



Minutes of the Canadian Nuclear Safety
Commission (CNSC) Meeting held on
March 24, 2022

Minutes of the Canadian Nuclear Safety Commission (CNSC) meeting held Thursday, March 24, 2022, starting at 9:00 a.m. EDT. The public portion of the meeting was [webcast live](#) via the CNSC website, and [video archives](#) are available on the CNSC's website. These minutes reflect both the public portion of the meeting and the Commission's determinations made as a result of the meeting.

Present:

R. Velshi, President
S. Demeter
R. Kahgee
I. Maharaj

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

CNSC staff advisors were: A. Viktorov, B. Carroll and W. Grant,

Other contributors were:

- NB Power: N. Reiker
- Bruce Power: M. Burton and G. Newman
- Ontario Power Generation: A. Grace, J. Scongack and S. Irvine

Constitution

1. With the notice of meeting [Commission member document \(CMD\) 22-M10](#) having been properly given and all permanent Commission members being present, the meeting was declared to be properly constituted.
2. Since the Commission meeting held January 26 and 27, 2022, [CMD 22-M10 to CMD 22-M16](#) were distributed to members. These documents are further detailed in Appendix A of these minutes.

Adoption of the Agenda

3. The revised agenda, [CMD 22-M11.A](#), was adopted as presented.

Chair and Secretary

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

Minutes of the CNSC Meeting Held January 26 & 27, 2022

5. The Commission had secretarily approved the [minutes of the January 26 and 27, 2022 Commission meeting](#) (CMD 22-M14).

STATUS REPORT ON POWER REACTORS

6. With reference to [CMD 22-M15](#), which includes the Status Report on Power Reactors, CNSC staff presented the following update:
 - Bruce Power Nuclear Generating Station (NGS) Unit 3 is currently shut down to repair the electrohydraulic governor.
7. The Commission asked how licensees will adjust to the lifting of COVID-19 related mandates in various jurisdictions. Representatives from Bruce Power, Ontario Power Generation (OPG) and New Brunswick (NB) Power provided details on their respective organization's updated COVID-19 protocols. The representatives indicated that their organizations continue to closely monitor provincial public health guidance.
8. Asked about the timeline to fully resolve the continued vibration issue¹ at Bruce Power NGS Unit 2, a Bruce Power representative explained that the issue would be repaired during the upcoming planned outage in spring 2022. The representative noted that Unit 2 is planned to be returned to full power following this outage. Regarding the governor control system of Unit 3, the Bruce Power representative reported that this is planned to be replaced during the upcoming Unit 3 major component replacement (MCR) project. In response to a Commission question, the Bruce Power representative stated that the completion of the Unit 6 MCR project is planned for October 2023.

¹ The Bruce Power NGS Unit 2 vibration issue was discussed in the Status Report on Power Reactors ([CMD 21-M55](#)) presented at the [November 2021 Commission meeting](#).

9. As directed by the Commission at the [January 2022 Commission meeting](#) (CNSC action #24921), CMD 22-M15 also includes an update regarding the development of a plan to expedite the specific Phase II objectives related to the questions raised at the [2018 Pickering NGS renewal hearing](#) of the Potassium Iodide Pill Working Group (KIPWG). Asked when this plan would be drafted, CNSC staff explained that the KIPWG had recently met to discuss expediting the Phase II objectives pertaining to feasibility of emergency distribution in the ingestion planning zone (IPZ) and pre-distribution to schools within the IPZ, and that work to reach concurrence was ongoing. CNSC staff acknowledged the engagement from KIPWG members and the Toronto District School Board.
10. The Commission notes its continued interest in addressing the questions raised during the 2018 Pickering NGS renewal hearing and directs CNSC staff to provide a further update to the Commission on the KIPWG's agreed upon plan to expedite relevant Phase II objectives. This update is to be provided to the Commission Registry if available in advance of the next meeting of the Commission.

EVENT INITIAL REPORT (EIR)

Bruce Power: Elevated Hydrogen Equivalent Concentration in the Inlet Rolled Joint of a Bruce Pressure Tube Removed from Service

11. With reference to [CMD 22-M16](#), CNSC staff presented information regarding the measurement of elevated hydrogen equivalent concentration ([Heq]) in the area of the inlet rolled joint of a Bruce Power NGS Unit 6 pressure tube (PT) that had been previously removed from service. CNSC staff noted that Bruce Power provided preliminary information to the CNSC in December 2021, and that CNSC staff have since received additional information and conducted an independent evaluation. CNSC staff found that there is no concern over the ability of safety systems to effectively perform their safety functions to ensure continued safe operation.
12. The Commission asked about the validity of the various models used to evaluate PT fitness for service currently in use related to [Heq]. CNSC staff responded that modeled predictions continue to match measurements in the vast majority of the PT but noted that the various models were not developed for this highly localized phenomenon. Regarding the fracture toughness model, CNSC staff noted that further testing on material with higher [Heq] will be required. CNSC staff added that the limitations of the current

models are not a safety concern but indicate a need to improve the ability to predict [Heq].

13. The Commission noted the discussion from the [September 3, 2021, Commission meeting](#) regarding elevated [Heq] discovered in the outlet rolled joint region of PTs, and asked how the discoveries at the inlet and outlet ends compare. A Bruce Power representative detailed recent additional in-service inspections of the inlet rolled joint region, which demonstrated low [Heq] on the inner diameter of the PT. Bruce Power and OPG representatives explained that the elevated [Heq] at the inlet and outlet ends are distinct phenomena, and that the inlet [Heq] elevation was found on the outer diameter of the PT. CNSC staff added that the inlet and outlet phenomena have different fitness for service considerations. CNSC staff's criteria for demonstrating fitness for service in the outlet rolled joint scenario was based on the demonstrated lack of flaws in that region, while the presence of known flaws in the inlet rolled joint region means that the same criteria cannot be used.
14. The Commission asked about planned work to update predictive models, such as the hydrogen uptake model. A Bruce Power representative detailed ongoing initiatives that build on the work that began following the discovery of elevated outlet [Heq] and informed the Commission of Bruce Power's intention to apply for an [Heq]-related amendment to its operating licence. An OPG representative provided information on OPG's analysis of removed from service PTs and indicated that OPG would be presenting its recent findings at an upcoming industry workshop. An NB Power representative highlighted the upcoming fuel channel inspection at the Point Lepreau NGS and stated that NB Power continues to support the industry. CNSC staff reported that it has found the industry's response to the discovery of elevated [Heq] to be appropriate. CNSC staff added that it would explore the possibility of involving international expertise.
15. The Commission is satisfied with the preliminary information provided pertaining to the discovery of elevated [Heq] in the vicinity of the inlet rolled joint and appreciates the availability of CNSC staff and licensee representatives to answer Commission members' questions. The Commission notes that the [External Advisory Committee on pressure tubes](#) has also been informed of this matter. Originally envisioned for the spring of 2022, the Commission is expecting licensees and CNSC staff to bring further information before the Commission – addressing both the inlet and outlet – at a meeting of the Commission in the fall of 2022. It is intended that Indigenous Nations and communities and members of the public will be invited to participate in the meeting.

UPDATES ON ITEMS FROM PREVIOUS COMMISSION PROCEEDINGS

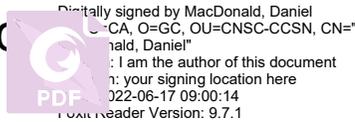
Update from CNSC Staff on Exceedance of the Annual Dose Limit for a Nuclear Energy Worker at Jubilant DraxImage (Action Item from April 27 and October 5, 2021, Commission Meetings)

- 16. By way of a memo filed on February 3, 2022 ([CMD 22-M13](#)), CNSC staff provided an update regarding the April 19, 2021, event at Jubilant DraxImage Inc. where a nuclear energy worker received an estimated thyroid dose of 560 mSv. Further to the updates provided to the Commission on [April 27](#) and [October 5](#), 2021, this update detailed CNSC staff’s analysis of the use of glass vials with radiopharmaceuticals. CNSC staff found that the event was an isolated incident and that Jubilant DraxImage Inc. had revised its procedures to require personal protective equipment for all steps of spill clean-up. With respect to the use of glass vials, CNSC staff reported that the risk of breakage is low and does not outweigh the many benefits. The Commission is satisfied with the information provided in CMD 22-M13 and appreciates CNSC staff’s detailed response.

Closure of the Public Meeting

- 17. The public meeting closed at 09:59 a.m. EDT on March 24, 2022. The Commission convened for a closed session to discuss the publishing of updates to the [Nuclear Security Regulations](#) in the Canada Gazette, Part I.

MacDonald
Daniel

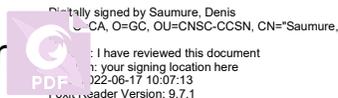


Recording Secretary

June 17, 2022

Date

Saumure, Denis



Registrar

June 17, 2022

Date

APPENDIX A

CMD	Date	e-Docs No.
22-M10	2022-02-24	6737212
Notice of Virtual Meeting of the Commission on March 24, 2022		
22-M11	2022-03-15	6737216
Agenda of the Meeting of the Canadian Nuclear Safety Commission (CNSC) to be held remotely on March 24, 2022		
22-M14	2022-03-01	6737821
Approval of the Minutes of Commission Meetings held on January 26 and 27, 2021		
22-M13	2022-02-03	6737213
Update on an item from a previous Commission proceedings Update from CNSC staff on exceedance of the annual dose limit for a Nuclear Energy Worker at Jubilant DraxImage (Action item from April 27 and October 5, 2021 Commission Meetings) Written submission from CNSC Staff		
22-M15	2022-03-17	6758303
Status Report Status Report on Power Reactors Written submission from CNSC Staff		
22-M16	2022-03-17	6758303
Event Initial Report Bruce Power: Elevated Hydrogen equivalent concentration (Heq) in the inlet rolled joint of a Bruce pressure tube removed from service Written submission from CNSC Staff		
22-M12	2022-03-09	6753140
Decision Item REGDOC-2.4.4, Safety Analysis for Class IB Facilities Written submission from CNSC Staff		
22-M12.A	2022-03-24	6757506
Decision Item REGDOC-2.4.4, Safety Analysis for Class IB Facilities Presentation from CNSC Staff		