

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Thursday, June 29, 2006 beginning at 8:32 a.m. in the Public Hearing Room, CNSC Offices, 280 Slater Street, Ottawa, Ontario.

Present:

L.J. Keen, Chair

C.R. Barnes  
J. Dosman  
A. Graham  
M.J. McDill

M.A. Leblanc, Secretary  
M. Young, Recording Secretary  
J. Lavoie, General Counsel

CNSC staff advisers were: B. Howden, B. Gracie, K. Lafrenière, G. Lamarre, R. Lojk, T. Schaubel, K. Scissons, P. Webster, K. Klassen, A. Blahoianu, D. Shaw, C. Natomagan, C. Gunning and B. Ecroyd

Other contributors were:

- AREVA Resources Canada Inc.: B. Pollock and G. Acott
- Bruce Power:, R. Nixon
- Cameco Corporation: J. Jarrell, D. Bronkhorst, K. Sparling and D. Neuberger
- Hydro-Québec: R. Lemieux
- New Brunswick Power: J. McCarthy
- Ontario Power Generation Inc.: P. Charlebois, G. Smith, J. Coleby, P. Spekkens, T. Mitchell, K. Nash and K. Mombourquette
- Canadian Nuclear Association: D. Hawthorne

#### Adoption of the Agenda

1. The revised agenda, CMD 06-M32, was adopted as presented.

### Chair and Secretary

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

### Constitution

3. With the notice of meeting, CMD 06-M30, 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 May 19, 2006, Commission Member Documents CMD 06-M30 to CMD 06-M39 were distributed to the Members. These are further detailed in Appendix A of these minutes.

### Minutes of the CNSC Meeting Held May 19, 2006

5. The Members approved the minutes of the Commission Meeting held on May 19, 2006 (reference CMD 06-M32) without change.

### Annual CNSC Staff Report for 2005

6. With reference to CMD 06-M35, CNSC staff presented the 2005 annual report on the safety performance of the Canadian nuclear power industry.
7. As part of its presentation, CNSC staff presented interim status reports on the performance of the Pickering B and Bruce A and B nuclear generating stations (NGS). Mid-term performance reports were requested by the Commission at the time those facilities were relicenced in June 2003 and March 2004 respectively.
8. The Commission sought further details concerning the issue of human resources in the nuclear sector and how the industry is planning to address future needs in this area. CNSC staff acknowledged that the future staffing and training of qualified workers is a matter that needs to be addressed. CNSC staff noted several recommendations it has made to the industry in this respect.

9. Noting that certain licensee programs were rated as being below requirements (C rating), the Commission sought further clarification on the interpretation of the rating systems. CNSC staff explained that a program rated C indicates there is one or more deficiencies in the program, or in the implementation of the program, but that these deficiencies do not pose short-term risks to the health and safety of persons or the environment. A program rated C indicates that the licensee is or will be taking action to correct the deficiencies. CNSC staff noted that a program that falls well below requirements (D rating) could pose an immediate risk and would require immediate improvements.
10. The Commission sought an explanation of the results presented in Table 8 of the annual report, "Trends of Non-Compliance Index for Stations." CNSC staff explained that the table demonstrates a specific station's performance indicator and that the non-compliances are investigated individually. CNSC staff stated that the overall report was positive and provided a better indication of a licensee's performance and a more useful historical reference to observe variations in trends. CNSC staff also stated that the industry has done very well with reporting non-compliance issues.
11. The Commission requested clarification on the issue of maintenance backlogs and whether there was a general improvement in this area. CNSC staff explained that the maintenance backlog is used as an indicator of station health and of resources being appropriately used to ensure that a station continues to operate in a safe manner. CNSC staff noted that the regulatory programs emphasize the need to reduce backlogs and that the licensees have been working towards this objective. CNSC staff noted that based on historical numbers, there was a general improvement.
12. The Commission sought further insight into the meaning of the remaining 261 action items in the area of Organization and Plant Management. CNSC staff explained that the action item process is used to track, and follow up on, items with licensees and that there was no risk-significant value to the reported number.
13. The Commission sought commentary from CNSC staff concerning safeguards. CNSC staff stated that the industry has performed very well in the safeguard area.
14. With respect to the Point Lepreau NGS, the Commission sought further information from New Brunswick Power Nuclear (NB

- Power) concerning the C ratings its Structural Integrity and Human Factors programs had received. NB Power explained that the Structural Integrity rating was based on processes that had since been updated to meet requirements. On the issue of Human Factors, NB Power explained that one issue, hours of work, had been discussed at a recent Commission hearing<sup>1</sup>, and the other issue, design guides, had since been addressed. NB Power noted that the design guides have been issued and will be applied to all design changes.
15. With respect to the Gentilly-2 NGS, the Commission inquired as to Hydro-Québec's progress in addressing the issues concerning its Performance Assurance program. Hydro-Québec responded that it had augmented its internal inspections and audits, as well as begun reorganizing its quality assurance documentation. Hydro-Québec was confident that it would complete the process in 2006.
  16. With respect to the Darlington NGS, the Commission sought commentary from Ontario Power Generation Inc. (OPG) concerning the issue of equipment qualification. OPG responded that it had in place a program to replace components during outages that were at or near the end of life. OPG explained that the program, approved by CNSC staff, would be complete by 2010<sup>2</sup>. CNSC staff commented that the program was safe and was a matter of maintaining defence-in-depth.
  17. With respect to the Pickering A NGS, the Commission sought further information from OPG concerning the fitness-for-service guidelines. OPG responded that the document titled "Fitness-for-Service Guidelines for Feeders" had been in development for the last two to three years, and it would be submitted to CNSC staff towards the end of July 2006. CNSC staff affirmed that it had played a consulting role in the development of the document. CNSC staff also stated that the feeders were all fit for service at all stations.
  18. With respect to the Pickering A NGS, the Commission sought information concerning the out of service Units 2 and 3, in light of new government investment in the nuclear industry in Ontario. OPG responded that there were no plans to bring the units back in service because it was not economically viable. OPG added that the defuelling process for Units 2 and 3 would not be completed until

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<sup>1</sup> See *Record of Proceedings, including Reasons for Decision* on the Application for the Renewal of the Power Reactor Operating Licence for the Point Lepreau Nuclear Generating Station, Hearing Dates February 16, 2006 and May 18, 2006.

<sup>2</sup> The date is mistakenly referred to as 2009 in the transcript.

the end of 2008. CNSC staff commented that the defuelling process was being carried out safely and in accordance with licence conditions. CNSC staff noted that new licence conditions will be requested when the defuelling and dewatering has been completed.

**ACTION**

19. OPG presented its mid-term status report on the Pickering B NGS, noting in particular that new turbines will be installed next year, on schedule, and that the maintenance backlog has been reduced by two-thirds since 2003. OPG also noted the corrective actions that have been taken towards the reported events in the area of fitness-for-service and reliability.
20. The Commission sought further comment in regards to the maintenance backlog at Pickering B. OPG responded that the backlog can be attributed to a positive safety culture among staff that results in more issues being raised that in turn add to the maintenance work required. OPG noted that this is viewed as a positive trend. OPG also noted that it has provided additional resources to address the backlog issue. CNSC staff stated that it was satisfied with the progress being made in this area.
21. The Commission sought information from CNSC staff concerning the issue of the performance and reliability of the Class III electrical system at Pickering B. CNSC staff responded that improvements have been noted in OPG's initiatives to improve the standby generators at Pickering B NGS. In response to the Commission's inquiry with respect to measures in place to prevent a recurrence of the 2003 blackout, OPG responded that it had standby generators offsite in addition to permanent generators.
22. With respect to the Commission's questions on community awareness and emergency preparedness, OPG responded that it has an active community relations program to keep the community informed of the status of its NGS. OPG also noted that an agreement had been reached between Emergency Measures Ontario and the Durham region and the local towns of Clarington and Pickering. As a result, four sirens are set to be installed in the Durham region and the towns of Pickering and Clarington.
23. Bruce Power Inc. presented its interim status reports for the Bruce A and Bruce B NGS, during which it addressed the progress concerning its quality assurance documentation; human factors, staffing and training; and design, particularly fire loading in Bruce A.

24. The Commission sought commentary from Bruce Power Inc. on the issue of managing both Bruce A and Bruce B sites at once. Bruce Power Inc. replied that it has been working hard in order to implement its programs and to ensure that the documentation is brought up to date in addition to operating two more units at Bruce A.
25. The Commission inquired about the high number of pressure boundary degradations and the trend of missed mandatory safety system tests. Bruce Power Inc. explained that these were the result of an increase in the number of tests being done with more details being reported. Bruce Power Inc. acknowledged that it needed to improve in those areas.
26. In response to the Commission's inquiry on Bruce Power Inc.'s approach to training, CNSC staff stated that it was satisfied with Bruce Power's approach. CNSC staff noted that it did not carry out training evaluation in 2005 because Bruce Power Inc. had not declared any Systematic Approach to Training (SAT)-based programs. SAT-based programs would be subjected to review once established.
27. With respect to quality management, the Commission asked if the documentation changes had reached the point that the loss of reactor regulation event root cause would not occur again. Bruce Power Inc. responded that it has addressed the legacy issue, such as operator workarounds, surrounding the loss of regulation. In its consideration of the important factor that is human performance in facility operations, Bruce Power Inc. further noted that it would continue to actively watch for procedure adherence and use.
28. As a general comment, the Commission noted that the annual report was an important tool not just for the Commission, but for the industry and the general public as well. In this regard, the Commission invited the relevant licensees and CNSC staff to submit comments to the Commission Secretary on means to improve the annual report.

**ACTION**

**Status Report on Power Reactors**

29. The Status Report on Power Reactors (CMD 06-M34) was submitted by CNSC staff. There were several updates added orally:
  - Bruce A, Unit 4 was in an unscheduled outage;
  - Bruce B, Unit 7 had returned to full power;

- Darlington, Unit 3 had an unscheduled outage;
  - Pickering A, Unit 1 returned to power and was at high power operation;
  - Pickering A, Unit 4 had been slightly de-rated because of fuel machine problems;
  - Pickering B, all four units were at high power operation; and
  - Point Lepreau unit was returned to full power.
30. The Commission sought further information concerning a steam leak at the Point Lepreau NGS. NB Power explained that the leak was due to a gasket that had been improperly installed by a contractor and which NB Power had failed to identify. The Commission noted that the licensee's oversight of contracted work would be an important issue for the upcoming refurbishment of the NGS. NB Power agreed and further indicated that it is taking measures to strengthen its procedures, programs and processes in this regard. CNSC staff noted that, following planned outages, a number of verifications and tests are performed as part of the start-up plan to identify and correct issues.

#### Significant Development Report

31. Significant Development Report (SDR) no. 2006-5 (CMD 06-M33, CMD 06-M33.C and CMD 06-M33.D) was submitted by CNSC staff. The following information was added orally during the meeting.
32. With reference to item 4.1.4 of CMD 06-M33.C regarding the unplanned shutdown system 2 (SDS2) trip at the Bruce B NGS Unit 7, the Commission sought further information on the root cause analysis and the resulting effect of a steam generator fouling. In response, Bruce Power Inc. stated that the steam generator fouling would affect the flow rate turnout and possibly reduce the flow rate. The event had no consequences in that the shutdown system functioned as designed and expected and fuel cooling was maintained at all times. Bruce Power Inc. stated that it was conducting a very detailed root cause analysis which was pointing to the fact a core fuel reordering had been done, and as a consequence, there may have been other features that contributed to the SDS2 trip.
33. In response to the Commission's inquiry about the reordering of fuel bundles, Bruce Power Inc. explained that it was an intended methodology to improve the safety margins on the units by staying

within the safe operating envelope of the reactor. Bruce Power Inc. stated that a full report would be submitted to CNSC staff once the analysis was complete.

**ACTION**

34. With reference to item 4.1.1 of CMD 06-M33, regarding unauthorized discharge from backfilled tailings management area (TMA) at Snake Lake, the Commission sought an explanation from the CNSC staff for the rationale behind the late reporting of the SDR. CNSC staff explained that the delay in reporting was due to the analysis it had to do before it had information to report as well as the need to confirm the event with AREVA Resources Canada Inc. (AREVA) staff and other regulatory agencies.
35. In response to the Commission's questioning of the methodology behind the analysis of the problem, AREVA explained that the sampling was conducted in accordance with established procedure. AREVA noted that follow-up analysis found that the impact on the environment was not significant and an external consultant hired to perform an environmental analysis had found no damage.
36. The Commission inquired about the delay in the backfilling and revegetation of the TMA liquids pond. AREVA explained that the wet summer of 2005 made it difficult for the heavy equipment to get onto the surface of the TMA. AREVA was optimistic that the dry summer of 2006 would allow for the project to be completed. CNSC staff stated that it was satisfied with the progress done to date and that it was on schedule for 2006.
37. The Commission stressed the importance for CNSC staff to maintain reporting expectations and communications with the mining industry, as well as ensure the proper timeliness of reporting. The Commission requested a follow-up report after further investigation on this issue.
38. With reference to item 4.1.5 of CMD 06-M33.D regarding the order to cease operations at Mississauga Metals & Alloys Inc. (MMA), the Commission sought further information on the cause of the explosion, the impact of the health and safety of the workers and the public, and the involvement of the Brampton Fire Department in controlling the fire. CNSC staff stated that preliminary findings showed that the explosion was caused by combustible metal shavings catching fire in a piece of operational equipment. CNSC staff stated that there was no evidence of injury to workers or the public as a result of the event, and that the site was closed off to personnel after the fire, which eliminated further cause for concern for health and safety. CNSC staff also stated that

**ACTION**



the Brampton Fire Department had entered the site the day of the fire in order to control the fire.

39. The Commission inquired if there would be a full report at a later date. CNSC staff replied that there would be reports presented to the Commission on the status of the incident, in addition to the designated officer's report on the outcome of the order to cease operations.
40. The Commission held a closed session in order to discuss the confidential SDRs (CMDs 06-M33.A, 06-M33.B and 06-M35.A).

**ACTION**

**Interim Status Report on Rabbit Lake Operations**

41. With reference to CMD 06-M36, CNSC staff presented the interim status report for Rabbit Lake Operations. The mid-term performance report was requested by the Commission at the time the facility was relicenced in October 2003.
42. CSNC staff stated that it was currently reviewing the B-zone reclamation plan and that once the review was completed and found acceptable, the plan would be submitted to the Commission for its approval. The Commission sought an explanation for the lack of information concerning a Zone Reclamation Plan document. CNSC staff explained that the document was rather extensive and staff wanted to complete a review of it before submitting its findings to the Commission.
43. With reference to CMD 06-M36.1, Cameco Corporation (Cameco) staff presented a response to CNSC staff's interim status report for Rabbit Lake Operations.
44. The Commission sought further information concerning the future plans of the Eagle Point mine. Cameco stated that the use of diamond drilling for exploration had led to finding additional ore deposits which would extend the lifetime of the mine.
45. The Commission inquired as to the progress in the implementation of a quality management system and when it might meet CNSC requirements (B rating). CNSC staff explained that the interim report was the first review CNSC had done of the quality management system. CNSC staff indicated that there was a positive trend and the quality management system was on track to meet expectations. Cameco stated that it expects to have the quality management system achieve a B rating in a short while, though no

**ACTION**

- benchmarks for a timeframe were suggested.
46. The Commission raised the issue of event reporting and inquired about the significance and amount of unusual events that had been reported, as well as the fact that certain events had not been properly reported. CNSC staff stated that many of the events were not significant. Cameco explained that the high number of reports was partly due to an encouraged reporting culture. The Commission noted that there needs to be more understanding on what is reportable.
  47. The Commission sought further information about the communication between the licensee and CNSC staff concerning the completion of projects. Cameco noted that this was an area that required improvement and it had to meet CNSC's requirements for reporting. The Commission asked if the issues with reporting were found in other Cameco facilities beyond the Rabbit Lake facility. CNSC staff responded that it had observed inconsistencies throughout Cameco's different facilities. Cameco stated that it was working on developing a site-wide reporting culture.
  48. The Commission sought an explanation of the five events of a vehicle hitting power lines and the worker safety involved in such a matter. Cameco explained that the power lines were vulnerable due to the fact that they were not protected along a pipeline. This was in order to prevent them from creating stray currents that could then create a greater hazard of potential explosion from electronic blasting caps. In the case that the wire was damaged, a ground fault was triggered and power was shut off for the entire floor. Those events were considered serious, although no injuries to workers had been reported, as they relied on the ground fault protection.
  49. The Commission asked if Cameco was satisfied that its workers, especially those underground, were sufficiently protected from radiation exposure. Cameco stated that it was satisfied and had also noted a decrease in exposure. CNSC staff noted the improvement in reducing worker exposure and said that its standards were being met.
  50. The Commission sought further details concerning fire protection. CNSC staff explained that Cameco's fire protection program did not meet expectations (C rating) due to the fact that Cameco was still in the process of meeting the National Fire Protection Code. CNSC staff indicated that a third-party review of Cameco's compliance with the National Fire Code would aid in improving the program to meet expectations (B rating). Cameco indicated that

the review would provide requirements for maintenance as well as code compliance. CNSC staff stated that any important results from the review would be presented to the Commission.

**ACTION**

51. The Commission asked if the bonus incentive program for reporting injury was being implemented properly and that workers were not hiding injuries and failing to report them. Cameco explained that the reporting would come from the nursing staff once an injury has been evaluated and that hiding an injury would be very difficult.

**Interim Status Report on Bruce Heavy Water Plant Facility (OPG)**

52. With reference to CMD 06-M37, CNSC staff presented the interim status report on the decommissioning of the Bruce Heavy Water Plant facility.
53. The Commission inquired as to the length of time over which the financial guarantee will cover the monitoring of the site once the decommissioning is complete. CNSC staff responded that there was no financial guarantee beyond the completion of the demolition phase and that once the site is deemed clean by CNSC, there will be no further monitoring. At this point, OPG would apply for a licence to abandon.
54. The Commission asked if material had been buried at the site. OPG responded that approximately 97 percent of the material generated by the demolition had been recycled.
55. The Commission sought information concerning the disposal of asbestos and the possible resulting effects on the health and safety of workers. OPG responded that it had hired a contractor licensed to handle hazardous material, including asbestos. OPG also explained that the landfill at the Bruce Site is specifically licensed by the Ministry of Environment (MOE) to accept asbestos and that OPG staff is trained in managing asbestos waste in accordance with MOE requirements.

**ACTION**

**CNSC Regulatory Document Program Performance Report 2005-2006**

56. With reference to CMD 06-M38, CNSC staff presented the CNSC regulatory document program performance report. The following information was added orally during the presentation.

57. With reference to Section 5 of CMD 06-M38, CNSC staff stated that CNSC's policy framework review is being led by the Director of the Internal Quality Management Division at the CNSC. The purpose of the review is to identify the key policies required for the CNSC to deliver on its mandate. CNSC staff expects that the review will lead to an improvement in the overall effectiveness and efficiency in the development of regulatory policies as an organization. CNSC is planning a policy review exercise with senior staff and management in the early fall of this year. This would be followed by internal and external consultation, after which CNSC staff intends to present the outcome of the review to the Commission in early 2007.

**ACTION**

58. The Commission asked if redundant, out-of-date regulatory documents are removed from the regulatory document list. CNSC staff stated that there is a five-year review cycle for documents and that out-of-date ones are removed after they have been reviewed.

59. The Commission asked how effective the CNSC staff was in reviewing international standards and applying them against the documents that are being developed. CNSC staff responded that it was active in international organizations like the International Atomic Energy Agency as well as with the Canadian Standards Association. CNSC staff explained that part of its process when developing its own documents is to consider existing standards and documents.

**Closure of the Public Meeting**

60. The public meeting closed at 3:22 p.m. The Commission moved in camera to discuss the amendments to the CNSC Nuclear Security Regulations contained in CMD 06-M39.

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*Chair*

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*Recording Secretary*

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*Secretary*

## APPENDIX A

CMD	DATE	File No
06-M30	2006-05-25	(1-3-1-5)
Notice of meeting held on Thursday, June 29, 2006 in Ottawa.		
06-M31	2006-06-14	(1-3-1-5)
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, June 29, 2006.		
06-M31.A	2006-06-22	(1-3-1-5)
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, June 29, 2006.		
06-M31.B	2006-06-27	(1-3-1-5)
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, June 29, 2006.		
06-M32	2006-06-13	(1-3-1-5)
Approval of minutes of Commission meeting held May 19, 2006.		
06-M33	2006-06-13	(1-3-1-5)
Significant Development Report No. 2006-5 for the period of May 12 to June 12, 2006 – Cluff Lake Project, Areva Resources Canada Inc. – Unauthorized Discharge from Backfield Tailings Management Area		
06-M33.A	2006-06-22	(1-11-27-6)
Significant Development Report No. 2006-5 - Security Incidents – Hydro-Québec's Gentilly-2 Nuclear Generating Station – Contains prescribed security information and is not publicly available		
06-M33.B	2006-06-22	(1-11-40-0)
Significant Development Report No. 2006-5 - Security Incidents – Hydro-Québec's Gentilly-2 Nuclear Generating Station – Contains prescribed security information and is not publicly available - Supplementary Information		
06-M33.C	2006-06-20	(1-3-1-5)
Significant Development Report No. 2006-5 for the period of May 12 to June 12, 2006 – Bruce B Nuclear Generating Station – Unit 7 Unplanned Shutdown System 2 Trip		
06-M33.D	2006-06-27	(1-3-1-5)
Significant Development Report No. 2006-5 for the period of May 12 to June 12, 2006 – Incident at Mississauga Metals and Alloys Inc.		
06-M34	2006-06-13	(1-3-1-5)
Status Report on Power Reactors for the period of May 3 to June 13, 2006		

06-M35        2006-06-09    (26-1-0-0-0)  
Annual CNSC staff Report for 2005 on the Safety Performance of the Canadian Nuclear Power Industry

06-M35.A     2006-06-13    (26-1-0-0-0)  
Site Security Assessment for the Annual CNSC Staff Report for 2005 on the Safety Performance of the Canadian Nuclear Power Industry – Contains prescribed security information and is not publicly available

06-M36        2006-06-13    (22-C1-126-1)  
Mid-Term Status Report on Cameco Corporation's Rabbit Lake Operation

06-M36.1     2006-06-13    (1-3-1-5)  
Mid-Term Status Report on Cameco Corporation's Rabbit Lake Operation – Oral presentation by Cameco Corporation

06-M36.1A    2006-06-21    (1-3-1-5)  
Mid-Term Status Report on Cameco Corporation's Rabbit Lake Operation – Oral presentation by Cameco Corporation – Supplementary Information

06-M37        2006-06-13    (27-1-8-0)  
Interim Status Report for Ontario Power Generation Inc.'s Bruce Heavy Water Plant, under CNSC Decommissioning Licence

06-M38        2006-06-13    (1-8-8-0)  
CNSC Regulatory Document Program: Annual Report 2005-2006

06-M39        2006-06-13    (20-1-18-8)  
Amendments to the CNSC Nuclear Security Regulations – Contains protected information and is not publicly available