Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held on November 1 and 2, 2023

Minutes of the Canadian Nuclear Safety Commission (CNSC) meeting held in person and virtually on Wednesday, November 1, 2023 beginning at 9:00 a.m. EDT, and Thursday November 2, 2023, beginning at 9:00 a.m. EDT at the Outaouais Room, 140 Promenade du Portage, Phase IV, Gatineau, Quebec. The meeting was webcast live via the CNSC website, and video archives are available on the CNSC website.

Present:

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

M. Young, Acting Commission Registrar
L. Thiele, Senior General Counsel
R. Dranga, Recording Secretary

CNSC staff advisors were: K. Murthy, A. Levine, E. Dagher, K. Ross, W. Islam, J. Lam, M. Fabian Mendoza, T. Tarekegn, C. Cattrysse, M. Gerrish, M. DeJong, B. Nguyen, C. Howden, A. Viktorov, M. Hornof, D. Carriere, B. Torrie, D. Beaton, A. Stewart, N. Tran, A. Salway, K. Owen-Whitred, E. Lemoine, C. Pike, S. Faille, L. Jobin, A. McAllister, H. Tadros, K. Peters, R. Froess, M. Hitchon and B. Gracie

Other contributors were:

Canadian Nuclear Laboratories: J. McBrearty, A. Tisler, G. Dolinar, M. Steedman, M. Vickerd, M. MacKay, A. Bilton, B. Wilcox and C. Clark

Atomic Energy of Canada Limited: J. Cameron, F. Dermarkar and A. MacDonald

Bruce Power: M. Burton

NB Power: N. Reicker

Ontario Power Generation: C. Axler

Health Canada: D. Quayle

National Resources Canada: R. Giurgius

e-Doc 7151659 (Word)
e-Doc 7212862 (PDF)

Constitution

1. With the notice of meeting Commission Member document (CMD) 23-M43 having been properly given and a quorum of Commission Members being present[1], the meeting was declared to be properly constituted.

2. For the meeting, CMD 23-M30 to CMD 23-M32, CMD 23-M39, CMD 23-M40, CMD 23-M44 to CMD 23-M46 were distributed to Commission Members. These documents are further detailed in Appendix A of these minutes.

Adoption of the Agenda

3. The revised agenda, CMD 23-M44.A, was adopted as presented.

Chair and Registrar

4. The Acting President chaired the meeting of the Commission, assisted by M. Young, Acting Commission Registrar.

Participant Funding Program

5. In its Notices of Participation at a Commission Meeting, the CNSC invited members of the public to intervene by way of:

   - written submission regarding the *2022 Regulatory Oversight Report on the Use of Nuclear Substances in Canada*
   - written submission with optional accompanying oral presentation regarding the *2022 Canadian Nuclear Laboratories (CNL) Regulatory Oversight Report* and the mid-term update for CNL's Chalk River Laboratories site

   In the spirit of reconciliation and in recognition of the Indigenous oral tradition for sharing knowledge, Indigenous Nations and communities were invited to also make oral presentations regarding CNSC staff's Regulatory Oversight Reports. The CNSC announced the availability of funds through the Participant Funding Program (PFP) to assist in the review of these reports and the CNL mid-term report. A Funding Review Committee – independent of the CNSC – reviewed funding applications and made recommendations for funding to the eligible applicants.

[1] Commission Members A. Hardie and J. Hopwood, who were appointed on September 25, 2023, did not participate in the meeting.

INFORMATION ITEMS

Update on the CNSC's Consultation and Engagement Programs

6. CNSC staff provided an update and presentation on the CNSC's Indigenous consultation and engagement programs (CMD 23-M46). During the presentation, CNSC staff discussed the CNSC's:

    - vision for and approach to reconciliation
    - Indigenous relations program, including
        - information on consultation and engagement activities
        - how issues and concerns are tracked
        - key issues and recommendations identified by Indigenous Nations and communities in 2022
    - key policy updates
    - public engagement activities

Discussion

7. The Commission asked CNSC staff how the CNSC's engagement and consultation programs compared to similar programs in Canada and internationally. CNSC staff noted that the CNSC's programs are comparable to those of the Canada Energy Regulator (CER) and the Impact Assessment Agency of Canada; however, as the CNSC is a lifecycle regulator,[2] its engagement and consultation role is ongoing. CNSC staff also noted that CNSC's funding program was recognized as an international good practice at the most recent Review Meeting conducted pursuant to the *Convention on Nuclear Safety*.

8. The Commission noted the importance of using language properly in engagement with Indigenous Nations and communities. CNSC staff explained that it has learned the importance of active listening using the correct language as it moves towards forming partnerships with Indigenous Nations and communities. CNSC staff provided examples of new approaches implemented to further its engagement, including:

    - actively collaborating with Indigenous Nations and communities in the writing of CMD material

[2] As a lifecycle regulator, the CNSC regulates the entire lifecycle of a project, from resource extraction to decommissioning and waste management. The CNSC has multiple licensing phases (i.e., licence to prepare site, construct, operate and decommission) to ensure that the Commission can consider all necessary information prior deciding on whether to issue the applicable licences.

- helping to build capacity through the Indigenous and Stakeholder Capacity Fund
- collaborating with other organizations such as Natural Resources Canada (NRCan) to provide information and answer questions from Indigenous Nations and communities

CNSC staff also added that staff wants to ensure there is growth in the relationship and that both parties learn from each other.

9. The Commission asked CNSC staff to talk about what the whole of government approach would look like in the context of the implementation of the *United Nations Declaration on the Rights of Indigenous People* (UNDRIP).[3] CNSC staff noted that it has been involved with UNDRIP-related work since before the adoption of the *United Nations Declaration on the Rights of Indigenous People Act* (UNDRIP Act).[4] CNSC staff further noted that the implementation of Action Plan Measure (APM) #32 of the UNDRIP Act Action Plan, regarding the development of guidance on free, prior and informed consent with respect to natural resources projects, was anticipated within the next 5 years. In addition, CNSC staff summarized a number of initiatives that the CNSC was undertaking, such as:

   - Public consultation on REGDOC-3.2.2, *Indigenous Engagement*,[5] through which the CNSC directly engages and seeks feedback from Indigenous Nations and communities
   - the establishment of a CNSC Indigenous Advisor position, to help inform the CNSC's approach to consultation and engagement
   - the Reconciliation Action Plan, published on the CNSC website, which speaks to the organization's commitment to building long-term relationships agreements and terms of reference

10. Asked for further information on the Indigenous Advisor position, CNSC staff responded that extensive research had been carried out to develop the model for this position to ensure it covers a broad background to support future improvements in the CNSC's Indigenous engagement and consultation programs and policies. CNSC staff further stated that it would start with a pilot, 1-year term, and that the lessons learned from the pilot would be used to inform the future of the role.

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[3] General Assembly of the United Nations, *United Nations Declaration on the Rights of Indigenous Peoples*, A/RES/61/295, 13 September 2007.
[4] S.C. 2021, c. 14.
[5] CNSC Regulatory Document, REGDOC-3.2.2, *Indigenous Engagement*, Version 1.2, February 2022.

11. The Commission asked for further information on the CNSC's approach to APM #34 regarding federal regulators working with Indigenous Nations and communities to enhance the participation of Indigenous peoples in decision-making processes related to projects and other matters that are currently regulated by the CER. CNSC staff noted that APM #34 is co-led by the CER and NRCan and stemmed from the Indigenous Advisory and Monitoring Committee put in place to monitor the Trans Mountain Expansion Project and the existing pipeline. CNSC staff added staff's understanding that the main goal of APM #34 is to ensure that impacts to the rights and interests of Indigenous Nations and communities are tracked, managed, and followed up so that mitigation measures are implemented and meet the duty to consult. CNSC staff clarified that APM #34 is not a direction to the CNSC to implement anything, thus the CNSC is currently monitoring CER's and NRCan's progress.

12. Asked to walk through the process for Indigenous engagement on projects, CNSC staff summarized the initial steps, which include:

    - discussion with project proponents to identify all potentially impacted Indigenous Nations and communities
    - initial outreach with Indigenous Nations and communities
    - follow-up engagement and communication with Indigenous Nations and communities that express interest
    - availability of capacity funding and participant funding, as requested, to support Indigenous Nations and communities continuous engagement activities

13. The Commission noted its appreciation for CNSC staff's efforts towards engagement and consultation with Indigenous Nations and communities, as well as for the information presented.

Update on the Independent Environmental Monitoring Program

14. With reference to CMD 23-M39, CNSC staff provided an update and presentation on the CNSC's Independent Environmental Monitoring Program (IEMP). During the presentation, CNSC staff outlined:

    - the IEMP process, how it evolved, and what the program covers
    - other monitoring programs[6]
    - Indigenous engagement in IEMP
    - future plans

[6] To assist the public and interested parties, the CNSC compiled a list of other departments, levels of government, agencies, and licensees of nuclear facilities that conduct monitoring and reporting in the areas of radiation and environmental protection, which is available on the CNSC website.

15. CNSC staff noted that IEMP sampling is conducted off-site from the licensed facilities, in publicly accessible areas, to complement CNSC's compliance verification program. CNSC staff explained that the IEMP is not:

    - a licensee's program
    - a replacement of the licensee's monitoring program
    - a compliance verification activity, such as an inspection since not all licensed sites are monitored under the IEMP
    - a baseline sampling or environmental characterization activity
    - a community-based monitoring program, although the IEMP encourages participation and involvement from Indigenous Nations and communities and the public

    CNSC staff presented that, to date, it has sampled 35 sites in 6 provinces, including sites around research, waste management, fuel processing, isotope production, mining, power generation, and nuclear substance processing facilities.

16. CNSC staff also presented on various outreach tools used as part of the IEMP to disseminate information to the public and increase participation from Indigenous Nations and communities and other interested parties. These tools include:

    - presentations, meetings and webinars
    - community outreach events, such as fairs and tradeshows
    - incorporation of Indigenous Knowledge into sampling plans
    - Indigenous participation in field sampling campaigns
    - the IEMP result cards, first implemented in 2019[7]
    - walking the lands with Indigenous Nations and communities, in advance of a sampling campaign

Discussion

17. The Commission asked for further information on the chemical substances that are analyzed from the various samples taken during a sampling campaign. CNSC staff responded that the sampling plans identify the specific media and contaminants to be analyzed in the laboratory, and are based on the type of nuclear and hazardous substances that are specific to the particular licensed facility where the sampling campaign is carried out.

[7] The IEMP result card is a collaborative document that uses words and names familiar to a specific Indigenous nation or community, incorporates the community's logo and branding, is written in short and easy to understand language, contains links and QR code for additional information and includes photos of participants, where possible.

18. When asked about assessing data trends and the type of observations to date, CNSC staff responded that the IEMP results are near background levels, which are generally low or undetectable. CNSC staff reiterated that the role of the IEMP is to complement compliance verification programs, and sampling campaigns do not cover all seasons every year. As such, data trending would need to consider data collected by licensees, as well as historical data, to be meaningful.

19. The Commission asked about opportunities for the CNSC to learn from Indigenous Nations and communities. CNSC staff responded that the IEMP has been aiming to incorporate more learning activities, and to build two-way communication, knowledge sharing and relationships with Indigenous Nations and communities where sampling campaigns are taking place. CNSC staff added that it received invitations to various community events such as harvesters' symposiums and fall fairs, and to visit culturally significant locations.

20. When asked if IEMP data posted on the *Open Science and Data Platform*[8] (*Open Science* portal) can be cross-checked against other monitoring programs, CNSC staff responded that the IEMP data posted on this platform can be compared with any other data posted on the same platform, such that the user can visualize what the CNSC monitors and compare it with what other agencies monitor. CNSC staff further noted that the data posted on the *Open Science* portal do not include uncertainties for two main reasons:

    - the IEMP data represent a snapshot in time, looking at a specific sample, taken at a particular location
    - the focus is on displaying data in a simple form, thus avoiding the added complexity of uncertainties and error bars

21. The Commission asked about any existing or planned mechanisms to integrate into the IEMP specific concerns raised by Indigenous Nations and communities. CNSC staff affirmed that the IEMP is one of the high-interest items that Indigenous Nations and communities want to include in the terms of reference established with the CNSC.

22. Asked for further information on plans to integrate the IEMP and various Indigenous community-based programs, CNSC staff noted that it was considering various options as part of future engagement and collaboration activities. Examples provided

[8] *Open Science and Data Platform* is an information resource which is part of the *Open Government* portal, and provides information disclosed as part of the federal government's commitment to enhancing accountability and transparency.

include the Eastern Athabascan Regional Monitoring Program and the work done with the Ya'Thi Néné Lands and Resources Office in Saskatchewan. CNSC staff also noted the importance of ensuring that the IEMP does not replace community-based programs.

23. The Commission requested further information on the percentage of the IEMP sampling campaigns that include participation from Indigenous Nations and communities. CNSC staff responded that approximately half of the campaigns include participation from Indigenous Nations and communities. CNSC staff noted the increased interest from the public and Indigenous Nations and communities in 2023, which impacted the IEMP's capacity to respond and follow up with all interested parties.

24. When asked for further information on how it defines and determines proximity to a facility for sampling, CNSC staff explained that the driving factor is the public accessibility of sampling locations. CNSC staff added that, where possible, it takes into account locations of specific interest to Indigenous Nations and communities.

25. The Commission commended CNSC staff for the continuous improvement of the IEMP. In particular, the Commission appreciated the value of the IEMP result cards, and of presenting information using simple, relatable, and easy to understand language.

Update on Canada's Participation at the Joint 8th and 9th Review Meeting of the *Convention on Nuclear Safety*

26. CNSC staff provided an update and presentation on the Joint 8th and 9th Review Meeting of the *Convention on Nuclear Safety* (CNS) (CMD 23-M40). During the presentation, CNSC staff presented:

- an overview of CNS, including its origins, goals, reporting obligations, and phases of the review cycle
- an overview of Canada's review cycle for the Joint 8th and 9th Review Meetings
- information on Canada's review report results
- a summary of project highlights, lessons learned and next steps

27. CNSC staff noted that the CNS covers a number of topics, and a Contracting Party[9] is obligated to report on its compliance whether it has nuclear power plants or not. CNSC staff also reported that the CNS Review Meetings and the national reports take place on a 3-year cycle. The Canadian delegation is led by CNSC staff, and includes members from the nuclear industry and other governmental agencies, such as:

    - Health Canada
    - Natural Resources Canada
    - Bruce Power
    - OPG
    - NB Power

28. CNSC staff reported that Canada was a recognized for 2 good practices[10] (i.e., the use of *Licence Conditions Handbooks*, and engagement with Indigenous Nations and communities and the public) and had 7 accomplishments that were identified as areas of good performance[11]. The areas of good performance included:

    - Development and execution of the Small Modular Reactor (SMR) Action Plan
    - publication of discussion papers to solicit early public feedback
    - systematic approach and on-the-job training for site inspectors
    - development and methodology of whole-site probabilistic safety assessment for multi-unit Nuclear Power Plants (NPPs)
    - CNSC readiness to regulate SMRs
    - use of models to simulate and depict real time severe accident progression
    - rigorous planning for safe execution of refurbishments of multiple units in parallel

29. CNSC staff reported that Canada was assigned 4 new challenges at the Joint 8th and 9th Review Meeting of the CNS:

    - update Health Canada's guidance document *Generic Criteria and Operation Intervention Levels for Nuclear Emergency Planning and Response* and include guidance on protection strategies and reflect guidance in provincial plans

[9] Any sovereign State that is signatory to the *Convention on Nuclear Safety*.
[10] Good practices are defined as measures related to nuclear safety that are implemented by one Contracting Party, but are considered effective and hence their adaptation or adoption should be considered by other contracting parties as well.
[11] Areas of good performance are noteworthy activities carried out by a Contracting Party that are not unique enough to qualify as good practices.

- approve and implement a revision of Ontario's *Provincial Nuclear Emergency Plan*
- optimize regulatory capacity and capacity to effectively and efficiently assess licence applications for other nuclear technologies
- ensure an effective approach between federal departments to provide proponents with certainty related to process and timelines for environmental and impact assessments

Discussion

30. The Commission asked about the approval and implementation of the Ontario *Provincial Nuclear Emergency Plan*. CNSC staff responded that the CNS is not involved with the nuclear emergency plan because the plan is a national Canadian responsibility. CNSC staff noted that the Canadian delegation would report on Canada's progress regarding the nuclear emergency plan at the 10th Review Meeting of the CNS Contracting Parties. CNSC staff added that work on the Ontario *Provincial Nuclear Emergency Plan* is ongoing, although slower than expected due to the complexity of the topic and of coordinating many organizations at a federal and provincial level.

31. The Commission asked for further information on how Canada compares to other nations in terms of good practices for Indigenous engagement. CNSC staff noted that the topics of Indigenous engagement, consultation, and openness and transparency are not items that Contracting Parties need to report on at the CNS. CNSC staff also added that Canada has been a leader in talking about these issues and at the CNS, and that being recognized for a good practice in the area of Indigenous engagement is a good step forward for Canada and the CNSC in conversation with other Contracting Parties.

32. The Commission asked licensee representatives and other government organizations present at the meeting for their lessons learned and insights from attending the Review Meeting of the CNS. The NB Power representative noted a number of highlights and lessons learned from the CNS, including the importance of:

- actively participating in discussions with other Contracting Parties during the in-person event
- implementing safety culture, which is a requirement well embedded into the Canadian regulatory framework
- applying the information gathered during the event to programs at NB Power for continuous improvement
- emergency planning for nuclear power plant operators, and organizations and communities neighbouring NPPs

A representative from NRCan added that attending the Review Meeting was beneficial from a policy perspective to learn what other countries are developing and implementing in terms of safety culture, emergency management, and SMR development.

33. The Commission asked if the results of the Review Meeting of the CNS are shared with other government organizations and groups. CNSC staff noted that information is shared after the Review Meeting of the CNS through the CNSC's annual report to Parliament and during the Review Meeting of the CNS through:

    - social media releases
    - bilateral meetings
    - signing of MOUs
    - joint statements such as the one made on the situation in Ukraine

34. Asked for more information on the Canadian delegation, CNSC staff noted that the invitation to attend the Review Meetings of the CNS is extended to all the organizations that are part of the writing team for the Canadian report. For the Joint 8th and 9th Review Meeting of the CNS, Global First Power, CANDU Owners' Group and CANDU Energy were unable to attend the event.

35. The Commission asked for information on how the Country Groups[12] are established. CNSC staff responded that the first entries in each group are Contracting Parties with the highest number of NPPs. After that, Contracting Parties are ranked in terms of number of NPPs and alphabetically if they do not have any NPPs, and are randomly assigned to a Country Group.

36. When asked if the information shared at the Review Meeting of the CNS also includes future activities, CNSC staff noted that general topics of discussion for each meeting are identified during previous meetings.

37. The Commission appreciated the information presented and commended CNSC staff for its efforts for the report presented during the Joint 8th and 9th Review Meeting of the CNS.

[12] A group of up to 7 or 8 Contracting Parties established for the purpose of reviewing and discussing National Reports.

Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022

38. With reference to CMD 23-M30 and CMD 23-M30.A, CNSC staff presented its 2022 Regulatory Oversight Report for the Canadian Nuclear Laboratories (CNL) sites (the CNL ROR). The CNL ROR summarizes CNL's safety performance for the following:

- Chalk River Laboratories
- Whiteshell Laboratories
- Port Hope Area Initiative which includes the Port Hope Project, the Port Granby Project, the Port Hope Pine Street Extension Temporary Storage Site, and the Port Hope Radioactive Waste Management Facility
- CNL's 3 prototype power reactor waste facilities – the Douglas Point waste facility, the Gentilly-1 waste facility, and the Nuclear Power Demonstration (NPD) waste facility

39. The CNL ROR includes information on the following:

- an overview of the CNL sites
- CNSC staff's regulatory oversight activities
- CNSC staff's assessments across each of the 14 Safety and Control Areas (SCAs), with a focus on the radiation protection, conventional health and safety, and environmental protection SCAs
- Indigenous consultation and engagement activities performed by CNL and CNSC staff
- reportable events and other matters of interest
- a summary of issues, concerns and requests from Indigenous intervenors received during the 2021 ROR

40. In addition, CNSC staff's presentation provided:

- information on outreach and communication activities undertaken to address intervenor comments from the 2021 ROR
- changes made to the ROR as a result of past intervenor comments and recommendations including:
    - detailed descriptions of events
    - information on Notices of Non-Compliance from inspections
    - an annex summarizing issues, concerns and requests from intervenors from previous RORs
    - CNSC's oversight strategy on climate change

  - collaborations with Indigenous Nations and communities on summaries of engagement and feedback
  - dispositioning of recommendations by Indigenous Nations and communities

- an update on the Whiteshell Laboratories safety stand-down, which was first reported at the June 28, 2023 Commission Meeting as an Event Initial Report (CMD 23-M25)[13]
- the key themes of interventions submitted for the 2022 CNL ROR

41. With respect to the Whiteshell Laboratories safety stand-down event, CNSC staff provided the following updates:

    - CNL completed all commitments made in response to the CNSC's May 19, 2023 request under subsection 12(2) of the *General Nuclear Safety Control Regulations*[14]
    - CNSC staff performed 2 on-site inspections, one on August 22, 2023 focused on the status of CNL's fire protection and emergency management equipment and firefighter training, and one on October 24, 2023 to verify that Whiteshell Laboratories fire brigade members demonstrated suitable performance during a mutual aid drill
    - CNSC staff found CNL's phased restart plan for Whiteshell Laboratories to be acceptable
    - CNSC staff is in the process of conducting a lessons-learned exercise regarding its regulatory oversight and inspection processes

42. CNL's presentation regarding the ROR (CMD 23-M30.1A) included highlights of activities performed at CNL sites, as well as an update on the Whiteshell Laboratories safety stand-down and the progress made to resume operations using the phased restart plan reviewed and accepted by CNSC staff.

Mid-term Update for CNL's Chalk River Laboratories Site

43. As directed in the Commission's 2018 licence renewal decision,[15] CNL provided the Commission with written submissions and an oral presentation (CMD 23-M30.1, CMD 23-M30.1A and CMD 23-M30.1B) on the Chalk River Laboratories activities at the mid-point of the licence term (the Chalk River Laboratories mid-term update). In its submissions, CNL provided an overview

[13] The update on the Whiteshell Laboratories safety stand-down addresses a Commission action on CNSC staff from the June 28, 2023 Commission Meeting (para. 54).
[14] SOR/2000-202.
[15] Record of Decision, *Application to Renew the Nuclear Research and Test Establishment Operating Licence for the Chalk River Laboratories*, January 23-25, 2018.

of Chalk River Laboratories' licensed activities over the past 5 years. CNL also provided updates in a number of key areas, including on:

- the Government-Owned, Contractor-Operated model[16]
- the revitalization of Chalk River Laboratories
- Indigenous engagement and consultation activities over the past 5 years
- public engagement activities carried out at Chalk River Laboratories over the past 5 years
- strategic priorities
- key safety and control areas, such as Management System, Radiation Protection, Occupational Safety and Health, Environmental Protection, Security, Fitness for Service and Training
- two major repatriation projects i.e., the Target Residue Material Repatriation Project and the National Research Experimental (NRX) Reactor / National Research Universal (NRU) Reactor Fuel Repatriation Project

Interventions for the 2021 CNL ROR and the Chalk River Laboratories mid-term update[17]

44. With respect to the CNSC's PFP availability for the 2021 CNL ROR and Chalk River Laboratories mid-term update, the Funding Review Committee recommended that up to $98,040.76 in participant funding be provided to:

- Algonquins of Pikwakanagan First Nation (AOPFN)
- Chippewas of Kettle and Stony Point First Nation
- Manitoba Métis Federation
- Hiawatha First Nation
- Nuclear Transparency Project
- Kebaowek First Nation[18]

[16] As part of the Government-Owned, Contractor-Operated model, AECL is the owner of the sites, facilities, assets, intellectual property, and responsibilities for environmental remediation and radioactive waste management. CNL is responsible for the day-to-day operations of the site, is the employer of the workforce and is responsible for all licences and permits. The Contractor which operates CNL is currently Canadian National Energy Alliance (CNEA).
[17] Interventions were received for the combined 2021 CNL ROR and Chalk River Laboratories mid-term update, therefore summarized together in the *Meeting Minutes*.
[18] Funding for the Kebaowek First Nation intervention was awarded on September 19, 2023, after the original round of funding for the CNL ROR, which was awarded on May 4, 2023.

45. The Commission received written interventions regarding the CNL ROR and the Chalk River Laboratories mid-term update from Chippewas of Kettle and Stony Point First Nation (CMD 23-30.2), the Canadian Environmental Law Association (CMD 23-M30.4), Canadian Nuclear Workers' Council (CMD 23-M30.5), Atomic Energy of Canada Limited (AECL) (CMD 23-M30.8), Hiawatha First Nation (CMD 23-M30.9), and Kebaowek First Nation (CMD 23-M30.10).

46. The AOPFN provided the Commission with an written submission and an oral presentation (CMD 23-M30.3 and CMD 23-M30.3A) that focused on Chalk River Laboratories and Nuclear Power Demonstration (NPD) waste facility from the CNL ROR, and the Chalk River Laboratories mid-term update. With respect to the CNL ROR, the AOPFN made recommendations regarding information sharing, and consultation and engagement. The AOPFN also identified outstanding areas for further improvement. The AOPFN submitted information on how the CNSC's SCAs could expand beyond a western scientific perspective to promote the recognition and protection of Aboriginal rights. With respect to the CRL mid-term update for Chalk River Laboratories, the AOPFN submitted recommendations on CNL's engagement and consultation with the AOPFN. The written submission (CMD 23-M30.3) also included AOPFN's ratings of CNL's performance at Chalk River Laboratories and NPD, from an Aboriginal Rights-based perspective. The AOPFN noted that, although significant gaps remain, it had seen some improvement in 2022 in areas such as:

- recognition of, protection and promotion of Aboriginal rights
- integration of Indigenous Knowledge into site monitoring and management
- engagement of Indigenous peoples in site planning, monitoring and management
- contribution to reconciliation with Indigenous peoples
- engagement adequacy with Indigenous people

47. The Commission sought additional information on AOPFN's Guardians program[19] and how CNL and the CNSC provide support for this initiative. The AOPFN representative responded that:

- the AOPFN has hired four Guardians which are participating in various field activities at Chalk River Laboratories

[19] The Indigenous Guardians program supports Indigenous land management and stewardship in their territories based on a cultural responsibility for the land and provides training and career opportunities for Indigenous people to work with governments and industry on the protection and management of land and resources.

- the Guardians program is early in its development and funding is one of the basic requirements to further develop training plans and train the four Guardians who have recently been hired

CNSC staff noted that:

- progress has been made to incorporate AOPFN's Algonquin knowledge and community members into the CNSC's IEMP sampling campaigns (e.g., the NPD campaign carried out in 2023); however, the two groups are working together to determine what elements can be incorporated into the IEMP, while ensuring that the IEMP continues to meet its objective
- the CNSC is developing a process that could allow inclusion of Indigenous participation in inspections, on a case-by-case basis
- the Indigenous and Stakeholder Capacity Fund is not currently set up to fully fund a Guardians program

A CNL representative responded that CNL:

- supported the program since signing a Long-Term Relationship Agreement with the AOPFN
- has been working with the AOPFN through their capacity issues

48. The Commission asked for CNSC staff and CNL's thoughts on addressing the AOPFN's proposed SCAs. CNSC staff commented that the proposed SCAs provide insight into the AOPFN's perspective with respect to its assessment and review of the licensee's performance and engagement activities. CNSC staff further provided that the CNSC is working with Indigenous Nations and communities, including AOPFN, to incorporate their specific views on engagement progress into the ROR, as well as the future revision of REGDOC-3.2.2, *Indigenous Engagement*. A CNL representative noted that, although these SCAs are focused on the AOPFN, other Indigenous Nations and communities expressed similar interests and perspectives in environmental protection programs, cultural heritage, and archeological work. The CNL representative also added that CNL is interested in working with AOPFN to better understand its recommendations and better communicate results from various monitoring activities at CRL.

49. The Commission requested an update on the process to include plain language summaries and scorecards in the RORs. CNSC staff confirmed that efforts are ongoing on making the summary section in the RORs as clear and simple as possible. Regarding the scorecard, CNSC staff noted that a one-page summary of key information, also known as a dashboard, is included as an annex to the ROR.

50. The Commission asked the AOPFN representative for their thoughts on how to improve communication in their community. The AOPFN representative explained that the one-page dashboard, the clear and concise summary statement, and support from CNSC staff are useful tools to help communicate with the community. The representative further noted that it hired a communications specialist to be able to work the AOPFN members and establish the best way to communicate, including information on why and where to best communicate, such as at community meetings and focused group meetings.

51. The Manitoba Métis Federation (MMF) provided the Commission with a written submission and an oral presentation (CMD 23-M30.6 and CMD 23-M30.6A) that focused on CNL's Whiteshell Laboratories. The MMF provided recommendations related to the Whiteshell Laboratories security program, waste management, and record keeping. The MMF also expressed concerns about the noted deficiencies in CNL's fire protection program, as well as on CNL's ability to implement and maintain appropriate administrative oversight for health and safety programs, especially as decommissioning activities are advancing. The MMF also presented a number of post-decommissioning recommendations for AECL, CNL and the CNSC, and a ROR recommendation to discuss lifecycle reporting on nuclear and radioactive materials, including information along transportation corridors.

52. The Commission asked CNL to comment on its plans for meaningful engagement with the MMF. A CNL representative provided examples of the licensee's engagement activities with the MMF, which included:

- signing a 5-year capacity relationship agreement in 2023
- providing capacity to hire a liaison person who is more frequently present on the Whiteshell Laboratories site and brings information back to the Red River Métis community
- a pilot program so the MMF can establish its own complementary monitoring program
- monthly meetings to discuss the MMF's concerns and interests
- regular site visits by community members

53. The Commission asked the MMF to comment on the future of land use planning, taking into consideration the recently signed relationship agreement with CNL. The MMF representative responded that it has a number of programs in collaboration with CNL and other proponents in Manitoba and across the homeland. The representative added that, ideally, the end-state land use for Whiteshell Laboratories would be a site to which the Red River Métis citizens would be allowed access and would include various commodities such as greenhouses. The representative also expressed a desire for the expansion of current MMF programs for elders and youth, and for land-based education.

54. The Commission asked the MMF to provide further details on its recommendation for a holistic system-based approach to assessing the SCAs. The MMF representative elaborated that the proposed approach would assume the CNSC models the behaviour of other regulators in order to achieve a whole-of-government approach. This approach would bring the CNSC and other federal government departments that have a connection to CNSC-regulated projects together allowing Indigenous Nations and communities to interact and provide feedback to all of them at the same time.

55. When asked to comment on this recommendation, CNSC staff noted that there are various engagement and consultation activities that are early in their implementation, as noted during the *Update on Indigenous Consultation and Engagement Programs* Information Item (CMD 23-M46) summarized previously in these *Meeting Minutes*. CNSC staff added that the CNSC had carried out benchmarking work to learn about best practices from other monitoring or advisory committees in Canada, and noted that these committees are project-specific, not full lifecycle.[20] CNSC staff also provided examples of its current engagement activities including the MMF's participation as an observer in an inspection at the WL site.

56. The Commission asked whether the Indigenous and Stakeholder Capacity Fund could be used to address some of the issues raised by the MMF. CNSC staff noted that that fund is time-limited for a period of 5 years and its terms of reference are prescribed by the Treasury Board of Canada Secretariat. CNSC staff noted that there is significant interest in the program and its objective to build capacity around a regulatory process for the full lifecycle. CNSC staff noted that, at the end of the 5-year period, CNSC staff would have to explore the renewal of the program with the federal government, depending on the results of the interim and final evaluations.

[20] Project-specific refers to either the Trans Mountain pipeline or other major projects with significant federal funding. As previously noted, full lifecycle refers to regulatory oversight required for the entire lifecycle of a project, from resource extraction to decommissioning and waste management.

57. Noting the recent agreement between CNL and the MMF, the Commission asked for further information on CNL's efforts to expand its cultural awareness of the Manitoba Métis Federation. A CNL representative explained that CNL and the Manitoba Métis Federation had organized a training session for Whiteshell Laboratories management and staff involved in engagement with the Manitoba Métis and their citizens, where an MMF representative talked about the history of the Red River Métis and specific Métis culture.

58. The Commission asked for an update on the status of the Whiteshell Laboratories site and CNL's plans to address the issues of security and fire protection. CNSC staff reported that the Whiteshell Laboratories site remains in a safe shutdown state, with activities limited to essential work and to addressing non-compliances with the fire protection program. CNSC staff also noted its regulatory oversight activities following the June 28, 2023 Event Initial Report, which included:

- review of documentation requested under subsection 12(2) of the *General Nuclear Safety and Control Regulations*[21]
- 2 reactive inspections
- various compliance activities to be completed by March 2024
- planned discussions with CNL management on the progress and status of CNL's corrective actions
- planned technical programmatic meetings

59. CNSC staff also provided information on the conclusions of the two reactive inspections, noting that CNL had demonstrated having adequate fire response capability to successfully respond to a fire event at the Whiteshell Laboratories site. A CNL representative confirmed that CNL had performed various activities in response to the Whiteshell Laboratories event, including:

- an assessment of all CNL sites, which looked at fire protection and fire response staff's capability to respond to and handle a fire or emergency event
- reviews, drills involving mutual aid, and training for firefighters
- the establishment of an independent team to assess and address deficiencies
- the establishment of a new program focused on training
- the tracking of the implementation of actions identified for the different phases of the Whiteshell Laboratories site restart

[21] SOR/2000-202.

60. The CNL representative also noted a number of actions taken as an immediate response to the Whiteshell Laboratories event, including:

- deployment of fully qualified and compliant firefighting staff from Chalk River Laboratories
- deployment of compliant surplus equipment from Chalk River Laboratories
- addition of 32 qualified full-time firefighters from May to July 2023
- revisions to the training program in alignment with CNL's systematic approach to training
- procurement of new firefighting equipment
- verification of the adequacy and functionality of all fire protection systems at the Whiteshell Laboratories site
- completion of the fire response needs analysis in July 2023

61. As a follow-up, the Commission asked AECL to comment on the response to the WL event. An AECL representative confirmed the importance of fire protection and noted that AECL had been kept informed of CNL's corrective actions. The representative from AECL further indicated that AECL supports and provides oversight on CNL's 8-phase restart plan.[22]

62. The Nuclear Transparency Project provided the Commission with a written submission and an oral presentation (CMD 23-M30.7) discussing both the CNL ROR and Chalk River Laboratories mid-term update. The Nuclear Transparency Program expressed the need for transparency in communications on waste and nuclear fuel topics, on the availability of monitoring data in accessible and machine-readable formats, and procedural concerns regarding mid-term licence updates and RORs.

63. The Commission asked about the availability of groundwater and stormwater data for CNL facilities. CNSC staff responded that these data are not yet available, however, plans are in place to perform the required quality assurance checks to upload the data on the *Open Government* portal in the coming years. CNSC staff commented that its preference is to receive machine-readable data from licensees, as otherwise additional work is required to transcribe data to a machine-readable format and perform quality assurance checks. CNSC staff further added that it had been communicating with the intervenor on this topic, to determine a path forward to making the data available in the future. A CNL

[22] A multi-phase restart plan developed by CNL to bring Whiteshell Laboratories back to operations, following the safety stand-down event involving non-compliances in the fire protection program. The plan was reviewed and found acceptable by CNSC staff. Each phase contains implementation actions to address the issues with the fire protection program and return the Whiteshell Laboratories to full operation.

representative responded that CNL has been making some of its data available to the public via the National Release Inventory library, administered by Environment and Climate Change Canada, and via the *Open Government* portal; however, there is a lag between when the data is collected and when it is compiled and made available to the public.

64. The Commission, noting a recommendation from the intervenor, asked CNL if an interactive map of CRL exists that would provide the public with information on the various facilities and laboratories, including their name, use and state (e.g., under decommissioning, under construction). A CNL representative responded that information disclosed to the general public (e.g., current activities and future plans for various facilities and laboratories) needs to comply with security requirements and not contain any protected information. The CNL representative further added that such information is provided to the public through various venues, including the Environmental Stewardship Council[23] which meets 3 to 4 times a year.

65. When asked about dispositioning the intervenor's comments on the 2021 CNL ROR, CNSC staff noted that it had met with all intervenors who had provided recommendations and comments on the 2021 CNL ROR. CNSC staff also noted that Appendix M, Table B in CMD 23-M30 summarized all the recommendations and comments made by intervenors on the 2021 CNL ROR. CNSC staff stated that, although the intervenor's comments were not explicitly dispositioned in the table, CNSC staff considered all the comments and made a number of improvements as a direct result of those comments and the follow-up conversations.

66. The Commission asked CNL to elaborate on the types of activities it performs. A CNL representative responded that the majority of its budget is for environmental remediation and covers not only Chalk River Laboratories but all CNL sites, which also includes:

- decommissioning and characterization of old buildings
- waste generation, characterization, transfer and storage
- cleaning up contaminated materials as part of the Port Hope Area Initiative
- cleanup and remediation of areas that currently store high-level waste, intermediate-level waste and low-level waste

[23] The Environmental Stewardship Council is comprised of local elected officials, and non-government organizations, with participation from Indigenous First Nations and Métis Nation of Ontario as observers.

The CNL representative noted that CNL also carries out basic and applied research in various areas including fuel and materials, cyber security, radiobiology, and commercial research and development activities; supports the CANDU industry;[24] and is developing capabilities in hydrogen sciences.

67. The Kebaowek First Nation provided the Commission with a written submission and an oral presentation (CMD 23-M30.10) focused on the Chalk River Laboratories mid-term update. In its written submission, Kebaowek First Nation expressed concerns with the CNSC's and CNL's engagement and consultation activities, and noted concerns and recommendations, including:

- the lack of inclusion of a climate lens in review of the licence and licensed activities
- the lack of inclusion of traditional ecological knowledge as part of various projects at CNL
- the implementation of UNDRIP

68. The Commission asked if AECL has a process or policy in place for working with Indigenous Nations and communities on past issues with respect to historical and ongoing operations of AECL-owned sites. A representative from AECL responded that AECL has had preliminary discussions with Natural Resources Canada regarding the development of such policies and processes. The AECL representative noted this is not something that AECL has actively pursued but could be looked into in the future.

69. The Commission asked for further information on AECL's efforts to implement UNDRIP with respect to its operations and to engagement with Indigenous Nations and communities at AECL-owned sites. An AECL representative reported that AECL has sought additional resources to augment its capacity for activities related to reconciliation. The AECL representative noted that AECL is co-creating a reconciliation action plan with Indigenous Nations and communities across all AECL-owned, CNL-managed sites, to be completed by fiscal year 2025-2026. A CNL representative stated that CNL has been working closely with Indigenous Nations and communities on this topic and will continue to do so in the future. The CNL representative also noted the capacity constraints raised by AECL and intervenors, and the work that CNL is currently performing in the co-establishment of a reconciliation action plan. The CNL representative added that CNL recently published an Indigenous procurement plan, which discusses direct procurements with Indigenous Nations and communities.

[24] The Canadian nuclear industry focusing on the Canada Deuterium Uranium (CANDU) reactor.

70. The Commission asked for further information on how CNSC staff determines that engagement has been adequate. CNSC staff responded that, for the 2022 CNL ROR, it reached out to all Indigenous Nations and communities it engages with regularly to seek their feedback on the CNSC's and CNL's engagement activities. CNSC staff added that a summary of the feedback received was included in the 2022 CNL ROR. As a future activity, CNSC staff noted it is exploring the option of collaboratively drafting documents with Indigenous Nations and communities.

71. The Commission asked CNL and CNSC staff for further information on the impact of climate change on CNL's sites. CNSC staff confirmed that the CNSC requires licensees to conduct hazard analysis and have processes in place to address operations against severe events. CNSC staff summarized the mechanisms it implements to evaluate climate change considerations. A representative from CNL noted that climate resistance planning is an integral part of CNL's projects and ongoing operations, and its current processes for safety analysis and safety evaluations require extreme weather and climate conditions to be evaluated. The CNL representative also noted that CNL's design standards are being revised to include climate resiliency requirements. Additionally, the CNL representative noted that, in preparation for potential future climate changes, CNL has carried out onsite improvements (e.g., replaced culverts and developed a forest management plan).

72. As a follow up to Kebaowek First Nation's concern regarding engagement prior to the mid-term report, the Commission asked CNSC staff to describe its process to engage with Indigenous Nations and communities. CNSC staff summarized its engagement process, including funding opportunities, and noted that the process was similar to that used for any document or report being presented to the Commission. A CNL representative noted that CNL has been engaging with Kebaowek First Nation through a framework agreement, which includes monthly scheduled working group meetings.

Discussion

73. The Commission asked CNL to explain why most of its reported events were related to fire protection. A CNL representative noted that 5 of the reported events were related to fire water line breaks, and that CNL has put in place a project to assess and remediate the underground fire water system as needed, while most of the remaining events were related to unplanned impairments to fire protection systems lasting longer than 12 hours. The CNL

representative noted that these types of events are representative of aging infrastructure, which CNL continues to assess and address.

74. The Commission asked CNL to further comment on the non-compliance related to the uranium-235 inventory in a facility at Chalk River Laboratories, as noted in section 4.4.1 of CMD 23-M30. A CNL representative noted that CNL has an inventory tracking system and that it carried out work to identify and characterize material within the facility to ensure it is below the mass limit that would require the area to have its own criticality assessment.

75. The Commission asked CNL to elaborate on the radioactive waste received from external sources in 2022. A CNL representative noted that the quantity is within the range that is typically received from offsite commercial generators such as hospitals, universities, and smaller companies. Regarding the distribution of waste received from external sources, CNL reported in supplemental CMD 23-M30.1B that of the 111.6 cubic meters (m^3) of waste, 45.6 m^3 was commercial waste (77% classified as low-level waste and 23% as intermediate-level waste[25]) and 66 m^3 was waste returned from off-site treatment of CNL waste (e.g., ash from incineration).

76. Asked to comment on the correlation between hiring and training new personnel and some of the operational issues noted in the 2022 CNL ROR (e.g., Whiteshell Laboratories safety stand-down), a CNL representative responded that, since 2018, CNL's focus had shifted from nuclear reactor operation and isotope production to decommissioning and waste-oriented capabilities. The CNL representative noted that this shift resulted in the need to develop a systematic approach to training for personnel in critical positions, and to retain and retrain personnel. The representative from CNL added that one of the lessons learned from the Whiteshell Laboratories event was the need for a centralized training, learning, and development management organization.

77. The Commission noted the quality of the 2022 CNL ROR and appreciated the information provided in response to Commission Members' questions and the availability of CNSC staff, CNL, AECL, and intervenors for the CNL ROR and Chalk River Laboratories mid-term update.

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[25] As per CNSC Regulatory Document, REGDOC-3.6, *Glossary of CNSC Terminology*, low-level waste is defined as radioactive solid waste that contains material with radionuclide content above established clearance levels and exemption quantities, but that generally has limited amounts of long-lived activity. Intermediate-level waste is defined as radioactive solid waste that typically exhibits levels of penetrating radiation sufficient to require shielding during handling and interim storage.

Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2022

78. With reference to CMD 23-M31 and CMD 23-M31.A, CNSC staff presented the 2022 ROR on the use of nuclear substances in Canada (the nuclear substances ROR). The 2022 nuclear substances ROR summarizes the safety performance of licensees in the medical, industrial, commercial, and academic and research sectors, as assessed by CNSC staff for the 2022 calendar year. Class IB particle accelerator facilities,[26] which are on a 3-year review cycle and were last discussed in the 2019 nuclear substances ROR, were not included in the 2022 nuclear substances ROR since both facilities were subject to licence renewal hearings (including interventions) in 2022.[27] CNSC staff added that these facilities would be included in the 2023 nuclear substances ROR.

79. The 2022 nuclear substances ROR includes the following information:

- an overview of inspections conducted by CNSC staff
- CNSC staff's assessment of licensee compliance and performance, focussing on the SCAs that are the most relevant indicators of licensee safety performance[28]
- enforcement actions taken by CNSC staff, including orders and administrative monetary penalties
- radiation doses to workers and licensee performance in keeping doses as low as reasonably achievable (ALARA)
- events reported to the CNSC by licensees
- CNSC staff's outreach and public engagement activities
- an update on safeguards-related activities and international regulations and other commitments

80. In addition, CNSC staff presented the following information:

- a status update on Mississauga Metals & Alloys Inc. (MM&A)[29]

[26] These Class IB facilities are the Tri University Meson Facility (TRIUMF) and the Canadian Light Source Inc. (CLSI).
[27] The public hearing on the CLSI's and TRIUMF Accelerators Inc.'s applications for licence renewal took place on March 23-24, 2022. On May 31, 2022, the Commission renewed the CLSI Class IB Particle Accelerator Operating Licence for a period of 10 years, and on June 16, 2022, the Commission renewed the TRIUMF Class IB Particle Accelerator Operating Licence for a period of 10 years.
[28] The SCAs of focus are management system, operating performance, radiation protection, security, and conventional health and safety, and environmental protection for waste nuclear substance licensees.
[29] As reported in CMD 23-M31, MM&A declared bankruptcy on August 20, 2021 and subsequently its waste nuclear substance licence expired on February 28, 2022. The bankruptcy of MM&A was brought to the attention of the Commission at the October 2021 Commission meeting. CNSC staff continues to provide updates on this file as part of the ROR on the use of nuclear substances in Canada.

- engagement activities, including written communication and an in-person meeting, with three interested parties, as a follow up to the 2021 nuclear substances ROR
- a summary of changes made to the 2022 ROR in response to past input and feedback such as:
    - further explanation on how a grade for an SCA is calculated and various factors that impact the rating for an SCA, to help the reader in interpreting the results
    - changes in the trending approach applied for the 2022 ROR (i.e., comparing 2022 performance rating to a 5-year average rating)
    - additional information on the licensing process and the type of licenced activities covered in the report
- the key themes of interventions submitted for the 2022 nuclear substances ROR, including:
    - availability of data specifically related to environmental release data and to performance reporting in other SCAs
    - further information on the regulated industries themselves
    - additional information on reportable events
    - additional information on performance of the medical sector in the Radiation Protection SCA

Interventions

81. With respect to the CNSC's PFP availability for the 2022 nuclear substances ROR, a Funding Review Committee recommended that up to $10,000 in participant funding be provided to the Canadian Environmental Law Association and the Nuclear Transparency Project.

82. The Canadian Radiation Protection Association (CMD 23-M31.1), the Canadian Environmental Law Association (CMD 23-M31.2), Canadian Nuclear Workers Council (CMD 23-M31.3), and the Nuclear Transparency Project (CMD 23-M31.4) provided written interventions regarding the 2022 nuclear substances ROR.

83. The Canadian Radiation Protection Association (CMD 23-M31.1) and the Canadian Environmental Law Association (CMD 23-M31.2) raised concerns regarding the declining trend in performance for the medical sector. The Commission asked CNSC staff to comment on the performance of this sector. CNSC staff stated that there is no immediate concern with respect to health and safety in the Radiation Protection SCA in the medical

sector. CNSC staff noted the complexity of the data analyzed for the medical sector over the past 5 years and the associated trends, and described the regulatory guidance and actions taken prior to the COVID-19 pandemic. CNSC staff added that some of the anticipated improvements were masked by the impact of the pandemic on the medical sector. CNSC staff also added that the *Radiation Protection Regulations*[30] were amended in 2020, and that the results of inspections reported in the 2022 ROR were reflective of licensees implementing new requirements. CNSC staff explained that, when excluding the non-compliances related to the implementation of the amended *Radiation Protection Regulations*, the performance was comparable to other sectors and to previous years.

84. Further to the declining performance trends observed in the Radiation Protection SCA in the medical sector, the Commission asked if CNSC staff explored the systemic nature of the issue and historical data longer than 5 years. CNSC staff responded that it had not analyzed long-term trends, but that it could be investigated in the future. CNSC staff noted that if any area in a Radiation Protection inspection is ranked low, that ranking is reflected in the entire Radiation Protection SCA. CNSC staff provided the example that if a licensee cannot produce one record out of all requested records, yet is compliant with all other requirements, it is still deemed to be non-compliant with that specific area of the *Radiation Protection Regulations*.

85. The intervention by the Canadian Environmental Law Association (CMD 23-M31.2) commented on the lack of hearing and meeting transcripts on the CNSC website. On this matter, the Acting Commission Registrar explained that the transcripts were removed from the CNSC website to ensure compliance with the *Official Languages Act*,[31] and that transcripts remain available upon request to the Commission Registry.

86. With respect to the Canadian Radiation Protection Association intervention (CMD 23-M31.1), the Commission asked CNSC staff to comment on the reference to thermoluminescent dosimeters (TLDs) in section 5 of the ROR (CMD 23-M31). CNSC staff responded that there are no specific concerns around licensees' use of TLDs, and added that it would follow up with the Canadian Radiation Protection Association to address the comment.

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[30] SOR/2000-203.

[31] R.S.C. 1985, c. 31 (4th Supp.). The *Official Languages Act* states that any form of communication, including oral, written, electronic, virtual or other shall be published simultaneously in both official languages. As transcripts reflect the language used during the meeting or hearing, they will remain available to the public upon request.

Discussion

87. When asked by the Commission to comment if the reported ratings for the medical sector would be acceptable if the sector was replaced with the nuclear power reactor sector, the CNSC staff responded that the comparison is not a direct one. CNSC staff noted that different sectors have different risk profiles, and the requirements and consequently regulatory compliance is prescriptive for the medical sector not performance-based as in the nuclear power reactor sector.

88. The Commission asked for further clarification on the CNSC rating system for Radiation Protection, between the various sectors. CNSC staff explained that all program areas use the same rating structure but differ on how the structure is applied. The rating system is further described in CNSC's staff submission (Appendix J of CMD 23-M31).

89. The Commission asked about additional strategies that CNSC staff was undertaking to ensure compliance in the medical sector. CNSC staff also provided examples of activities undertaken in 2023 to address compliance issues noticed in the medical sector, such as:

- webinars with licensees on the expectations and CNSC requirements related to the revised *Radiation Protection Regulations*
- ongoing dialogue with the Canadian Radiation Protection Association through the working group that looks at continuous improvement
- targeting the nuclear medicine and veterinary nuclear medicine sub-sectors, focusing on areas that were highlighted during inspections as needing improvement, and offering to have CNSC staff proactively review licensees' radiation safety programs and associated procedures to ensure compliance with revised regulations

90. Noting that all three events rated on the International Nuclear and Radiological Event Scale (INES) as level 1[32] were related to theft of portable gauges[33] (section 6 of CMD 23-M31), the Commission asked for further information on the CNSC's response to this type of event. CNSC staff explained that when a portable gauge is stolen, a licensee must report it missing through

[32] INES is a 7-point scale (0 – 7) used to communicate the safety significance of nuclear and radiological events to the public. A level 1 represents an anomaly that may have an impact on defence in depth.
[33] Portable gauges containing nuclear substances such as cesium-137 or americium-241/beryllium mixtures are used for a variety of industrial applications such as density or moisture content measurements.

the CNSC's Duty Officer.[34] CNSC staff then contacts the licensee to request additional information about the gauge, including the type and serial number, tracks the information in the CNSC database, and notifies appropriate parties. CNSC staff noted that licensees have 21 days to provide a full written report, and if the gauge is not found, quarterly updates are required. CNSC staff added that the gauge remains on the CNSC's lost and stolen nuclear substances or prescribed equipment database until it is found. CNSC staff noted that stolen gauges are often inside a vehicle that is targeted for theft.

91. The Commission asked for confirmation that the nuclear materials stored at the MM&A site continue to be safe and secure. CNSC staff confirmed that the safety and security of the nuclear materials on the MM&A site is ensured by:

- maintaining a 24/7 security presence on the MM&A site
- receiving daily reports from the security presence
- carrying out periodic inspections to confirm the security reports and verify that radiation fields remain at or near background levels

92. The Commission noted the quality of the 2022 nuclear substances ROR and appreciates CNSC staff's responses to Commission Members' questions.

93. The Commission directs that in the 2023 nuclear substances ROR, CNSC staff add additional information on the compliance efforts and additional outreach and communication activities undertaken to address some of the compliance issues noted in the medical sector Radiation Protection SCA. **Action** by December 2024

94. The Commission underlines the importance of investigating and identifying the root cause of the negative trends and compliance issues in the Radiation Protection SCA in the medical sector. The Commission directs CNSC staff to present an update on the available medical sector data for 2023 at a Commission public meeting in spring 2024. **Action** by summer 2024

STATUS REPORT ON POWER REACTORS

95. With reference to CMD 23-M45, which includes the Status Report on Power Reactors, CNSC staff presented the following updates:

- Bruce Power Nuclear Generation Station (NGS) Unit 3 Major Component Replacement activities started in March 2023 and

[34] The CNSC Duty Officer emergency phone line is available 24 hours a day, 7 days a week to report a nuclear incident involving a nuclear facility or radioactive material.

the project is on schedule with bulkhead installation complete and moderator drain and dry work ongoing

- Bruce Power NGS Unit 5 went into a forced outage on October 22, 2023 to repair a heat transport leak in an instrument line, and is back to 80% full power as of November 2, 2023
- Bruce Power NGS Unit 8 was shut down on September 15, 2023 for a planned maintenance outage and is expected to return to service in December 2023
- Ontario Power Generation (OPG) Darlington NGS Unit 1 refurbishment is on schedule
- OPG Darlington NGS Unit 4 refurbishment, started in July 2023, is on schedule, with moderator draining activities currently in progress
- OPG is expected to submit a formal request to release the regulatory hold point to allow fuel load for Darlington NGS Unit 1 in April 2024, and for Unit 4 in July 2025
- OPG Pickering NGS Unit 1 was returned to full power on October 25, 2023, following a planned outage of a fuelling machine
- OPG Pickering NGS Unit 8 is shut down as it is in a planned maintenance outage, expected to return to service in January 2024

96. In its written submission, CMD 23-M45, CNSC staff provided an update on the progress on hydrogen equivalent concentration ([Heq]) research and development (R&D) program commitments at Bruce Power and OPG. CNSC staff noted that based on a review of the R&D plans and the first update provided by Bruce Power and OPG on March 29, 2023, CNSC staff was satisfied with the progress and scope of the work. CNSC staff further noted that Bruce Power and OPG had submitted their second semi-annual update for CNSC staff review on September 27, 2023, and that CNSC staff expected to present it to the Commission during the December 2023 Commission public meeting.

97. The Commission asked for an overview of CNSC's staff role with respect to the [Heq] R&D program. CNSC staff explained that its role is to evaluate the outcomes of the various research activities carried out by Bruce Power and OPG and verify if identified safety concerns have been adequately addressed. CNSC staff noted that, if necessary, CNSC staff may engage in separate activities through the CNSC's research and support program but would not be involved in the industry's program.

98. Asked about the reasons for the delay in some of the R&D commitments, CNSC staff responded that adjustments in some of the dates is expected as the licensees advance and gain precision in the types and timing of some of the activities. CNSC staff

noted that the licensees provide updates and information on the various commitments as part of regular semi-annual update meetings.

99. Asked for clarification on the type of experiments the licensees are performing as part of the [Heq] R&D program, CNSC staff noted that these are physical experiments involving pressure tube material removed from the reactors. CNSC staff emphasized that the experiments use irradiated material, and require careful planning and handling protocols, and controlled environments.

100. The Commission asked for further information on the Bruce NGS Unit 5 leak. CNSC staff reported that Unit 5 went into a forced 10-day outage starting on October 22, 2023 to repair a leak in a heat transport instrument line. A representative from Bruce Power added that this was a threading leak in an instrument line, similar to another leak that previously took place at Unit 4 in June 2023 (Event Initial Report, CMD 23-M20). The Bruce Power representative noted that Bruce Power has an ongoing maintenance program in place to assess the instrument lines at various units, address the issues, and prevent similar leaks moving forward. The Bruce Power representative also noted that during the Unit 5 outage, a total of 104 instrument lines were assessed and preventive maintenance was performed as needed.

101. The Commission commended CNSC staff on the inclusion of the table summarizing the [Heq] R&D program commitments and the status and progress of each commitment.

DECISION ITEM – REGULATORY DOCUMENT

Regulatory Document REGDOC-2.2.1, *Human Performance*, Version 2

102. With reference to CMD 23-M32, CNSC staff presented regulatory document (REGDOC[35]) REGDOC-2.2.1, *Human Performance*, Version 2, for the Commission's consideration for acceptance for publication and use. CNSC staff explained that REGDOC-2.2.1, Version 2, clarifies requirements and provides guidance on how applicants and licensees of Class I nuclear facilities and uranium mines and mills can understand and manage the factors related to the humans, technology, and organization (HTO) associated with their human performance program. CNSC staff noted that REGDOC-2.2.1, Version 2, identifies four requirements:

[35] REGDOCs play a key role in the CNSC's regulatory framework. They explain to licensees and applicants what they must achieve in order to meet the requirements set out in the *Nuclear Safety and Control Act* (NSCA) and the regulations made under the NSCA. When included in the licensing basis, REGDOC requirements are mandatory and must be met to obtain or renew a licence or to operate a nuclear facility.

- to document the strategy and practices for managing the human performance program
- to implement a systemic approach to managing the human performance program
- to identify a senior manager who is responsible for the human performance program
- to learn and continuously improve based on the systemic analysis and understanding of human performance

103. CNSC staff also provided information regarding the public consultation undertaken for REGDOC-2.2.1, Version 2. CNSC staff reported that, during the consultation period, from August 23 to November 21, 2022, it received 36 distinct comments from the following 7 respondents:

    - Bruce Power
    - Canadian Nuclear Association
    - Canadian Nuclear Laboratories
    - Cameco Corporation
    - New Brunswick Power
    - Ontario Power Generation
    - Prodigy Clean Energy

    CNSC staff further submitted that, during the development of REGDOC-2.2.1, Version 2, CNSC staff met with specialists from the CANDU Owner's Group (COG) Safety Culture and Human Organizational Factors Peer Group and with COG regulatory affairs representatives to discuss the draft document.

104. CNSC staff noted that the key issues raised during public consultation were on:

    - clarification of what the human performance program entails
    - the use of the term "just culture"
    - the use of a "one-size-fits-all" model to manage human performance
    - further information on the concept of HTO and the systemic analysis of human performance
    - implementation of the requirements stated in the REGDOC

    CNSC staff noted that staff reviewed and considered all feedback received during the public consultation period and that follow up meetings took place in March 2023 and April 2023 with industry stakeholders to discuss any remaining concerns.

105. CNSC staff further noted that it expects REGDOC-2.2.1, Version 2 to have a positive impact on both regulatory oversight and licensees' operations with respect to human performance by:

- providing clear regulatory interpretations to applicants and licensees
- aligning with international regulatory practices, thus placing Canada in the community of leading regulatory bodies
- putting a strong emphasis on continued improvement through proactive outreach and regular touchpoints with industry
- providing a modern, flexible and clear approach to managing human performance in the nuclear industry

106. The Commission asked about the implementation, from a licensee's perspective, of REGDOC-2.2.1, Version 2, and the type of activities they would need to undertake to meet the requirements. CNSC staff responded that licensees are responsible for implementing new or revised requirements from REGDOCs, which is dependent on each licensee's existing programs and processes. As a general approach, CNSC staff noted that it would inform impacted licensees and request implementation plans including a gap analysis and timeline for implementation. The implementation plan, upon review and acceptance by CNSC staff, would be included in a revision to the Licence Conditions Handbook. CNSC staff added that, once the REGDOC is part of the Licence Conditions Handbook, the compliance verification criteria for future technical assessments or inspections would include the new requirements.

107. The Commission asked about CNSC staff's expectations for licensees' implementation timelines. CNSC staff noted that human performance is not a new regulatory oversight topic. CNSC staff explained that generally, a licensee has 6 months after the receipt of a letter informing them of a new or revised REGDOC to provide an implementation plan. However, as each licensee is different depending on the maturity of their current programs and processes, CNSC staff does not have a prescribed timeline on implementation. CNSC staff noted that it would work with licensees to ensure the correct understanding of the new requirements and that each licensee develops an implementation plan that targets its own business and practices. Representatives from NB Power and OPG noted their engagement throughout the development of the revised REGDOC, and that Class I licensees have mature human performance programs that evolved over a long period of time. The NB Power and OPG representatives also expressed their support for REGDOC-2.2.1, Version 2, and the added clarity that it will bring with respect to regulatory oversight and inspections.

108. Asked if REGDOC-2.2.1, Version 2, would contribute to the reduction in human performance non-compliances, CNSC staff noted that, in the long term, the systemic approach introduced by the revised REGDOC is expected to have a positive impact on human performance reportable events in terms of reduction in both numbers and severity of events. However, in the short term, there may be an increase in the human performance events because of the raising of awareness, systemic consideration of human performance activities and actions, and licensees implementing the new requirements.

109. The Commission enquired about the transparency and accessibility of REGDOCs. CNSC staff responded that transparency and accessibility are currently achieved by:

- having a landing page summary for each REGDOC, written in plain language and published on the external website
- adding a concise and clear summary description in the communication accompanying REGDOCs issued for public consultation
- including technical writers as part of the writing team for a REGDOC, to help ensure that the language used throughout the document is clear and concise
- creating a CNSC internal pilot project to look at digitizing the regulatory framework to ensure material is searchable and easier to navigate
- having a number of options available for the general public to ask questions on the regulatory framework such as webinars, the CNSC Info Line and CNSC staff directly

110. The Commission noted that the REGDOC was well written and provides a good balance in the level of details such that it applies to a wide audience while providing sufficient information and direction in terms of the established requirements.

Decision on REGDOC-2.2.1

111. After considering the recommendations submitted by CNSC staff, the Commission accepts REGDOC-2.2.1, *Human Performance*, Version 2, for publication and use. The Commission is satisfied that the REGDOC clarifies requirements for applicants and that it aligns with current practices and international guidance on this topic. Following the meeting, the Commission issued its decision with respect to this matter.[36]

DECISION

[36] Commission Decision on Regulatory Document (REGDOC), *REGDOC-2.2.1*, CNSC, November 2023.

Closure of the Public Meeting

112. The public meeting closed at 2:51 p.m. EDT on November 2, 2023.

Dranga, Ruxandra

Digitally signed by Dranga, Ruxandra
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Reason: I am the author of this document
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Recording Secretary

Date

Saumure, Denis

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Commission Registrar

Date

APPENDIX A

CMD	Date	e-Docs No.
23-M43	2023-10-13	7143111
Notice of Commission Meeting for November 1-2, 2023		
23-M44	2023-10-18	7133899
Agenda of the Meeting of the Canadian Nuclear Safety Commission (CNSC) to be held on November 1 and 2, 2023, at 140 Promenade du Portage, Phase IV, Gatineau, Quebec		
23-M44.A	2023-10-26	7148915
Revised agenda of the Meeting of the Canadian Nuclear Safety Commission (CNSC) to be held on November 1 and 2, 2023, at 140 Promenade du Portage, Phase IV, Gatineau, Quebec		
23-M46	2023-10-18	7149128 – English 7149006 – French
Information Item Update on the CNSC's Consultation and Engagement Programs Presentation from CNSC Staff		
23-M30	2023-08-02	7067398
Information Item Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from CNSC Staff		
23-M30.A	2023-10-25	7152569 – English 7152777 – French
Information Item Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Presentation from CNSC Staff		
23-M30.1	2023-08-03	7100775
Information Item Mid-Term Update of Licensed Activities for the Chalk River Laboratories Site Written submission from the Canadian Nuclear Laboratories		
23-M30.1A	2023-10-25	7153817
Information Item Mid-Term Update of Licensed Activities for the Chalk River Laboratories Site Presentation from the Canadian Nuclear Laboratories		

CMD	Date	e-Docs No.
23-M30.3	2023-10-02	7138952
Information Item Mid-Term Update of Licensed Activities for the Chalk River Laboratories Site and Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from the Algonquins of Pikwàkanagàn First Nation		
23-M30.3A	2023-10-25	7153745
Information Item Mid-Term Update of Licensed Activities for the Chalk River Laboratories Site and Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Presentation from the Algonquins of Pikwàkanagàn First Nation (A. Two-Axe Kohoko)		
23-M30.6	2023-10-03	7139279
Information Item Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from the Manitoba Métis Federation		
23-M30.6A	2023-10-25	7153771
Information Item Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Presentation from the Manitoba Métis Federation (M. Riel)		
23-M30.7	2023-10-04	7139666
Information Item Mid-Term Update of Licensed Activities for the Chalk River Laboratories Site and Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from the Nuclear Transparency Project (P. Feinstein)		
23-M30.10	2023-10-11	7144678
Information Item Mid-Term Update of Licensed Activities for the Chalk River Laboratories Site and Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from the Kebaowek First Nation (J. Roy and R. Van Schie)		
23-M30.2	2023-10-02	7138928
Information Item Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from the Chippewas of Kettle and Stony Point First Nation		

CMD	Date	e-Docs No.
23-M30.4	2023-10-02	7138996
Information Item Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from the Canadian Environmental Law Association		
23-M30.5	2023-10-02	7139092
Information Item Mid-Term Update of Licensed Activities for the Chalk River Laboratories Site and Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from the Canadian Nuclear Workers' Council		
23-M30.8	2023-10-04	7139974
Information Item Mid-Term Update of Licensed Activities for the Chalk River Laboratories Site and Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from the Atomic Energy of Canada Limited		
23-M30.9	2023-10-09	7142396
Information Item Mid-Term Update of Licensed Activities for the Chalk River Laboratories Site and Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022 Written submission from the Hiawatha First Nation		
23-M45	2023-10-23	7151239
Status Report Status Report on Power Reactors Written submission from CNSC Staff		
23-M32	2023-10-10	7139052
Decision Item REGDOC-2.2.1, *Human Performance, Version 2* Written submission from CNSC Staff		
23-M32.A	2023-10-24	7151607 – English 7151646 – French
Decision Item REGDOC-2.2.1, *Human Performance, Version 2* Presentation from CNSC Staff		

CMD	Date	e-Docs No.
23-M31	2023-08-11	7105904 – English 7105926 – French
Information Item Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2022 Written submission from CNSC Staff		
23-M31.A	2023-10-23	7151491 – English 7151502 – French
Information Item Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2022 Presentation from CNSC Staff		
23-M31.1	2023-10-03	7139533
Information Item Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2022 Written submission from the Canadian Radiation Protection Association		
23-M31.2	2023-10-03	7139431
Information Item Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2022 Written submission from the Canadian Environmental Law Association		
23-M31.3	2023-10-03	7139466
Information Item Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2022 Written submission from the Canadian Nuclear Workers' Council		
23-M31.4	2023-10-03	7139480
Information Item Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2022 Written submission from the Nuclear Transparency Project		
23-M39	2023-10-18	7148487 – English 7148513 – French
Information Item Update on the Independent Environmental Monitoring Program (IEMP) Presentation from CNSC Staff		

CMD	Date	e-Docs No.
23-M40	2023-10-18	7147402 – English 7147536 – French
Information Item Canada's Participation at Joint 8th and 9th Review Meeting of the Convention on Nuclear Safety Presentation from CNSC Staff		