

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Thursday, February 21, 2008 beginning at 9:05 a.m. in the Public Hearing Room, CNSC Offices, 280 Slater Street, Ottawa, Ontario.

Present:

M. Binder, President  
A. Graham  
C.R. Barnes  
M.J. McDill  
A. Harvey  
R. Barriault

M.A. Leblanc, Secretary  
S. Maislin Dickson, Legal Counsel  
S. Dimitrijevic, Recording Secretary

CNSC staff advisers were:

B. Howden, T. Viglasky, T. Schaubel, G. Frappier, S. Nguyen, A. Blahoianu,  
A. Régimbald, P. Fundarek, R. Jammal and P. Hawley

Other contributors were:

- Atomic Energy of Canada Limited: B. McGee
- Ontario Power Generation Inc.: M. Elliott and R. Black
- Geological Survey of Canada: J. Adams

#### Adoption of the Agenda

1. The revised agenda, CMD 08-M6.B, was adopted as presented.

#### Chair and Secretary

2. The President chaired the meeting of the Commission, assisted by M.A. Leblanc, Secretary and S. Dimitrijevic, Recording Secretary.

#### Constitution

3. With the notice of meeting, CMD 08-M5.A, having been properly given and a quorum of Commission Members being present, the meeting was declared to be properly constituted.
4. Since the meeting of the Commission held January 9, 2008, Commission Member Documents CMD 08-M5 to CMD 08-M14 were distributed to the Members. These documents are further detailed in Annex A of these minutes.

Minutes of the CNSC Meeting Held January 9, 2008

5. The Commission Members approved the minutes of the January 9, 2008 Commission meeting without modifications.
6. With respect to the Action Item referred to in paragraph 26 of the minutes, the Commission inquired about the status of soil remediation at the Cameco Corporation's uranium hexafluoride plant site located in Port Hope, Ontario.
7. CNSC staff responded that a report, which will include safety culture issues, is scheduled to be presented to the Commission in 2009.
8. CNSC staff added that it will update the Commission within the next three months on the progress regarding the remediation of the Port Hope facility for its return to service.

**ACTION**

**ACTION**

STATUS REPORTSSignificant Development Report

9. The Commission considered the Significant Development Report (SDR) no. 2008-2, submitted by CNSC staff as documents CMD 08-M8 and CMD 08-M8.A.

*Atomic Energy Canada Limited (AECL) – Update on NRU Reactor*

10. With reference to CMD 08-M8, regarding the update on the National Research Universal reactor (NRU) main heavy water pumps P104 and P105 connection to the emergency power supply (EPS), CNSC staff informed the Commission about a reactor trip of January 28, 2008 and a subsequent planned outage that was used to finalize the connection of the pumps to the EPS. CNSC staff added that on January 31, 2008, AECL had successfully completed the commissioning tests following the connection of the motor starter for P104 to the EPS.
11. CNSC further informed the Commission on its planned actions, including a follow-up inspection on the NRU upgrades to close the directives and action notice, as well as a review of corrective actions identified in AECL's root cause assessment. CNSC staff noted that, as the work has progressed successfully, weekly senior management meetings between CNSC staff and AECL staff had been moved to a monthly basis.

12. With respect to the question asked by the Commission at the previous meeting regarding maintenance backlog, CNSC staff stated that it has done some preliminary work and committed to provide the Commission with a status report as soon as it completes its assessment.
13. AECL reported that the seismically qualified motor starters for the pumps P104 and P105 have been installed and were declared fully operational on February 1, 2008. The reactor has returned to service on February 2, 2008.
14. With respect to the maintenance of diesel generators and battery backups, as discussed by the Commission at the previous meeting, AECL explained its maintenance procedure and provided the frequency of testing and replacement of the equipment.
15. With respect to seismic activity in the Chalk River area, also a question asked by the Commission at its previous meeting, AECL presented data from Natural Resources Canada, quoting that, since 1900, only one earthquake of the magnitude of 4 on the Richter scale occurred in the area. AECL also noted that the two earthquakes that occurred in December 2007 were of a magnitude of 3 and 3.6 on the Richter scale.
16. At the end of his presentation, Mr. Brian McGee, Senior Vice-President and Chief Nuclear Officer for AECL, informed the Commission that he will be leaving the company in May 2008.
17. The Commission inquired on the current trip rate for the NRU reactor. AECL responded that there are 15 to 20 trips per year, and that the frequency has been consistently declining. CNSC staff noted that the trip frequency cannot be compared with other research reactors due to the unique design of the NRU and the fact that other research reactors do not operate on a full-time basis.
18. The Commission further inquired if the recent trip could be related to the ageing of the reactor. CNSC staff responded that ageing was not the likely cause of the trip.
19. Considering the total outage time in January and February 2008, the Commission sought information on the potential consequences on the isotope production. AECL responded that the outages did not cause any interruption in isotope supply.
20. The Commission enquired whether the information on the deeper root cause analysis from phase 2 of AECL's investigation, as indicated in CMD 08-M8 and discussed at the previous meeting,

**ACTION**

would be submitted in time for the next meeting of the Commission scheduled for April 2008. AECL and CNSC staff responded that the focus of their activities is currently on the joint lessons learned process. AECL and CNSC staff further noted that the need for a deeper root cause analysis would be reconsidered taking into consideration the results of the lessons learned.

21. In order to bring the NRU compliance issue to a close within the targeted period of 120 days, ending on April 10, 2008, the Commission queried the possibility that AECL and CNSC staff prepare a final update for the next meeting of the Commission. Both AECL and CNSC staff responded that they were ready to provide the requested update at that time.

**ACTION**

*Ontario Power Generation Inc. (OPG), Pickering Nuclear Generating Station "A" (PNGS-A)*

22. With reference to section 4.1.2 of CMD 08-M8.A regarding a Level 1 emergency coolant injection (ECI) system impairment due to a failed shutdown cooling (SDC) valve at the PNGS-A, CNSC staff informed the Commission on the details of this event and provided a preliminary explanation of the immediate causes. CNSC staff stated that there were no environmental or security impacts of the event and there were no radiation or health consequences to the personnel.
23. Based on its review of the Preliminary Event Report, CNSC staff further stated that OPG had responded correctly in establishing a four hour shutdown clock and had taken timely and appropriate actions to discover, correct and successfully re-test the SDC valve prior to shutdown clock expiry.
24. CNSC staff also informed the Commission that a root cause analysis has been planned. An update will be provided to the Commission based on the Detailed Event Report S-99, which will be filed by March 24, 2008.
25. OPG added that the valve failure due to a loose connection had been detected during its routine weekly surveillance testing and that the operators had followed the established procedure.
26. OPG also noted that the ECI system would have satisfied its design intent for the majority of possible loss-of-coolant accidents that could occur.

**ACTION**

27. The Commission asked if a similar failure occurred in the past and how likely is the occurrence of a similar failure at PNGS-B. OPG responded that there were no similar failures in the past. The likelihood of a repetition of such a failure at PNGS-B was small due to slightly different design and bigger redundancy of valves at that station.
28. The Commission asked if there is a redundant electrical system for these valves or if they are all supplied from a single source. OPG responded that there are redundant power supplies for the odd and even valves.

#### Status Report on Power Reactors

29. With reference to CMD 08-M9 on the Status Report on Power Reactors, CNSC staff did not have any additional information or updates.
30. The Commission inquired whether the generator at the Gentilly-2 NGS has been restarted successfully. CNSC staff confirmed that it had and that the reactor now operates at full power.

#### INFORMATION ITEMS

##### Technical Briefing: Canadian Regulatory Approach Towards the Seismic Qualification of Nuclear Facilities

31. With reference to CMD 08-M12, CNSC staff provided information on the Canadian regulatory approach towards the seismic qualification of nuclear facilities. The information was provided in the form of a technical briefing, prepared in collaboration with the Geological Survey of Canada, and comprised fundamental aspects of seismology, technical basis for seismic design and re-evaluation of nuclear facilities, and lessons learned from the 2007 Kashiwazaki-Kariwa Japan earthquake.
32. The presentation on the fundamental aspects of seismology included the causes of earthquakes and earthquake magnitudes, types of waves, seismic zones in Canada and seismic history around major Canadian nuclear facilities.

33. The second part of the briefing on seismic qualification of nuclear facilities was dedicated to the CNSC approach to seismic requirements and regulatory framework. The presentation also encompassed applicable codes and standards, seismic evaluation and safety of nuclear power plants, seismic evaluation of non-power plants and seismic design of mining facilities.
34. With respect to the lessons learned from the major earthquake near the Kashiwazaki-Kariwa nuclear power plant, CNSC staff noted that it had participated in an International Atomic Energy Agency-led review of the site following the earthquake. Conclusions have been drawn regarding the successful prevention of major damages by using appropriate seismic standards with sufficient conservatism and by emphasizing the importance of a thorough geological investigation. The need for re-assessment of seismic hazard for major existing nuclear facilities has also been considered. It has been noted that plans for post-earthquake actions are essential for proper mitigation of earthquake consequences.
35. CNSC staff concluded that seismic hazards have been considered at nuclear facilities across Canada and adequate seismic codes and standards are being followed. The seismic hazards at nuclear sites will continue to be revised periodically and the impact of the seismic safety reassessed based on new technical information.
36. The Commission complimented the CNSC team for the work done and for a comprehensive briefing and sought more information on some subjects presented. The Commission commented on the attempt to relate the presented pattern of seismic zones to the general location of nuclear power plants and to understand the potential for hazards in eastern Canada, where most of the nuclear power plants are located. J. Adams, from the Geological Survey of Canada, acknowledged the Commission's comments and noted that, with improved understanding of the seismic hazards and taking into account associated uncertainties, a proper level of anti-seismic design can be achieved to minimize the consequences of an event.
37. Considering the possible need to retrofit or upgrade existing facilities based on new expectations, the Commission sought more information on how and when new standards could be implemented. CNSC staff stated that existing facilities will be assessed to determine what, if any, upgrades and procedures are needed to ensure continued safe shutdowns in the event of an earthquake. In response to the Commission's request for timelines and resources needed to carry out this work, CNSC staff committed to provide further information to the Commission on this issue.

**ACTION**

38. The Commission further inquired into the automatic shutdown procedures of the Kashiwazaki-Kariwa nuclear power plant and requested information on the possibility to apply a similar approach to Canadian facilities. CNSC staff explained that there exists other factors that may trigger an automatic shutdown of a NGS in Canada, but, in the event of an earthquake, facilities can be shutdown manually according to set procedures. CNSC staff committed to present to the Commission further information on this matter.

**ACTION**

39. The Commission asked for an explanation of the differences between building codes, standards, requirements and guidelines for conventional structures and nuclear facilities. CNSC staff will prepare for the Commission a document presenting the difference in approach between nuclear and conventional seismic standards with regards to hazard definitions.

**ACTION**

40. CNSC staff will provide the above-noted information, and any other additional information sought throughout the presentation, in a supplementary document to be submitted to the Commission in the upcoming months.

588972 Alberta Ltd. Operated as Enviropac Inc.: Update on Enviropac Inc.

41. On June 28, 2007, the Commission issued Order 07-01 to 588972 Alberta Ltd., operated as Enviropac Inc., and directed CNSC staff to take specific actions to ensure the continued safety and security of the site. With reference to CMD 08-M14, CNSC staff provided an update to the Commission on the Order and located in Edmonton, Alberta

42. CNSC staff provided an update on CNSC staff's activities on this matter and presented future actions to be taken. The update included a report on the development and the execution of Phase 1. The main objective of this phase consisted of the removal of high-risk sealed radioactive sources from the Enviropac site in a safe and secure manner.

43. CNSC staff stated that transportation has been organized by a company with experience in the transport of Class 7 dangerous goods (including radioactive materials), as defined in the *Transportation of Dangerous Goods Regulations*. Arrangements have been made with AECL's Whiteshell Laboratories in Manitoba to receive the shipment and to conduct the characterization of the sealed sources in the hot cells of the Shielded Facilities building. All packages remain in interim storage at this location.

44. AECL will carry out the identification and evaluation of the received material. It is expected that Phase 1 work will be completed by the end of March 2008.
45. CNSC staff informed the Commission on the plans for Phase 2 that include the removal of all remaining nuclear substances and prescribed equipment from the Enviropac site. The material will be removed, packaged and transported to another CNSC licensee, pending final disposition. After completion of both phases, CNSC will apply to the Federal Court to obtain an order for the disposal of all nuclear substances and prescribed equipment seized in this matter.
46. CNSC staff intends to bring this matter before the Commission in spring 2008 to request the revocation of the Commission Order and the revocation of the three suspended Enviropac licences.
47. The Commission sought information on the status of the company with respect to financial guarantees. CNSC staff responded that Enviropac was not subject to financial guarantee requirements, but it is in arrears with respect to cost recovery fees, pursuant to the *CNSC Cost Recovery Fees Regulations*.
48. The Commission asked for the cost of the whole cleanup operation. CNSC staff responded that the project was still kept within the budget of CDN \$ 860 000. It was noted that this project has involved a substantial number of CNSC personnel.

**ACTION**

**DECISION ITEMS**

**Proposed Changes to the List of Designated Officers**

49. With reference to CMD 08-M10, CNSC staff recommended to the Commission, pursuant to subsection 37(1) of the *Nuclear Safety and Control Act* (NSCA), modifications to the List of Designated Officers and to the duties under subsection 37(2) of the NSCA. These modifications reflect organizational changes in the CNSC Operations Branch and its division name changes.
50. Following its deliberation on the matter, the Commission approved the modifications and replaced CMD 06-M24 with the proposed Designated Officers List and functions, as presented in CMD 08-M10, Appendix A.

**DECISION**

Closure of the Public Meeting

51. The public portion of the meeting closed at 12:26 p.m.

Amendments to the *Canadian Nuclear Safety Commission Cost Recovery Fees Regulations (Miscellaneous Program)*

52. The Commission moved in closed session with CNSC staff to discuss the submission by CNSC staff as set out in CMD 08-M13.

53. Following its deliberation on the matter, the Commission amended the *Canadian Nuclear Safety Commission Cost Recovery Fees Regulations (Miscellaneous Program)*, as presented in CMD 08-M13.

**DECISION**

54. The portion of the closed meeting ended at 1:15 p.m.

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President

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Recording Secretary

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Secretary

## APPENDIX A

CMD	DATE	File No
08-M5	2008-01-21	(6.02.01)
Notice of Meeting held on Thursday, February 21, 2008 in Ottawa		
08-M5.A	2008-02-08	(6.02.01)
Revised Notice of Meeting held on Thursday, February 21, 2008 in Ottawa		
08-M6	2008-02-08	(6.02.02)
Agenda of the meeting of the Canadian Nuclear Safety Commission (CNSC) held in the public hearing room, 14th floor, 280 Slater Street, Ottawa, Ontario, on Thursday, February 21, 2008		
08-M6.A	2008-02-14	(6.02.02)
Updated Agenda of the meeting of the Canadian Nuclear Safety Commission (CNSC) held in the public hearing room, 14th floor, 280 Slater Street, Ottawa, Ontario, on Thursday, February 21, 2008 – Supplementary Information		
08-M6.B	2008-02-18	(6.02.02)
Updated Agenda of the meeting of the Canadian Nuclear Safety Commission (CNSC) held in the public hearing room, 14th floor, 280 Slater Street, Ottawa, Ontario, on Thursday, February 21, 2008 – Supplementary Information		
08-M7	2008-02-14	(6.02.03)
Approval of minutes of Commission meeting held on January 9, 2008		
08-M8	2008-02-07	(6.02.04)
Significant Development Report no. 2008-2 for the period of January 1 to February 7, 2008		
08-M8.A	2008-02-18	(6.02.04)
Significant Development Report no. 2008-2 for the period of February 8 to February 18, 2008		
08-M9	2008-02-01	(6.02.04)
Status Report on Power Reactors for the period of November 20, 2007 to January 31, 2008		
08-M10	2008-01-28	(6.01.07)
Update to CMD 06-M24, List of Designated Officers, to respond to operational needs and changes at the CNSC – Oral presentation by CNSC staff		
08-M12	2008-02-11	(2.01)
Technical Briefing - Canadian Regulatory Approach for the Seismic Qualification of Nuclear Facilities – Oral presentation by CNSC staff		

08-M13      2008-01-29    (1-01-02/6.02.04)

Amendments to the *Canadian Nuclear Safety Commission Cost Recovery Fees Regulations (Miscellaneous Program)* – Contains Cabinet Confidence documents and is not publicly available

08-M14      2008-02-05    (6.02.04)

Update on Commission Order 07-01 to Enviropac Inc. – Oral presentation by CNSC staff