in a limited capacity, focusing on general health and safety issues, combustible material, housekeeping and contamination posting. CNSC staff confirmed that licensees took active steps to ensure continuity of operations during the COVID-19 outbreak.

Comments from Industry Representatives

60. Representatives from OPG characterized the ROR as fair and balanced, and recognized the opportunities for improvement. The representatives pointed out that Unit 1 of the Darlington NGS

had reached the world record for the longest continuous operation of any nuclear facility worldwide, and that 2019 had been a top-performing year at Darlington and Pickering sites, both of which were recognized by international peers for exemplary performance in safety, reliability and continuous improvement. The OPG representatives stated that the company was on track to surpass last year's best ever performance, and noted that OPG's performance had been recognized and awarded with the Canadian Electricity Association's President's *Award of Excellence*.

61. The OPG representatives informed the Commission about their actions in producing and providing to the community a number of products and services as a response to the challenges imposed by the COVID-19 pandemic. They noted that the campaign of harvesting the medical isotope Cobalt-60 at Pickering site makes it one of the world's leading sources of this critical isotope used to sterilize medical devices. The representatives also informed the Commission about the successful return to service of Darlington NGS Unit 2 after the refurbishment, and about beginning of the refurbishment outage of Unit 3.
62. The OPG representatives further informed the Commission about their engagement with the public and neighbouring Indigenous communities through a number of platforms, including both social and print media and in-person events.
63. Representatives from New Brunswick Power (NB Power) concurred with the ROR and remarked that it was objective and instructive. The representatives emphasized the company's results in radiation safety and stressed that the total dose from the Point Lepreau NGS over the entire operating period from 1983 to present day had been about 3 percent of the annual regulatory limit.
64. The NB Power representatives reported on their close collaboration with the provincial Emergency Measures Organization, and emphasized the company's efforts in the area of emergency management, including the update of the overall response plan, which is posted on the Province of New Brunswick [website](#). The updated emergency guide was delivered to the surrounding communities and posted on the company's [website](#). The NB Power representatives added that their new offsite Emergency Operations Centre in St. George, New Brunswick, is fully operational.
65. The NB Power representatives informed the Commission about initiatives supporting Indigenous knowledge, and reported about

preparations for a large-scale Synergy Challenge Exercise that would involve the First Nations and surrounding communities, industry experts and emergency responders at the provincial and federal levels.

66. Representatives from Bruce Power (BP) informed the Commission about BP's life extension programs that consist of work to replace or refurbish components. This work was proceeding on time and on budget. BP was working closely with OPG on analysing lessons learned from the Darlington refurbishment and operating experiences. The BP representatives further informed the Commission about activities on transformation and diversification of the BP workforce in order to meet future challenges. Within the efforts to diversify the workforce, special attention was given to gender equality and hiring from local Indigenous communities.
67. The BP representatives added that the neighboring Indigenous communities and other interested groups had shown great interest in BP's environmental performance, and BP was improving its relationship with these communities through ongoing dialogue and support from community based initiatives such as the Saugeen Ojibway Nation's Coastal Water Monitoring Program. BP was also engaged in helping local municipalities and Indigenous communities cope with the impacts of COVID-19 pandemic.
68. BP representatives also provided a brief update on BP's medical isotope operation and stated that BP had continued with the production of medical grade Cobalt-60 isotope. BP has applied to the CNSC for a licence amendment that would allow production of Lutetium-177 isotope.
69. Representatives from Hydro-Québec (HQ) informed the Commission about the licensed activities at Gentilly-2 NGS, and concurred with the evaluation of decommissioning activities presented by CNSC staff. They emphasized that, in 2019, radiation doses to employees as well as to the general public remained well below regulatory limits. The representatives also informed the Commission about the transfer of old irradiated fuel from the pools to their dry storage, and about preparation for the transfer of the entire facility into storage under surveillance. A small number of defective fuel elements were also transferred into dry storage using a method being applied for the first time in CANDU industry.

Intervenors and Issues Raised in the Interventions

70. In its Notice of July 8, 2020, the CNSC invited members of the public who have an interest or expertise in this matter to intervene, in writing, on the CNSC staff's NPGS ROR and an update on OPG's refurbishment project at the Darlington NGS by November 16, 2020. While only written interventions were permitted from the members of the public, Indigenous interveners were invited to make an oral presentation in the spirit of reconciliation and in recognition of the Indigenous oral tradition for sharing knowledge. Seven written submissions were received from the following intervenors:
- Grand Conseil de la Nation Waban-Aki ([CMD 20-M24.2](#));
 - Curve Lake First Nation ([CMD 20-M24.3](#));
 - Canadian Environmental Law Association ([CMD 20-M24.4](#));
 - Swim Drink Fish Canada /Lake Ontario Waterkeeper ([CMD 20-M24.5](#));
 - Gordon W. Dalzell ([CMD 20-M24.6](#));
 - Canadian Nuclear Workers' Council ([CMD 20-M24.7](#)); and
 - Power Workers Union ([CMD 20-M24.8](#)).
71. CNSC announced the availability of up to \$35,000 through the Participant Funding Program (PFP) to assist in the review of this report. An independent Funding Review Committee (FRC) reviewed four PFP applications. After considering FRC's recommendations, the CNSC approved the funding of up to \$23,971.44 to the following recipients:
- Grand Conseil de la Nation Waban-Aki, \$2,695.44;
 - Curve Lake First Nation, 5,676;
 - Lake Ontario Waterkeeper, 10,600; and
 - Canadian Environmental Law Association, \$5,000.
72. In its intervention, the Curve Lake First Nation (CLFN) explained that the community was directly or indirectly affected by the activities and facilities of the nuclear industry in Ontario. CLFN acknowledged the CNSC for providing comprehensive information regarding activities of the nuclear industry in a single oversight document. However, CLFN raised an issue with the adequacy of community consultation and engagement. The Commission asked the licensees to comment on the level of engagement with the CLFN. The representative from OPG responded that the company's representatives meet regularly

with the CLFN to discuss Darlington's future projects, refurbishment, fishery relating concerns, licensing process concerning production of Molybdenum-99, and other topics of interest.

73. The Commission sought more information regarding the issue of fish impingement exceedances, raised by this intervenor, and asked if there was an automatic mechanism for conveying information on such events. CNSC staff responded that there was no automated dissemination of information; however, CNSC was in the process of developing a long-term engagement terms of reference, which would include means of communicating information directly to the community in the most effective way.
74. The Commission asked OPG to provide an update regarding concerns expressed in the intervention submitted by Swim Drink Fish Canada/ Lake Ontario Waterkeeper, related to the Pickering disaggregated groundwater data. The OPG representatives acknowledged that there had been a request to provide details of the ongoing monitoring of tritium in the groundwater. OPG was planning a meeting in the first part of 2021 to provide the raw data that has been requested and discuss them with the intervenor.
75. Swim Drink Fish Canada / Lake Ontario Waterkeeper also raised the issue of the large exceedances of the fish impingement at Pickering in the intervention. The Commission asked whether this problem was sufficiently understood to develop remedial action. A representative from the Department of Fisheries and Oceans Canada (DFO) explained DFO's system of reporting and communicating with the nuclear industry and CNSC, and stated that OPG had been collaborating with DFO and CNSC to resolve this issue. The DFO representative added that a large number of the impinged fish are species like alewife and gizzard shad, which are sensitive to changes in water temperature. A more thorough analysis of the data was needed to better understand the issue, and the DFO asked OPG to provide in future some additional data about water temperatures. CNSC staff added that it was crucial to determine if an event could be attributed to natural phenomena happening in the lake, or if it was caused by the operations of the facility.
76. A representative from the Pickering NGS submitted that the conclusion of the third-party assessment of this issue had indicated that it could be attributed to effects occurring in the lake, connected to a high wind event that had caused a turnover of the temperature, which, in turn, affected a large number of fish that were susceptible to temperature change.

77. The Commission asked what offsets were in place to deal with this issue should the situation persist. The OPG representatives provided more detail with regard to OPG offset programs and stated that those offsets were listed in OPG's current *Fisheries Act*⁵ authorization. Part of OPG's discussions with DFO and CNSC were looking at potential follow-up actions, including further offsets because of the higher impingement values.
78. The Commission noted that, since the increased fish impingement could be attributed to natural causes, climate resilience and the effects of climate change should be taken into account in future planning. The Commission asked whether these effects could be foreseen or planned for while considering climate resilience. CNSC staff expressed its expectation that licensees be prepared to better understand conditions around facilities and model development, and engage in their implementation in response to changing conditions in the lake and atmosphere. CNSC staff further explained the integration of updated scientific information into its risk assessment or external hazard assessment, and stressed the importance of establishing appropriate margins and flexible offsetting. The DFO representative concurred with CNSC staff's explanation, and stressed the importance of timely reporting and a quicker response time from OPG.
79. In its intervention, the Canadian Environmental Law Association (CELA) raised a number of issues including tritium emission to the environment, COVID-19 response, emergency planning, asbestos phase-out at the NPPs, and consideration of climate change impacts and resiliency of the licensees. Referring to the issue of tritium release at the Pickering NGS referred to in the report by Dr. Ian Fairlie from 2018, the Commission indicated in the meeting that this report had been duly considered by the Commission in the context of the Pickering license renewal hearing in 2018⁶ and would not be reconsidered in the context of this ROR. The Commission noted that ROR meetings are not a replacement for or a continuance of licensing hearings.
80. The Commission sought more information regarding asbestos removal and replacement in NPPs. CNSC staff submitted that, following the [regulations](#) that came into force in 2018, the

⁵ Revised Statutes of Canada R.S.C., 1985, c. F-14: *Fisheries Act*, Minister of Justice, Last amended on August 28, 2019, <https://laws-lois.justice.gc.ca/eng/acts/F-14/>

⁶ *Record of Decision* in the matter of Ontario Power Generation Inc., Application to renew the Nuclear Power Reactor Operating Licence for the Pickering Nuclear Generating Station, CNSC 2018, p. 81, <http://www.nuclearsafety.gc.ca/eng/the-commission/pdf/DetailedDecision-OPG-Pickering-2018-e.pdf>

nuclear industry was still within the four-year exemption period recognized by those regulations. During this period, the licensees are requested to determine which asbestos products they have, evaluate technical alternatives and apply to Environment and Climate Change Canada (ECCC) for permits to use asbestos-containing products. Licensees are also required to abide by the reporting and asbestos management plan requirements⁷. The OPG representative stated that OPG has an asbestos management plan and was on track to phase out asbestos use at OPG facilities by the end of 2022. The NB Power representative also submitted that they were on track with regulatory requirements. A representative from the ECCC responded that the removal of asbestos substances would be ultimately required, except in the cases where there are no technically or economically available asbestos-free alternatives, so that those requirements are excluded or are extended.

81. The Commission recognized the high profile and importance of this issue and requested that CNSC staff include in the upcoming RORs an update about the status of asbestos phase-out in the nuclear facilities.
82. The Commission asked CNSC staff to comment on CELA's recommendation regarding ROR coverage of climate resiliency of the NPPs. CNSC staff stated that it had considered external and climactic impacts during its oversight of the NPPs operations. The climate resiliency of the NPPs, and potential impact of climate change, are addressed through environmental assessments, periodic updates of environmental risk assessments as well as updates to safety analyses that look at external hazards. CNSC staff provided a number of examples that explain determination of safety margins by establishing maximum impacts of climate events and applying defence in depth principles.
83. The Commission inquired about CNSC's activities and basic models used to generate scenarios for emergency responses to issues stemming from climate change. CNSC staff responded that it was working on incorporating effects of climate change into the regulatory framework and explained models used to determine inputs for external hazard examination. CNSC closely collaborates with national and international counterparts such as ECCC, the Nuclear Energy Agency (NEA) Working Group on External Hazards, the World Meteorological Organization, etc. CNSC also develops site specific scenarios that might have

ACTION

⁷ SOR/2018-196: *Prohibition of Asbestos and Products Containing Asbestos Regulations*, Minister of Justice, 2018, Pts 15, 22 and Schedule 1. <https://laws-lois.justice.gc.ca/PDF/SOR-2018-196.pdf>

contingency or emergency planning implications, and cover uncertainties related to climate change as well as other unforeseen factors.

84. Referring to CELA's submission, the Commission asked the Ontario Office of the Fire Marshal and Emergency Management about the status of the [Provincial Nuclear Emergency Response Plan](#) (PNERP) Technical Report. The representative from the Office acknowledged the delayed release of the report, and stated that the report would be shortly released to CNSC. It will be publicly accessible as well. CNSC staff confirmed its participation by providing comments to the PNERP, and was expecting the opportunity to analyse the report and adjust accordingly. CNSC staff added that it would participate in exercises along with the Province and assess their response during nuclear emergencies, as outlined in the PNERP. The Commission expressed its expectation for an accelerated release of the technical report.
85. Regarding CNSC jurisdiction at the facilities' boundaries and the safety of people and the environment "beyond the fence", the meeting included discussion that that this aspect was encompassed in the SCA emergency preparedness and response. CNSC staff explained that CNSC requirements were established through REGDOCs and CSA standards^{8,9} and CNSC staff verifies licensees' performance against those requirements. [REGDOC-2.10.1](#) includes a requirement to have arrangements in place with off-site authorities to work collaboratively, so that on-site/off-site collaborative work would be done to respond effectively to an emergency. CNSC staff also explained different ways that the CNSC, being part of the federal nuclear response plan, interacts with the off-site partners, including the Province of Ontario through a memorandum of understanding.
86. The intervenor Gordon Dalzell expressed concerns regarding the probabilistic safety analysis (PSA) and limited publicly available information about the results of the PSA. The Commission sought more information from CNSC staff regarding the status of PSA modelling and the results for the NGSs. CNSC staff responded that, for the Pickering NGS, OPG had completed its whole site PSA and had presented the results at a Commission Meeting in December 2017¹⁰. OPG was updating the PSA for the

⁸ *Emergency Preparedness and Response* (CAN/CSA-Z721-02). Canadian Standards Association, 2002.

⁹ *Management System Requirements for Nuclear Power Plants* (N286-05). Canadian Standards Association, reaffirmed 2010.

¹⁰ Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held on December 13-14, 2017, CNSC, P. 6., <http://www.nuclearsafety.gc.ca/eng/the-commission/pdf/MinutesofCommissionMeeting-December13-14-2017.pdf>

Darlington NGS and the aggregated results would be provided once the 2020 update is completed. Bruce Power has provided the methodology for its whole site PSA, as well as risk aggregated values for 2019, for Bruce A and Bruce B NGSs. The OPG representative concurred and added that it had been engaged with the international community and was waiting for an international consensus on these issues before it performs any additional work on whole site risk assessment.

87. With respect to issues raised by the same intervenor relating to Point Lepreau, the Commission asked NB Power and CNSC staff whether they had reached out to the intervenor to provide the information and respond to the questions raised. The NB Power representative stated that the company has a strong relationship with the intervenor, meets with him regularly, and would address the issues he raised. NB Power has used its Community Relations meetings to share with the interested community some of the interventions, and had updated its website and provided additional information on radiation protection and radiological releases. CNSC staff added that the site staff regularly attends community liaison meetings, and that the concerns surrounding tritium releases had been discussed. The Commission thanked NB Power for its efforts. It gives the Commission reassurance that these interventions are taken seriously.

General Questions

88. The Commission inquired about CNSC staff's preparedness to address counterfeit, fraudulent and suspect items that are reported by the licensees. CNSC staff responded that the staff is adequately trained and looks into these issues during supply management inspections, and assesses whether licensees have an effective system for discovering such issues. CNSC staff concluded that the detection rate was very good with the NPPs. Fraud usually occurs with third tier suppliers providing bulk material to someone who fabricates a safety component and then sends it to another manufacturer before it is delivered to a licensee.
89. The Commission sought more information about quality control related to fuel defects and potential supply chain issues, especially given the COVID-19 situation. CNSC staff stated that the licensees have in place mechanisms to verify the design and quality of the fuel that they receive. All components must meet quality standards, and CNSC staff ascertains through supply management inspections that the licensees' suppliers are meeting required specifications. The NB Power representative stated that,

although COVID-19 has created some challenges in 2020, the company has not lowered quality standards. The OPG representative added that OPG continues to maintain a robust supply chain surveillance program, particularly around the area of fuel.

90. The Commission sought clarification regarding five non-compliances relating to worker dose control at the Darlington NGS that were reported in the ROR. The Commission singled out these non-compliances since these might give cause for concerns about radiation safety culture at the Darlington site. CNSC staff responded that the case was a follow-up from the assessment of Darlington performance in 2018. CNSC staff provided a detailed description of the events and noted that, before those events, Darlington's performance had been fully satisfactory in this area. The corrective actions implemented by OPG were satisfactory, and CNSC staff was of the opinion that OPG has a robust program to protect worker safety. The OPG representatives submitted that those had been isolated events and added that they had put in place an effective corrective action plan and used the lessons learned to improve the radiation protection program. The OPG representative noted that no regulatory limits had been exceeded during the events.
91. The Commission enquired about the reporting of low-risk level events and inclusion of such events in the RORs. CNSC staff responded that the threshold for reporting non-compliances is low, and that reporting includes events of all levels of safety significance, including the lowest ones, for all facilities and sites.
92. The Commission inquired of OPG whether the delayed development of a Deep Geologic Repository (DGR) would have implications for the longer-term storage of low- and intermediate-level waste. A representative from the WWMF responded that significant capacity was still available at the site for long-term storage that would last well into the current licence period and beyond. The WWMF continuously works on waste minimization, and OPG is assessing alternatives so that the delay in the construction of the DGR would not affect waste storage. OPG will also participate in NRC's review of the radioactive waste policy framework.
93. The Commission sought an explanation from NB Power about the small number of available certified positions and the small margin between required and actual number of shift supervisor positions. The NB Power representative responded that the company was engaged on a plan for recruitment to increase the numbers of shift supervisors and control room operators. The

margin for the number of licensed staff was increased lately and, with additional staff available at the beginning of 2021, NB Power would have sufficient margin to continue to safely operate the plant. CNSC site staff added that NB Power has procedures for measures that need to be put in place if certified staff numbers cannot be met. Based on the inspections, CNSC staff was not concerned about the number of certified staff and had not identified any issues with the minimum shift complement.

94. The Commission sought clarification regarding variations of internal collective doses, which were varying between about 20 percent of total doses for Pickering and Point Lepreau NGSs, and only about 6 percent for the Darlington, Bruce A and Bruce B. CNSC staff responded that, particularly during outages, some licensees have higher potential for intakes of tritium. At Point Lepreau and Pickering, tritium was identified as the main contributor. Both facilities have started initiatives to attempt to reduce the doses for tritium. The OPG representative concurred that the design of the plant was a factor, as is the outage work being performed at Pickering, and added that the biggest contributor to the dose at Darlington NGS had been gamma radiation and the biggest proportion of that had been associated with the refurbishment of Unit 2.
95. The Commission asked for confirmation that the moderator water, that had not been detritiated at Point Lepreau, had been the biggest contributor to higher internal collective doses. CNSC staff and NB Power representatives confirmed that tritium exposure at Point Lepreau had been higher compared to other facilities, and noted that the overall doses received by workers had been well below the regulatory limits and action levels.
96. The Commission asked for clarification regarding the downward trend of the moderator isotopic purity at Bruce NGS, its impact on the unit operation, and actions taken to resolve the issue. CNSC staff responded that the limits related to the moderator isotopic purity are strict. These limits dictate operating conditions so that operation outside of such limits would not be permitted. The representative from Bruce Power explained the actions taken to upgrade the quality of the moderator, including collaboration with OPG to use water from the tritium removal facility.
97. The Commission sought more information regarding the use of the results of the deterministic and probabilistic safety analyses, particularly in putting in place measures for the protection of the environment. The representative from OPG responded that these analyses were used for a variety of purposes, including the

development of severe accident management guidelines for beyond design basis events.

98. The Commission commended the licensees for the significant progress made in reducing maintenance backlogs over the last two years, and asked if the COVID-19 pandemic has reversed this trend. CNSC staff responded that monitoring of the data had not shown any adverse trending. The representative from Bruce Power stated that their goal to reduce their backlog by 80 percent would be achieved by the end of 2020. The OPG representatives added that the COVID-19 pandemic had not affected positive trends. The NB Power representative responded that they had made adjustments in 2020 so that their backlogs follow similar trends to those at Bruce Power and OPG.
99. The Commission noted that the 2019 ROR contains IIP actions only for the Pickering NGS. The Commission directs that CNSC staff include IIP actions for all NGSs in the future RORs, together with comments on what has been achieved compared to plan.

ACTION
(continuous)

Darlington Refurbishment Update

100. With reference to [CMD-M24.1](#) and [CMD-M24.1A](#), representatives from OPG informed the Commission about the status of the refurbishment of the Darlington NGS. The submission included a brief overview of the Darlington Nuclear Refurbishment Project, account of Unit 2 refurbishment and return to service, and activities for preparation and beginning of the refurbishment of Unit 3. The refurbishment of Unit 2 was completed as planned, and the schedule for the refurbishment of the remaining three units was revised due to the impact of the COVID-19 pandemic. The OPG representatives also informed the Commission about “Darlington Nuclear for the Future”, their ten-year plan for the post-refurbishment period.
101. The refurbishment of Unit 2 was completed in June 2020. All of 93 IIP tasks, required to clear Unit 2 Regulatory Hold Points (RHPs) and return the unit to full power, were completed on time. The lessons learned from the Unit 2 refurbishment were incorporated into the Unit 3 Protocol and applied to shorten the schedule and reduce the costs. The refurbishment of Unit 3 started in September 2020, and defueling of the unit was completed in November 2020. The activities were scheduled to last 36 months.
102. The OPG representatives described industrial and radiological safety measures related to the refurbishment activities, and

further informed the Commission about the construction planning approach, investments and improvements in tooling programs that would be used for future refurbishment activities.

103. CNSC staff presented a brief update of the ongoing activities and its assessment of the Unit 2 refurbishment, as directed by the Commission upon its renewal of the operating licence for Darlington NGS in 2015¹¹. The presentation was focused on the main objectives of the CNSC's regulatory oversight of refurbishment activities, its regulatory basis and, particularly, on the return to service and commercial operation of Unit 2.
104. With respect to the regulatory framework, CNSC staff stated that regulatory requirements and expectations for refurbishment activities and return to service (RTS) are included in CNSC Regulatory Document REGDOC RD-360¹². CNSC staff also cited three licence conditions that must be satisfied during the refurbishment project¹³.
105. After explaining the compliance verification criteria and presenting the verification results, CNSC staff confirmed that all non-conformances and open items noted during the project had been addressed, all requirements for the removal of RHPs had been met, and that Unit 2 had been returned to service and had resumed commercial operation on June 4, 2020.
106. CNSC staff informed the Commission about its engagement in the planning of Unit 3 refurbishment, and about planned overview activities.
107. The Commission asked how OPG intends to use lessons learned from unforeseen events to anticipate and address similar challenges in the future. The OPG representative pointed out to some radiological events and conventional health issues, and responded that all such events encountered during the Unit 2 refurbishment had been reviewed, mapped, introduced in the project plans, and used to introduce stop signs and check points in the schedule of future refurbishment activities. OPG has put in place a pre-determined team in order to improve the communication protocol during the RTS phase and to make the

¹¹ *Record of Proceedings Including Reasons for Decision* in the matter of Ontario Power Generation Inc., Application to renew the Nuclear Power Reactor Operating Licence for the Darlington Nuclear Generating Station, CNSC 2015, pgs. 5, 100 and 101. <https://nuclearsafety.gc.ca/eng/the-commission/pdf/2015-11-02-CompleteDecision-OPG-Darlington-e-edoc4920689.PDF>

¹² REGDOC RD-360, *Life Extension of Nuclear Power Plants*, CNSC, 2008.

¹³ Darlington NGS Power Reactor Operating Licence PROL 13.02/2025; licence conditions LC 15.2, LC 15.3 and LC 15.4.

whole process more efficient for refurbishment of Units 1, 3 and 4.

108. The Commission inquired about lessons learned from the regulatory point of view and asked how CNSC staff intended to use those in the future. CNSC staff responded that there were lessons learned related to administrative procedures, recording, documenting and reporting. The lessons learned were used to introduce refinements in the RHPs and RTS protocol for the units to be refurbished. Some of them were used to refine the timelines associated with submission of documents, and some were already incorporated in the inspection planning. Some lessons learned from the refurbishment oversight were overlapping with the oversight of the operating units, so that efficiency of the oversight activities could be leveraged by adapting the scope of some activities to include elements of both.
109. The OPG representatives added that OPG's regulatory interface team had performed joint lessons learned sessions with the CNSC staff and stressed an increased efficiency of the communications between two sides. The OPG representatives concurred with the importance of lessons learned in the domain of RHPs and RTS protocols, and the advantages of combining the refurbishment lessons learned with operational experience.
110. The Commission asked CNSC staff to address whether there were more fundamental lessons learned that could impact Regulatory Document RD-360 and CNSC's requirements. CNSC staff responded that, from a regulatory perspective, no major amendments were necessary, and that RD-360 was still valid. The requirements were well established in the Commission's decision and refined in the refurbishment-related protocols. CNSC staff noted that, regarding regulatory principles, the experience from NB Power and Bruce Power had been incorporated in the oversight of the Darlington refurbishment.
111. The Commission sought more information regarding the overlapping of shutdowns shown in the schedule for the refurbishment of the Units 1, 3 and 4. The OPG representatives explained that the overlap period will depend on actual dynamics and progress of refurbishment activities, and that the refurbishment of Unit 4 would not start before the activities at Unit 3 are completed, so that the shutdowns of three units would not overlap at any point of time.
112. The Commission sought clarification regarding shorter timeframes for the refurbishment activities of Units 3, 1 and 4, in that order. The OPG representative explained the original

scheduling procedure that had been tied up to the end of life of Unit 4 and expectation that it would reach its effective full power hours before being refurbished. This plan was reconsidered, and the decision was made to refurbish Unit 2, to analyse consequent lessons learned and apply them to the remaining three units. Three teams had been formed to work successively on the refurbishment of the three units. In that way, the plan was optimized and all four units would be completed before the end of life of Unit 4.

113. The Commission inquired about the experience of the teams that would be involved in the refurbishment of Unit 3. The OPG representatives responded that most of the workers involved in the refurbishment of Unit 2 will remain working on Unit 3, and that experienced team leaders, critical trades and foremen have been bridged during the pandemic time, re-trained and kept involved in planning activities for the future refurbishment projects.
114. Noting that the refurbishments at Darlington and Bruce Power are going on simultaneously, the Commission inquired about the ability of CNSC staff to conduct regulatory oversight. CNSC staff responded that Bruce Unit 6 is expected to return to service in the spring to summer of 2023, while the return to service for Darlington Unit 3 is expected in the first half of 2024, so that there would be no need that CNSC staff simultaneously handles two RHPs releases.
115. The Commission also enquired about the level of communication between Bruce and Darlington oversight staff, and asked how CNSC staff plans to approach needs for new staff training and for moving from site to site. CNSC staff responded that, normally, there would be frequent exchanges of staff between sites, and inspectors would travel to participate in inspections that might be planned in the very near future at their site. During the pandemic, instead of travelling, the inspectors were accessing their home-sites remotely. The training is provided through team work, where the experienced team leads are joined by new team members, and by sharing key lessons learned that are documented in project closure reports.
116. The Commission inquired if the original commissioning documentation and other historical documentation had been useful or influential to the RTS provisions and plans. CNSC staff did not have comments on the original commissioning documentation, but instead underlined that there was a very rigorous documentation required for the RTS, that CNSC staff evaluates and inspects as part of the removal of the RHPs. The

OPG representatives submitted that historical documentation were useful from the engineering perspective. It had been combined with new, updated documentation to become part of OPG's configuration management system. Some important operating experience still existed with OPG employees that were part of original commissioning of Unit 2. All of the existing experience in OPG was applied to deal with the Unit 2 return to service.

117. The Commission expressed its satisfaction with the information provided and congratulated OPG for the successful refurbishment and safe return to service of the Darlington NGS Unit 2, as well as to CNSC staff for the efforts required to release the RHPs during the pandemic. The Commission also thanks the intervenors for their submissions.

Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019

118. With reference to [CMD 20-M22](#), CNSC staff presented its regulatory oversight report for the Canadian Nuclear Laboratories (CNL) Sites: 2019 (the CNL ROR). This report summarizes the performance of all CNL's sites, as assessed by the CNSC staff during the 2019 calendar year.
119. The CNL ROR included the following information:
- Radiation protection programs;
 - Environmental protection programs; and
 - Conventional health and safety programs.
120. CNSC staff reported that the radiation protection programs at all sites had adequately controlled radiation exposures, keeping doses as low as reasonably achievable (ALARA).
121. With respect to the environmental protection programs, CNSC staff submitted that, at all sites, the implemented programs were effective at protecting people and the environment.
122. CNSC staff also reported on conventional health and safety programs at CNL sites and stated that conventional industrial activities represented the greatest risk to workers due to site revitalization and decommissioning activities at Chalk River Laboratories, decommissioning work at Whiteshell Laboratories, and extensive environmental remediation work at the PHAI. CNSC staff provided data on reported events and injuries, and

stated that, during the period covered by this ROR, CNL has complied with the requirements for the submission of event reports.

123. Specific topics presented in the CNL ROR included CNL's radioactive waste inventory and the long-term radioactive waste storage at Port Hope.

Intervenors and Issues Raised in the Interventions

124. In response to the invitation to intervene on the presented ROR, written submissions were received from the following intervenors:

- Curve Lake First Nation (CLFN) ([CMD 20-M22.1](#));
- Concerned Citizens of Renfrew County and Area (CCRCA) ([CMD 20-H22.2](#));
- Canadian Nuclear Workers' Council ([CMD 20-M22.3](#));
- Canadian Environmental Law Association (CELA) ([CMD 20-M22.4](#));
- Manitoba Métis Federation (MMF) ([CMD 20-M22.5](#));
- Algonquins of Ontario (AOO) ([CMD 20-M22.6](#));
- Power Workers' Union ([CMD 20-M22.7](#)); and
- Municipality of Port Hope ([CMD 20-M22.8](#)).

While only written interventions were permitted from the members of the public, Indigenous intervenors were invited to make an oral presentation. The Manitoba Metis Federation responded to the invitation and supplemented its submission with an oral presentation.

125. An independent Funding Review Committee (FRC) reviewed five PFP applications. After considering FRC's recommendations, the CNSC approved the funding of up to \$41,456 to the following recipients:

- Algonquins of Ontario (AOO) (\$11,700);
- Canadian Environmental Law Association (CELA) (\$5,880);
- Manitoba Métis Federation (MMF) (\$11,700);
- Concerned Citizens of Renfrew County and Area (CCRCA) (\$2,500); and
- Curve Lake First Nation (CLFN) (\$5,676).

126. In its intervention, the Manitoba Métis Federation (MMF) made a number of comments about engagement, consultation and accommodation processes, and recommended that the CNSC improve involvement, inclusion, and consultation with the MMF on monitoring and oversight for CNL's Whiteshell Laboratories facilities. Similar comments and recommendations regarding consultations and increased opportunities for Indigenous involvement in the regulatory processes have been raised in the interventions submitted by the AOO and CLFN. The Commission recognized the importance of these issues and reiterated its encouragement that all interested parties work towards greater cooperation and involvement of interested local communities in monitoring activities performed by the licensees and CNSC staff.
127. Responding to the Commission's request for additional information on the overall engagement process, the MMF representative reported that progress had been made over the years with the relationship between the CNSC and the Métis government. The MMF representative added that CNSC staff had adequately recognized the value and importance of working with the MMF as the Métis government, and that CNL had also made progress. However, MMF was of the view that the documentation submitted to the Commission did not reflect the work done on the ground.
128. Addressing comments from the same intervention, CNSC staff concurred that recognition of the rights and interests of the engaged or consulted groups could be improved in RORs and it committed to do so. CNSC staff also proposed to collaboratively draft certain sections of its Environmental Assessment (EA) reports and Rights' Impact (RI) assessments with interested parties so that their views and their understanding could be reflected in the documentation submitted to the Commission.
129. On the same topic, the CNL representative stated that CNL recognized the Métis as a distinct Indigenous people having distinct indigenous rights. The CNL representative added that CNL continued to seek to learn what was important to the MMF and their citizens and received the help of a member of the MMF organization to help monitor its environmental sampling programs at the Whiteshell Laboratories.
130. The AECL representative submitted that AECL had committed to building a long-term relationship with the MMF and reassured the Commission that AECL would attend to documentation issues going forward.

131. While the MMF's recommendation was for the Commission to use its regulatory authority to direct that CNL and CNSC staff attend to unaddressed issues the MMF outlined, the Commission is of the view that this is a matter for relationship building. The Commission encourages MMF, CNL, AECL and CNSC staff to continue engaging with each other, to seek resolution of unresolved issues and concerns, and to move forward together. The Commission looks forward to these developments.
132. With respect to environmental monitoring, the MMF representative explained that MMF would like to participate and provide input, e.g. on where the water is being tested or the impacts to certain types of wildlife that the Manitoba Métis community generally harvest. The MMF representative added that MMF would also like to meaningfully participate in the sampling process as partners and not only as observers. The Commission expressed its strong expectation that CNSC staff will involve MMF in future IEMP environmental sampling.
133. The Commission sought additional information on the following issues raised in the intervention submitted by the CLFN:
- Inclusion of Indigenous peoples in decommissioning activities; and
 - Disposal of remediated land.
134. On the inclusion of indigenous peoples in decommissioning activities, CNSC staff reported that, in accordance with CSA N294 *Decommissioning of facilities containing nuclear substances*¹⁴ and [REGDOC 2.11.2, Decommissioning](#), licensees must include in their decommissioning plans a summary of any engagement activities undertaken throughout the development of their decommissioning plans as well as concerns raised and dispositioned. CNSC staff added that licensees also had to provide, in the decommissioning plans, their radiological and chemical end-state objectives, for CNSC staff review and acceptance.
135. On the disposal of remediated land, the AECL representative reported that as a federal Crown corporation, AECL had specific Indigenous consultation duties when contemplating the disposal of land. The AECL representative gave the example of the Port Granby area, where AECL is contemplating the formation of a nature reserve on which it started engagements with Indigenous communities, including the Curve Lake community.

¹⁴ CSA N294-09, *Decommissioning of facilities containing nuclear substances*, 2009.

136. In its submission, the Concerned Citizens of Renfrew County and Area (CCRCA) raised several questions with respect to regulatory control of CNL sites. The Commission sought additional information on the following issues raised in the intervention:
- High turnover among CNL's upper management and its potential impact on CNL's safety culture; and
 - Reference made by the CCRCA regarding the IAEA's Integrated Regulatory Review Service (IRRS) Mission comments about the objectivity and independence of CNSC's on-site inspectors.¹⁵
137. On the high turnover among CNL's upper management, the CNL representative stated that CNL was of the view that bringing in fresh perspectives at the management level, with different experience and skills, was advantageous. The CNL representative added that improvement to the safety culture was a team effort that had involved every level of management and employees.
138. On the comment regarding the IAEA's Integrated Regulatory Review Service (IRRS) Mission, CNSC staff responded that a single site inspector is not fully responsible for a given inspection or a given site as there is a chain of responsibility that rests with the regulatory program director to review and approve reports. CNSC staff stated that its site inspectors had always consulted with their colleagues and directors on major findings and the corrective actions to be proposed to the licensees. CNSC staff further added that the IRRS Mission had not identified any concerns with CNSC inspector objectivity, but rather made a suggestion that the CNSC should formalize all elements used to ensure a comprehensive and regular review of the objectivity and independence of the on-site inspectors. CNSC staff reported that the CNSC has accepted the IAEA suggestion to document and formalize this process and that the task will be completed by September 2021 for all inspectors.¹⁶
139. In its intervention, CELA raised a number of issues and made 37 recommendations. Most of the recommendations were regarding the contents of the ROR, requesting further information, rationale or explanations. The Commission sought additional information on the following issues:

¹⁵ [IRRS Mission Report to Canada, 2019, Pg. 67](#)

¹⁶ [Canada's Response to the IRRS Report to Canada 2019](#)

- Higher collective dose estimate for the accelerated decommissioning approach at Whiteshell Laboratories;
 - Release of untreated water due to heavy rains at the Port Granby Project (PGP); and
 - Reason for different ALARA ratings at the different CNL sites.
140. On the reason for the higher collective dose estimate for the accelerated decommissioning approach at Whiteshell Laboratories, which was estimated at 520 person mSv, CNSC staff explained that most of the additional exposure would be from reduced decay periods. Waste handling would also increase the collective dose at Chalk River Laboratories (CRL) site. CNSC staff also stated that the absolute value of 520 person mSv for both sites over a seven-year period is considered a low value.
141. On actions taken by CNL following the release of untreated water due to heavy rains at the Port Granby Project (PGP), the CNL representative submitted that CNL had repaired the berms, completed removal of all of the waste in that legacy waste management area and revegetated it, which had significantly minimized the risk of reoccurrence. CNSC staff concurred with CNL that the remediation activities had greatly reduced the probability of a similar event reoccurring.
142. On the reason for ALARA ratings to be different at the different CNL sites, CNSC staff reported that the hazards present could be more complex at some sites than at the others, which could influence the rating.
143. Algonquins of Ontario (AOO) in its intervention made a number of comments and recommendations on its ongoing engagement with the CNSC. The AOO also raised issues such as measures put in place by CNL to mitigate risks associated with an aging infrastructure at CRL, and engagement by the CNSC to accommodate the expectations of different groups. The Commission sought additional information from the CNL representatives and CNSC staff regarding these issues.
144. Regarding the measures put in place by CNL to mitigate risks associated with an aging infrastructure at CRL, the CNL representative submitted a list of improvements including but not limited to the following actions:
- Installation of a water pipeline for domestic water from Deep River;
 - Installation of a new sanitary sewage treatment plant;

- Replacement of a substantial portion of the electrical system; and
- Decommissioning of 13 buildings.

A CNL representative added that some vulnerabilities were still present at CRL but that, overall, the trend was improving.

145. Asked to expand on the most vulnerable areas from a safety perspective at CRL, the CNL representative indicated that no particular remaining vulnerability would be a safety issue. The CNL representative added that remaining vulnerabilities included some single points along the electrical power distribution where a failure would require a substantial amount of time to recover, and the aging underground service and water mains.
146. On the appropriate level of engagement to accommodate the expectations of different groups, CNSC staff indicated that it was tailoring its engagement activities with different communities through ongoing dialogue and mechanisms for formal engagement, as requested. CNSC staff added that it had been developing terms of reference with different communities across the country and that the AOO was one of the organizations and communities it hoped to deepen its relationship with.
147. In regards of the use of highly enriched uranium at Chalk River Laboratories, a CNL representative explained that liquid and solid highly enriched uranium wastes had been repatriated to the U.S. as part of an international agreement, and that the transportation of these wastes had been safely completed.

General questions

148. On the capacity of the long-term radioactive waste storage at Port Hope, the CNL representative explained that the capacity of the mound was approximately 2 million cubic metres and that CNL intended on keeping it open as long as CNL had small-scale sites to remediate.
149. Asked about the residential property owners' reaction to the Port Hope remediation efforts, a CNL representative explained that responses from the public were variable depending of the work needed on their property.
150. On CNL's radioactive waste inventory, the CNL representative stated that 90 percent of the waste was at CRL. The CNL representative added that CNL had developed an integrated waste strategy that captures and considers all waste generated from CNL managed sites, including operational waste,

decommissioning waste and legacy waste. The CNL representative further added that CNL's waste inventory information could be found in CNL's Annual Compliance Monitoring Reports, posted publicly on its website.

151. In relation to the status of the environmental assessment for the Near Surface Disposal Facility site at CRL, CNSC staff explained that CNL had submitted its final Environmental Impact Statement (EIS) package to the CNSC for review on December 4, 2020. CNSC staff added that it was reviewing that final EIS package, along with the Federal-Provincial Review Team, and that the public and Indigenous peoples will have an opportunity to comment on, and review the final EIS, CNSC staff's CMD as well as the EA report prior to the Commission proceedings on this matter.
152. Asked whether CNL was contemplating the decommissioning of Gentilly-1 in the near future and utilisation of an accelerated decommissioning strategy, a CNL representative indicated that CNL had started decommissioning planning and that a licence amendment to start decommissioning at Gentilly-1 might be submitted to the Commission in the next two years. The CNL representative added that CNL could be proposing a slightly accelerated schedule, compared to CNL's preliminary decommissioning plan.
153. The Commission expressed its appreciation to CNSC staff for this ROR and to the intervenors for their important contributions.

Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019

154. With reference to [CMD 20-M25](#), and [CMD 20-M25.A](#), CNSC staff presented its annual Regulatory Oversight Report (ROR) for 2019 on the safety performance of uranium mines and mills (UMM) in Canada. The report included CNSC staff's regulatory activities and its assessment of the safety performance of the following uranium mines and mills in Saskatchewan:
 - Cigar Lake – operating uranium mine;
 - McClean Lake – operating uranium mine and mill;
 - McArthur River – uranium mine in care and maintenance;
 - Rabbit Lake – uranium mine and mill in care and maintenance; and

- Key Lake – uranium mill in care and maintenance.
155. McClean Lake site is operated by Orano Canada Inc. (Orano), while the other enumerated mines and mill sites are operated by Cameco Corporation (Cameco). CNSC staff explained that the sites that are in care and maintenance are not active in mining, milling or processing uranium ore and are not producing uranium concentrate; however, these facilities still have staff sufficient for completion of ongoing maintenance and water treatment, and to continue to protect employees, the public and the environment. CNSC staff continue their oversight of these sites refocused from normal operations to those involved in care and maintenance status.
156. CNSC staff updated the Commission on the actions stemming from the RORs for 2017 and 2018, as requested during the Commission meeting in December 2019¹⁷, related to objections by Indigenous groups that the presented information had been difficult to understand and consider. CNSC staff emphasized improvements made in engaging with Indigenous leadership and explained activities undertaken to improve the level of communication with potentially impacted persons and communities. CNSC staff had also engaged with Orano to intensify communications with Indigenous communities, and evaluated Orano’s public information and disclosure programs.
157. CNSC staff further reported on its relationship with the province of Saskatchewan and its action to consider the best approach to amalgamate and update the existing working agreements with the Government of Saskatchewan. The topics of main interest in this relationship are environmental assessment, conventional health and safety, environmental oversight, oversight of mining and milling industries, and labor relations.

CNSC Staff’s Regulatory Oversight

158. With respect to its regulatory efforts, CNSC staff provided details about inspections and verification activities, review of operational activities and documentation, and review of licensees’ reports and events. CNSC staff noted that the amount and type of effort expended on these areas for each site varied over time, depending on the activities being performed at a site.

¹⁷ Minutes of the Canadian Nuclear Safety Commission (CNSC) meeting held on December 11–12, 2019. <http://www.nuclearsafety.gc.ca/eng/the-commission/pdf/Minutes-CommissionMeeting-Dec11-12-2019-e.pdf>

159. CNSC staff also provided details for all elements of its regulatory oversight for each site, including licensing information and comments on action level exceedances and number of reportable events¹⁸. CNSC staff had identified 23 non-compliances¹⁹ during 20 conducted inspections. All non-compliances were considered to be low-risk, and are closed.
160. With respect to its licensing effort, during 2019, CNSC staff assessed applications for licence amendments and recommended to the Commission to amend the McArthur River licence UML-MINE-MCARTHUR.01/2023 and to accept the revised financial guarantee amount and financial guarantee instruments for the McArthur River Operation.²⁰ In addition, CNSC staff considered amendments to the Key Lake and Rabbit Lake licences, with a view to making recommendations to the Commission in 2020-21.

CNSC Staff's Assessment

161. CNSC staff informed the Commission that the operation of the uranium mines and mills had been assessed across 14 SCAs using key indicators. CNSC staff remarked that the relative importance of each SCA was related to the type of operation being regulated. In the case of the UMMs, the assessment focused on the following areas:

- Radiation protection;
- Environmental protection; and
- Conventional health and safety.

CNSC staff reported that it had rated all fourteen SCAs for all UMMs, as “Satisfactory” (SA)²¹.

162. CNSC staff provided more details regarding the three focal SCAs, presented data on radiation doses received by workers and estimated doses to the public, and the results of monitoring activities. CNSC staff reported that maximum individual effective dose to workers in 2019 was less than 10% of the regulatory limit of 50 mSv/y at all five uranium mine and mill

¹⁸ CNSC staff described all reportable events in the part 5.1 of the submitted report CMD20-M25.

¹⁹ CNSC staff presented the list of inspections at UMM facilities in the Appendix A of its submission CMD20-M25.

²⁰ [Record of Decision in the matter of Cameco Corporation, Application for Acceptance of the Revised Financial Guarantee and a Licence Amendment for the McArthur River Operation. CNSC, 2019](#)

²¹ Details regarding SCA ratings for each facility from 2017 to 2019 are presented in the Appendix D of the CMD 20-M25.

sites, and that no radiation protection action levels were exceeded²².

163. With respect to environmental protection, CNSC staff confirmed that Cameco and Orano had successfully carried out required effluent and environmental monitoring, inspections, environmental awareness training and program implementation, and that these activities had met regulatory requirements at all UMM facilities²³. CNSC staff added that no releases of radioactive or hazardous substances to the environment beyond regulatory limits had occurred in 2019. However, two action level exceedances had occurred at the McClean Lake facility. These two occurrences had no measurable impact on workers or the environment and were rated as “low safety significance” by CNSC staff. CNSC staff reviewed the actions taken by Orano, and was satisfied with Orano’s initial response and implemented solutions.
164. The human health risk assessment (HHRA), conducted against human health benchmarks, confirmed that concentrations of contaminants for a typical local resident were well below concentrations that could cause health effects.

Other Matters of Regulatory Interest

165. CNSC staff reported to the Commission that all facilities had been in compliance with their licences’ requirements regarding financial guarantees in 2019.
166. With respect to the public information and disclosure programs implemented by the licensees, CNSC staff determined that the programs comply with [REGDOC-3.2.1](#), and that the licensees had provided to their communities regular information related to health, safety and environment by way of various methods. CNSC staff met with both licensees to discuss elements of their programs and plans for future communication initiatives.
167. CNSC staff reported that no Independent Environmental Monitoring Program (IEMP) activities were conducted around the five operating mine and mill sites in 2019, and informed the Commission about the Eastern Athabasca Regional Monitoring Program (EARMP). As a funding partner for the EARMP, CNSC participates in development of the EARMP, reviews the

²² Data on dose to workers for each UMM facility for 2019 are included in the Appendix F of the CMD 20-M25.

²³ The total annual releases of radionuclides, for each UMM facility, are presented in the Appendix E of the CMD 20-M25.

sampling data, and provides input into the conclusions of the reports^{24, 25}.

Indigenous Consultation and Engagement

168. CNSC staff informed the Commission about its participation in different events, conferences and meetings with Indigenous communities to discuss areas of interest including Cameco's and Orano's operations. CNSC staff added that it had met with Indigenous groups and communities before the public consultation period to provide information and seek opportunity for improvement on this ROR.
169. CNSC staff presented the list of the identified Indigenous communities and groups with traditional and/or treaty territories in proximity to operating UMMs, reported on the licensees' engagement activities, and confirmed that the licensees have well-established Indigenous engagement and outreach programs.

Comments from Industry Representatives

170. Representatives from Cameco informed the Commission about their operations and emphasized challenging conditions regarding the global uranium market and those imposed by the COVID-19 pandemic. Cameco employs local community members to serve as liaisons, to work closely with local leadership and community members, and engage in environmental stewardship initiatives. Cameco works closely with the Northern Saskatchewan Environmental Quality Committee (NSEQC) and participates in the EARMP. The Cameco representative noted that the company's community-based Environmental Monitoring Program had won the 2019 Mining Association of Canada's Towards Sustainable Mining Award for community engagement excellence. The Cameco representative further noted that the results of annual province-wide public opinion survey had shown high levels of support for the continuation of uranium mining.
171. The Cameco representatives also informed the Commission about changes in Cameco's uranium mining operations introduced in 2020 as a response to the COVID-19 pandemic.

²⁴ [EARMP 2018/2019 Community Report](#), EARMP Saskatchewan, April 2020.

²⁵ The report published in 2020 indicates that “the measured concentrations of contaminants of interest in water, fish, berries, and mammal samples collected and tested in 2018-2019 EARMP community program were similar to baseline and regionally measured levels. The measured concentrations were also similar to those incorporated into the last human health risk assessment completed in 2018. Thus the community traditional foods continue to be safe and healthy dietary choice for residents of the Athabasca basin”.

172. Commenting on the ROR, the Orano representative expressed satisfaction with the accuracy of the report. The representative highlighted some aspects of the McClean Lake operation and mentioned that the company also operates the Cluff Lake Decommissioning Project. The representative added that the report demonstrates the company's consistent performance in the areas of safety and health of the workers.
173. The Orano representative noted that the company regularly meets with local Indigenous communities and stakeholders and update them on its performance and activities through the established forum of the Athabasca Joint Engagement and Environmental Subcommittee and the Northern Mines Monitoring Secretariat's Environmental Quality Committee.

Intervenors and Issues Raised in the Interventions

174. CNSC invited members of the public to intervene, in writing, on the UMM ROR and announced the availability of up to \$35,000 through the Participant Funding Program (PFP) to assist in the review of this report. Nine written submissions were received from the following intervenors:
- Saskatchewan Mining Association ([CMD 20-M25.1](#));
 - Canadian Environmental Law Association ([CMD 20-M25.2](#));
 - Kineepik Métis Local #9 ([CMD 20-M25.3](#));
 - Northern Saskatchewan Environmental Quality Committee ([CMD 20-M25.4](#));
 - Lac La Ronge Indian Band and Kitsaki Management Limited Partnership ([CMD 20-M25.5](#));
 - Athabasca Joint Engagement and Environmental Subcommittee ([CMD 20-M25.6](#));
 - English River First Nation ([CMD 20-M25.7](#));
 - Canadian Nuclear Workers' Council ([CMD 20-M25.8](#)); and
 - Ya'thi Néné Land and Resource Office ([CMD 20-M25.9](#)).

While only written interventions were invited from the members of the public, Indigenous interveners were invited to make an oral presentation. The Ya'thi Néné Land and Resource Office responded to the invitation and supplemented its submission by an oral presentation.

175. A Funding Review Committee (FRC) – independent of the CNSC – reviewed two submitted PFP applications and

recommended both of them. The CNSC approved the funding of up to \$17,210 to the following recipients:

- Ya'thi Nene Land and Resource Office (YNLR), \$12,310; and
- Canadian Environmental Law Association (CELA), \$4,900.

176. Most of the intervenors were of the opinion that Cameco and Orano had successfully managed the operations of their facilities and expressed satisfaction with CNSC staff's review of the operational performances.
177. Ya'thi Nene Land and Resource Office (YNLR) submitted that the ROR had provided an in-depth review and detailed report of the performance at each of the operating facilities, and presented four recommendations to the Commission. YNLR expressed environmental concerns regarding activities beyond CNSC jurisdiction, and recommended that a similar degree of regulation that the CNSC applies to mines and mills also be applied throughout the uranium lifecycle (i.e. exploration and transport) with risks and performance issues regularly communicated to impacted communities. With respect to environmental monitoring, YNLR recommended that CNSC continue to consult with and further incorporate YNLR feedback into IEMP programs in future years.
178. YNLR further recommended that an additional section be included in the ROR that summarizes intervenors' recommendations identified in previous years, and to include a status update on each of them. YNLR also recommended that one of the future Commission proceedings be held within one of the communities in Nuhenéné.
179. The Commission asked for feedback from the YNLR, particularly about the improvements made to the ROR. The YNLR representative responded that the plain language and conciseness of the report summary makes it easier to understand. Through further direct communication with CNSC, preferably printed, in a form of brochures, the impacted communities should improve their knowledge and understanding of the reports' content, and become more aware of the independent role of the CNSC vis-à-vis the industry. The YNLR representative added that the impacted communities would like to be more involved in environmental monitoring and in CNSC's IEMP, and pleaded for a closer communication and instructions on sample collection. CNSC staff took note of the intervenor's response and

reiterated the actions it was taking in improving communication with the impacted communities, particularly through interaction with the Northern Saskatchewan Environmental Quality Committee.

180. The Commission asked for explanation regarding regulation of different aspects of uranium exploration-mining-transportation cycle. CNSC staff explained that, while the mining itself falls under the CNSC's purview, transportation of yellow cake is jointly regulated by the CNSC²⁶ and Transport Canada²⁷. While Transport Canada imposes requirements on training and on how to handle the material, CNSC imposes a particular requirement on how to pack and prepare the material to allow it to be transported in the regular stream of transport.
181. The YNLR representatives pointed out concerns over some cases of unsafe driving and noted that such cases should be reported to the CNSC and Transport Canada. They also expressed concerns about road conditions and speed of the vehicles hauling yellowcake. CNSC staff noted the concerns and committed to provide clarification regarding the uncertainty about the jurisdictions.
182. The Commission sought more information regarding road inspections, maintenance and incidents, and about companies that transport the yellowcake. The Orano representative responded that Orano contracts the transport of yellowcake to Northern Resource Trucking, which submits detailed reports on all events that might have happened during the transportation. The Orano representative added that the roads were regularly maintained and that they were not aware of incidents or issues with the transport of yellowcake.
183. The Commission asked about the number of accidents. The Cameco representative responded that, based on the company's long experience in uranium transportation, including yellowcake hauling, there had never been a transport incident causing significant radiological damage to people or the environment. Usually, events have been minor traffic events.
184. The Commission further asked about the number and nature of truckloads. The Orano representative responded that the produced yellowcake is packed into barrels that are loaded onto trucks to form lots. On average, 200 to 250 trucks with yellowcake are transported per year.

²⁶ SOR/2015-145: *Packaging and Transport of Nuclear Substances Regulations, 2015.*

²⁷ SOR/2001-286: *Transportation of Dangerous Goods Regulations.*

185. Referring to the particular accident cited by the intervenor, involving a semi truck, loaded with yellowcake, hitting a ditch and being abandoned by the truck driver for a couple of hours, the Orano representative noted that the event had occurred in 2018. The Orano representative provided details about the event, and stated that the emergency response team had been engaged and follow-up actions had been taken in agreement with the company's emergency response plan.
186. Asked to explain the type of health risk that yellowcake represents, CNSC staff responded that the chemical toxicity is the main concern with non-calcined yellowcake, while with calcined yellowcake's radiological properties are the most restrictive ones.
187. The Commission enquired about the regulatory oversight of the exploration phase at the beginning of uranium lifecycle. The Commission notes that the [*Uranium Mines and Mills Regulations*](#) do not apply in respect of uranium prospecting or surface exploration activities, and that, under section 10 of the *General Nuclear Safety and Control Regulations*, naturally occurring uranium is exempt from CNSC regulation until such time that it is associated with the development, production or use of nuclear energy. CNSC staff responded that the Province of Saskatchewan has regulatory authority over uranium exploration activities in Saskatchewan. A representative from Saskatchewan Energy and Resources explained the procedure for the issuance of exploration permits, and added that exploration's impact on the environment and surface disturbance is minor. A Cameco representative stated that the provincial authorities inspect their exploration sites, and that they conduct internal inspections to ensure that the sites are thoroughly cleaned. The Chief Mines Inspector for the Province of Saskatchewan added that, upon receipt of an application for exploration, they inspect the site to ensure that companies are following Saskatchewan provincial health and safety regulations.
188. In its written intervention, CELA raised a large number of issues and provided numerous comments and recommendations relating to CNSC's oversight of uranium mine sites. The issues ranged from the scope and content of the ROR, public availability of the documents and limited time for comments on the ROR, to greater public involvement in preparation of ROR topics, to the quality of data provided to the public, particularly in the domain of environmental monitoring and details of preliminary decommissioning plans (PDPs) of the licensees. CELA also requested that ROR include consideration of climate risks faced

by the mines and tailings management areas, and actions necessary to manage and adapt to climate change.

189. Referring to the comment by CELA that the Commission should require Cameco and Orano to release their PDPs for public review, the Commission inquired about the availability of the PDPs, either as is or in a redacted format that excludes proprietary information. The Cameco representatives submitted that Cameco considers its PDPs as being proprietary and confidential and noted that detailed summaries of the PDPs for northern Saskatchewan operations were posted on the company's website²⁸. These summaries provide an overview of the overall decommissioning process with major milestones and steps to safely transfer the site to care and maintenance. The summaries provide a discussion of the financial guarantee and the amount currently in place. The Orano representatives responded that they have started to prepare plain-language summaries to accompany their PDP for the McClean Lake operation. Orano's summaries have been submitted for review to the Saskatchewan Ministry of Environment and the CNSC. Upon acceptance, the summary PDP are to be posted on the Orano's website.
190. The Commission asked whether the licensees distribute summary PDPs to CNSC staff and to the public. CNSC staff responded that the elements required as parts of the PDP are set out in REGDOC-2.11.2²⁹ and this document does not include that a summary plan must be developed and shared with members of the public or interested parties. However, CNSC encourages licensees to share the information in documents that would not be considered proprietary.
191. The Commission asked about coordination between CNSC and the Province of Saskatchewan with respect to decommissioning plans and mutual acceptability of the financial guarantees. CNSC staff responded that the reviews of PDPs and financial guarantees were coordinated with the province, although each authority conducts its review independently. CNSC staff presents the PDP to the Commission for a decision on acceptability of a financial guarantee only after it is assured by the province that they are satisfied with the proposed revisions. A representative from the Saskatchewan Ministry of Environment added that the provincial government has a Memorandum of Understanding

²⁸ <https://www.cameco.com/media/media-library/documents/preliminary-decommissioning-plan-summary-rabbit-lake>, <https://www.cameco.com/media/media-library/documents/preliminary-decommissioning-plan-summary-mcarthur-river-operation>, <https://www.cameco.com/media/media-library/documents/preliminary-decommissioning-plan-summary-key-lake-operation>.

²⁹ REGDOC-2.11.2, *Decommissioning*, CNSC, presented to the Commission 2020.06.18. after the period of public consultation, publication TBD.

with the CNSC that includes arrangements with respect to reviewing these documents. Requirements for review of the financial assurance and decommissioning and reclamation are included in the provincial [Mineral Industry Environmental Protection Regulation](#).

192. The Commission directed CNSC staff to continue working with the licensees to increase transparency and make relevant PDP information available to the public, with the exception of the proprietary information.
193. Noting the number of supportive interventions and successful collaboration of the neighbouring communities with Cameco, the Commission inquired about aspects of Cameco's approach that have resulted in this positive development. The Cameco representatives stated that the collaboration agreements signed with interested communities have formalized long-standing relationships, and were tools that enable interaction that affect different aspects of communities' wellbeing. The communities are engaged directly, or by participating in different committees. Both Orano and Cameco submit annually a joint report to the communities informing them about on-going projects, completed projects, implementation of different joint actions, etc. The Cameco representatives noted that \$62.2 million had been provided for business development, community investment and workforce development to the communities of the Athabasca region. The Commission is encouraged to see that all sides seem to be working together for a common goal.

ACTION

General Questions

194. The Commission sought more information regarding concerns raised about the impact of climate change and change in frequency or intensity of extreme weather events, their potential impact to mines and mills, and methods to monitor this impact. The representatives from Environment and Climate Change Canada (ECCC) responded that ECCC was working on a guidance document for climate change resiliency for large installations, and was also working with the CNSC on improving the flood risk assessments for nuclear facilities. CNSC staff submitted that climate change impacts are assessed at each stage of the life cycle of a facility and are considered during licensing reviews. The impacts of climate change, mentioned in some interventions, are noted and taken into account while making improvements to the existing regulatory documents. CNSC staff pointed out to the importance of environmental risk assessments and modeling for long term management of facilities. CNSC

staff added that considerations of climate change had been integrated into detailed decommissioning plans.

195. The Commission asked whether unusual data, such as high concentrations of a pollutant, obtained through EARMP, would trigger an immediate response from the CNSC. CNSC staff responded that any kind of unusual data reported to CNSC would be addressed by CNSC staff, and explained procedures for such cases.
196. The Commission asked about the number of samples submitted by the members of the neighbouring communities through existing monitoring programs. CNSC staff noted that detailed information was presented on the EARMP's website and that the number was approximately one hundred. The representative from the Saskatchewan Ministry of Environment confirmed that the information regarding samples submitted by the communities are available on the EARMP [website](#). The EARMP representative explained that the samples include different specimens of food, and differ from one community to the other.
197. The Commission sought more details regarding the event of SO₂ release exceedance at McClean Lake, and about the action taken. CNSC staff explained that, normally, during the start-up of the sulphuric acid plant, conversion of SO₂ to SO₃ is less efficient and emissions of SO₂ are temporarily elevated until optimal temperatures are reached. In order to prevent reoccurrence of such an event, the work instruction was updated.
198. The Commission inquired about additional precautions or actions required when bringing the mines back into operation after a shutdown stage. The Cameco representative explained that, during a shutdown period, numerous personnel is present at the facility and their primary focus is water treatment. Water continues to be treated throughout the safe care and maintenance period and all applicable regulatory requirements have to be carried out. These periods are also used for continuous improvements of quality management, radiation protection and environmental management, so that, when the time comes, a facility is ready for start-up.
199. The Commission congratulated CNSC staff for the presentation and expressed appreciation to the intervenors for their valuable input. Concluding the public meeting, the Commission reiterated the priority of revisiting CNSC regulatory cooperation memoranda of understanding with provincial partners in Saskatchewan and instructed CNSC staff to intensify their efforts to update and finalize these arrangements.

Closure of the Meeting

200. The meeting closed on December 10, 2020 at 4:34 p.m.

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04/22/2021

Recording Secretary

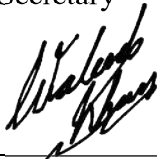
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04/22/2021

Secretary

Date

APPENDIX A

CMD	Date	e-Docs No.
20-M39	2020-11-06	6416997
Notice of virtual meeting of the Commission of December 8, 9 and 10, 2020		
20-M40	2020-11-20	6424744
Agenda of the Meeting of the Canadian Nuclear Safety Commission (CNSC) to be held remotely on December 8, 9 and 10, 2020		
20-M40.A	2020-12-03	6434878
Revised Agenda of the Meeting of the Canadian Nuclear Safety Commission (CNSC) to be held remotely on December 8, 9 and 10, 2020		
20-M36.1	2020-10-05	6393300
Information Items Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project Presentation from Cameco Corporation on Vision in Motion Project		
20-M36	2020-10-02	6374739
Information Items Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project Written submission from CNSC Staff		
20-M36.A	2020-10-05	6376097
Information Items Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project Presentation from CNSC Staff		
20-M36.B	2020-12-02	6432753
Information Items Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project Supplementary written submission from CNSC Staff		

20-M36.C	2020-12-08	6431657
<p>Information Items</p> <p>Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project</p> <p>Revised presentation from CNSC Staff</p>		
20-M36.5	2020-11-16	6404827
<p>Information Items</p> <p>Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project</p> <p>Written submission from the Algonquins of Pikwakanagan First Nation</p>		
20-M36.5A	2020-12-02	6435850
<p>Information Items</p> <p>Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project</p> <p>Presentation from the Algonquins of Pikwakanagan First Nation</p>		
20-M36.2	2020-11-13	6404870
<p>Information Items</p> <p>Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project</p> <p>Written submission from the Curve Lake First Nation</p>		
20-M36.3	2020-11-13	6423758
<p>Information Items</p> <p>Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project</p> <p>Written submission from the Canadian Nuclear Laboratories</p>		

20-M36.4	2020-11-16	6404808
Information Items		
Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project		
Written submission from the Canadian Environmental Law Association		
20-M36.6	2020-11-16	6404711
Information Items		
Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project		
Written submission from the Swim Drink Fish Canada/Lake Ontario Waterkeeper		
20-M36.7	2020-11-16	6404690
Information Items		
Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project		
Written submission from the Algonquins of Ontario		
20-M36.8	2020-11-16	6424601
Information Items		
Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project		
Written submission from the Canadian Nuclear Workers' Council		
20-M36.9	2020-11-16	6424664
Information Items		
Regulatory Oversight Report on Uranium and Nuclear Processing Facilities in Canada: 2019 and Update on Cameco Corporation's Vision in Motion Project		
Written submission from the Municipality of Port Hope		
20-M41	2020-12-02	6436114
Status Report		
Status Report on Power Reactors		
Submission from CNSC Staff		

20-M24	2020-10-05	6394079
Information Item Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019 Written submission from CNSC Staff		
20-M24.A	2020-12-02	6435777
Information Item Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019 Presentation from CNSC Staff		
20-M24.B	2020-12-02	6435132
Information Item Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019 Revised presentation from CNSC Staff		
20-M24.2	2020-11-03	6404890
Information Item Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019 Written submission from the Grand Conseil de la Nation Waban-Aki		
20-M24.3	2020-11-13	6404999
Information Item Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019 Written submission from the Curve Lake First Nation		
20-M24.4	2020-11-16	6404980
Information Item Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019 Written submission from the Canadian Environmental Law Association		

20-M24.5	2020-11-16	6424324
<p>Information Item</p> <p>Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019</p> <p>Written submission from Swim Drink Fish Canada / Lake Ontario Waterkeeper</p>		
20-M24.6	2020-11-16	6424434
<p>Information Item</p> <p>Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019</p> <p>Written submission from Gordon W. Dalzell</p>		
20-M24.7	2020-11-16	6424449
<p>Information Item</p> <p>Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019</p> <p>Written submission from the Canadian Nuclear Workers' Council</p>		
20-M24.8	2020-11-16	6424452
<p>Information Item</p> <p>Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019</p> <p>Written submission from the Power Workers' Union</p>		
20-M24.1	2020-10-02	6393201
<p>Information Item</p> <p>Ontario Power Generation: Update on the Refurbishment Project at the Darlington Nuclear Generating Station</p> <p>Presentation from Ontario Power Generation</p>		
20-M24.1A	2020-11-26	6431441
<p>Information Item</p> <p>Ontario Power Generation: Update on the Refurbishment Project at the Darlington Nuclear Generating Station</p> <p>Revised presentation from Ontario Power Generation</p>		

20-M22	2020-10-05	6359392
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Written submission from CNSC Staff		
20-M22.A	2020-10-05	6387363
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Presentation from CNSC Staff		
20-M22.B	2020-12-02	6433046
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Supplementary written submission from CNSC Staff		
20-M22.C	2020-12-10	6432486
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Revised presentation from CNSC Staff		
20-M22.9	2020-12-02	6434880
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Presentation from Canadian Nuclear Laboratories		
20-M22.5	2020-11-16	6405042
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Written submission from the Manitoba Metis Federation		
20-M22.5A	2020-12-02	6435866
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Presentation from the Manitoba Metis Federation		

20-M22.1	2020-11-13	6405102
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Written submission from the Curve Lake Nation		
20-M22.2	2020-11-16	6405092
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Written submission from the Concerned Citizens of Renfrew County and Area		
20-M22.3	2020-11-16	6423752
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Written submission from the Canadian Nuclear Workers' Council		
20-M22.4	2020-11-16	6405052
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Written submission from the Canadian Environmental Law Association		
20-M22.6	2020-11-16	6405074
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Written submission from the Algonquins of Ontario		
20-M22.7	2020-11-16	6424480
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Written submission from the Power Workers' Union		
20-M22.8	2020-11-16	6427321
Information Item		
Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019		
Written submission from the Municipality of Port Hope		

20-M25	2020-10-02	6358764
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from CNSC Staff		
20-M25.A	2020-12-10	6367917
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Presentation from CNSC Staff		
20-M25.B	2020-12-10	6430541
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Revised presentation from CNSC Staff		
20-M25.9	2020-11-19	6404555
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from the Ya'thi NéNé Land and Resource Office		
20-M25.9A	2020-12-01	6434825
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Presentation from the Ya'thi NéNé Land and Resource Office		
20-M25.1	2020-11-12	6421419
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from the Saskatchewan Mining Association		
20-M25.2	2020-11-16	6404578
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from the Canadian Environmental Law Association		

20-M25.3	2020-11-14	6423975
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from the Kineepik Métis Local #9		
20-M25.4	2020-11-16	6424095
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from the Northern Saskatchewan Environmental Quality Committee		
20-M25.5	2020-11-16	6424161
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from Lac La Ronge Indian Band and Kitsaki Management Limited Partnership		
20-M25.6	2020-11-16	6424225
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from the Athabasca Joint Engagement and Environmental Subcommittee		
20-M25.7	2020-11-16	6424277
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from the English River First Nation		
20-M25.8	2020-11-16	6424297
Information Item		
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019		
Written submission from the Canadian Nuclear Workers' Council		