February 16, 2006

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Thursday, February 16, 2006 beginning at 12:41 p.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
J. Lavoie, General Counsel
P. Bourassa, Recording Secretary

CNSC staff advisers were: I. Grant, P. Webster, T. Schaubel, G. Schwarz, G. Lamarre, K. Scissons, H. Rabski, G. Cherkas, L. Lang, R. Jammal, K. Murthy, A. Thibert, A. Régimbald and J. Sandles.

Other contributors were:

- Bruce Power: F. Saunders and J. Hegarty
- Ontario Power Generation Inc.: P. Pasquet, T. Mitchell and M. Elliott
- COGEMA Resources Inc.: B. Pollock and J. Corman
- Cameco Corporation: J. Jarrell, B. Schmitke, D. Neuberger, B. Steane, T. Kennedy, J. Sales and K. Vetor
- Saskatchewan Labour: N. Crocker
- Municipality of Port Hope: F. Haylow
- Zircatec Precision Industries Inc.: A. Oliver and L. Jones
- Atomic Energy of Canada Limited: B. McGee and B. Shorter
- Saskatchewan Industry and Resources and Saskatchewan Environment: G. Veikle, and K. Cunningham

Adoption of the Agenda

1. The revised agenda, CMD 06-M2.A, was adopted as presented.

Chair and Secretary

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

Constitution

3. With the notice of meeting, CMD 06-M1, 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 December 1, 2005, Commission Member Documents CMD 06-M1 to CMD 06-M12 were distributed to Members. These documents are further detailed in Annex A of these minutes.

Minutes of the CNSC Meeting Held December 1, 2005

5. The Commission Members approved the minutes of the December 1, 2006 Commission meeting with modifications to paragraphs 11 and 12.

6. The last part of paragraph 11 will read as follows:

> "…CNSC staff recommended that the Commission, pursuant to section 7 of the *Nuclear Safety and Control Act*, extend the existing exemptions until December 31st, 2009 and that the Commission grant a similar exemption to the new Peterborough mound site".

7. The first sentence of paragraph 12 will read as follows:

> "In support of its recommendations to grant the exemptions, CNSC staff explained that certain changes to the *Nuclear Substance and Radiation Devices Regulations* have been proposed".

Significant Development Report

8. Significant Development Report (SDR) no. 2006-01 (CMD 06-M4, CMD 06-M4.A and CMD 06-M4.B) was submitted by CNSC staff.

9. The Commission moved in-camera (closed session) to discuss the security matter identified in section 4.1.1 of the SDR and described in CMD 06-M4.A (protected).

10. On resumption of the public session.

    With reference to sections 4.1.2 in CMD 06-M4 and section 4.1.6 in CMD 06-M4.B regarding a loss of regulation event at Bruce A that occurred on September 7, 2005, Bruce Power provided a brief summary of the event, its root cause, and the follow-up actions taken to correct the causes and prevent reoccurrence.

11. CNSC staff expressed its satisfaction with Bruce Power's analysis and corrective actions and concluded that the event posed no significant risk to public health and safety. CNSC staff noted, however, that it has yet to complete certain compliance verification activities on the work undertaken by Bruce Power.

12. The Commission expressed concern that the root cause was a known design problem that had been allowed to persist. In response, Bruce Power explained that, on a risk-informed basis, it had concluded that the probability of the design problem causing such an event was very low. Bruce Power noted that it has now made the appropriate system design change.

13. The Commission asked whether similar design problems exist at the Darlington and Pickering Nuclear Generating Stations (NGS). CNSC staff noted that the event information was shared with the other station operators through the Corrective Action Program and the Operating Experience (OPEX) program. As a result, it was confirmed that this type of event could not occur at the Darlington and Pickering NGS.

14. With reference to section 4.1.3 in CMD 06-M4 regarding mine personnel exposure to blasting gases at Cameco Corporation's (Cameco) Cigar Lake (uranium mine) Project, CNSC staff indicated that, based on its initial review, it concurs with Cameco's root-cause analysis report.

15. Cameco noted that it is currently implementing the six recommended corrective actions identified in the analysis. These actions include additional training in several areas; increased focus on operational management systems; better detection and contingency planning; and ongoing compliance verification of new ventilation procedures and standards.

16. Concerned with the health and safety of the worker involved in the event, the Commission sought further information on the procedures to be followed after underground blasting. Cameco explained the roles and responsibilities of the group of technicians involved and noted that, although procedures were in place, insufficient training and poor communication had led to the event. Cameco stated that the corrective actions, including the implementation of more robust post-blast procedures, will ensure safe practice in the future.

17. The Commission questioned why the unsafe practice was reportedly continued for a period of time after the CNSC inspector had raised a concern with Cameco. In response, Cameco

acknowledged that there was a delay while the situation was confirmed. Cameco added that it considers that the event was significant and that it takes the comments and recommendations of CNSC staff very seriously. CNSC staff indicated that it had taken several steps to ensure Cameco took appropriate corrective action, including drafting an Order that focused on ventilation practices and processes, emergency response plans, and air quality controls. CNSC staff stated that Cameco agreed to undertake the requested activities listed on the draft Order and that Cameco's response has since been satisfactory. CNSC staff noted that, given Cameco's response, the issuance of the Order was deemed no longer necessary.

18. The Commission remains concerned with Cameco's delay in responding to the issue when it was first raised by CNSC staff on the site, particularly when workers were continuing to be exposed to potential risks. The Commission is of the view that such behaviour could be indicative of a breakdown in safety culture. The Commission expects Cameco to give this aspect of the event serious consideration.

19. The Commission noted the importance of instituting an action plan and follow-up on the root cause analysis. In this respect, the Commission requested that the CNSC staff report on this significant development at a future proceeding of the Commission when staff has completed its initial follow-up compliance activities. **ACTION**

20. With reference to section 4.1.4 in CMD 06-M4, Cameco provided additional information on the Emergency Preparedness and Response to Fire Incidents at its Port Hope uranium conversion facility. The Commission requested a status report on this matter be prepared at the time it reviewed the Cameco mid-term performance report at public hearing held on February 23, 2005.

21. With respect to the progress to date, Cameco reported that it has carried out several improvement activities in the past year to enhance emergency response and fire fighting capabilities. These activities include enhanced training for both its employees and the Port Hope Fire Department; addition of two staff positions in emergency services and fire protection; assignment of 46 full-time Emergency Response Team members; removal of combustible materials from certain locations; and acquisition of equipment including a fire truck, cameras and sprinklers. Cameco further noted that it had implemented a defense-in-depth approach to minimize the potential for incidents at its facility and to mitigate the consequences of events in order to ensure the protection of its workers, first responders and the public. In addition to the risk-

reduction activities, Cameco concluded that the ongoing activities associated with emergency response will further reduce its risk profile.

22. Noting that the CNSC's regulatory authority applies only to the licensee, the Commission sought the views of the Municipality of Port Hope on the above-noted improvements made by Cameco. In response, the Fire Chief of the Port Hope Fire Department confirmed that Cameco has been providing additional training to its volunteer firefighters and that this training is appreciated. The Fire Chief added, however, that the level of service that Fire Department can provide to the residents and industries of Port Hope is set by the Port Hope City Council. Currently, the Port Hope Fire Department cannot respond to situations that would require operation or technician level training as per National Fire Protection Association standard NFPA 472: *Standard for Professional Competence of Responders to Hazardous Materials Incidents*. Considering its current makeup, equipment and training level, the Fire Chief concluded that the department currently has minimal response capability.

23. The Commission sought assurances that, under the current capabilities of Cameco and the Port Hope Fire Department, any situation that could develop at the facility could be handled within the community until outside response was available. Cameco noted that it could handle any credible accident at its facility but would, as per its emergency plan, call upon external support as necessary.

24. The Fire Chief stated that, under its limited response capabilities, it would respond and take the necessary measures to prevent and stop the spread of fire to the surrounding areas outside the facility. In its actions to ensure the safety of the public, the Fire Department would also assist with the evacuation of the affected community as necessary.

25. The Commission sought further information on what are the credible scenarios of major fire events at the facility in order to properly evaluate the response in realistic situations. CNSC staff explained that such scenarios are typically included in a Fire Hazard Analysis for input into pre-fire planning and emergency response and used in the licensing Safety Report. CNSC staff noted it would review this documentation once Cameco had completed the necessary updates.

26. Noting that fire protection at the nuclear facilities in Port Hope is of concern to certain groups and individuals in the community, the Commission asked Cameco how it was addressing the public's

concerns on this matter. Cameco responded that it has a multi-faceted communication strategy, including municipal council updates and media advertisements, which it is implementing to regularly update the community on the progress being made on this and other issues. Cameco further noted that it was working jointly with the municipality to develop a suitable fire and emergency response model.

27. The Commission sought assurances that sufficient progress had been made and would continue until a satisfactory emergency response program was in place at the facility. CNSC staff responded that Cameco has demonstrated progress in all areas in accordance with its plan to improve and address the level of risk associated with emergency response. CNSC staff noted that the next planned activities included a key exercise that will demonstrate the response time, effectiveness of the structures and the implementation of changes made so far. CNSC staff noted its expectation that the aggregate response will be acceptable for the hazards present at the facility.

28. CNSC staff concluded that it could not provide a complete assessment of Cameco's emergency response program until the completion of key documentation, including pre-incident plans and updated Safety Report, and the assessment of the roles and responsibilities of the parties involved. In this respect, both CNSC staff and Cameco concur that all remaining items would be completed by July 2006.

29. The Commission noted the importance of CNSC staff and Cameco's commitment to complete the remaining work as identified in Cameco's plan. The Commission expects that a complete analysis of the emergency response program will be available for its consideration at the licence renewal hearing scheduled for fall 2006. In the meantime, the Commission notes that CNSC staff will continue to provide timely reports to the Commission on any significant developments that arise on this or any other topic pertaining to the safe operation of the facility.

30. With reference to section 4.1.5 in CMD 06-M4, Zircatec Precision Industries Inc. (Zircatec) provided additional information on the progress report on the Emergency Preparedness and Response to Fire Incidents at its Port Hope facility. The Commission requested a status report on this matter be prepared at the time it reviewed the Zircatec mid-term performance report at a public hearing held on February 23, 2005.

31. Zircatec noted the activities it has undertaken and the measures it has implemented with respect to training, equipment and operational procedures to ensure adequate emergency response at its facility. Zircatec stated it had obtained a pre-incident plan agreement with the Port Hope Fire Department and noted that the Fire Department, under its current capabilities, could adequately respond to a fire event at its facility.

32. In response to the Zircatec's progress to date, CNSC staff noted that a key component had been reached with the successful signed service agreement. However, since there still remained work to be done on other aspects of the program, CNSC staff stated that it could not perform a complete evaluation of Zircatec's emergency response program at the present time. CNSC staff noted that it would perform field verification and validation in the next several months in order to present a full assessment of the program at the licence renewal hearing scheduled for Fall 2006.

33. The Commission questioned whether the Port Hope Fire Department would respond to a fire event at the Zircatec facility. The Port Hope Fire Chief responded that the Port Hope Fire Department would respond within its capacity to handle the type of event. The Fire Chief reiterated that the Fire Department is currently unable to respond to incidents involving hazardous materials.

34. The Commission notes the progress made to date and the importance of completing the remaining work in the coming months. The Commission expects that a complete analysis of the emergency response program will be available for its consideration at the licence renewal hearing scheduled for Fall 2006 and that, in the meantime, CNSC staff will continue to report any significant developments to the Commission in a timely manner.

35. With reference to section 4.1.7 in CMD 06-M4.B regarding the Operational Safety Review Team (OSART) mission at Pickering NGS A, Ontario Power Generation (OPG) noted it had benefited from the exchanges with other countries and gained insight into the multinational approaches to operating nuclear generating stations.

36. In response to the Commission's question regarding areas to improve as identified by the OSART, OPG noted that the recommendations pertained to the administrative building and that it had since made the necessary adjustments to the fire doors.

37. With reference to section 4.1.8 in CMD 06-M4.B regarding the discovery of heavy water leakage during a routine test of the

emergency coolant injection valves, the Commission asked why the maintenance work on the trace heating system had not been scheduled prior to the winter period in order to prevent the formation of ice that caused the event. OPG noted that the work had been scheduled earlier but that other priorities and issues with the relevant work permit had caused delays.

38. OPG further noted that the delays were not indicative of OPG's incapacity to handle other issues at the plant but that, because it had assumed that the line was drained, OPG had assessed the probability of an event as being low. In this respect, OPG noted that it had since derived a root cause and documented lessons learned from this event.

39. With respect to health and safety of the public and the environment, CNSC staff confirmed that the leakage had a negligible environmental impact and that fuel cooling had been assured at all times during the event.

40. With reference to section 4.1.9 in CMD 06-M4.B regarding a sulphuric acid incident at Cameco's Key Lake operation, Cameco noted that a preliminary investigation points to the probability that an operator valving error was the primary causal factor of the event.

41. The Commission questioned whether the acid containment system was adequate. In response, Cameco reported that previously unknown holes in the secondary containment dyke system contributed to the event and that these are being repaired. Cameco also stated that a groundwater recovery system is being installed to allow for the collection of any contaminated groundwater. In this respect, CNSC staff noted that it would verify the adequacy of the containment and recovery system once the full evaluation is completed.

42. With respect to the reporting of this event, CNSC staff indicated that Cameco had failed to report the event in the expected timeframe and that this will be further addressed in the final incident investigation report.

43. With reference to section 4.2.0 in CMD 06-M4.B regarding a truck accident at COGEMA Resources Inc.'s (COGEMA) McClean Lake Operation, the Commission sought further information on the cause of the event. In response, COGEMA provided further details with respect to the truck driver's training and experience as well as the road and weather conditions surrounding the event.

44. In response to the Commission's questions on whether the event was related to human error or mechanical failure, COGEMA indicated that the preliminary investigation found the truck to be mechanically intact and thus it would appear that operator error was a significant contributor.

45. As the investigation is still on-going, CNSC staff indicated that it would report to the Commission any significant findings identified in the final investigation report. **ACTION**

Status Report on Power Reactors

46. There were no updates to the Status Report on Power Reactors (CMD 06-M5).

Update on the National Research Universal (NRU) Reactor Improvement Initiatives Program Plan

47. With reference to CMD 06-M6, CNSC staff provided an update on the NRU Reactor Improvement Program Plan. AECL is implementing the plan to address the number of significant events reported in the past few years, as noted in the minutes of the Commission meeting of June 29, 2005. CNSC staff concluded that significant progress has been made by AECL and that, if the rate of progress continues, AECL should achieve the desired outcome on schedule. CNSC staff assured the Commission that it would maintain enhanced regulatory oversight until performance is at the expected level.

48. With respect to the reported recent increase in AECL staff to address human performance issues, the Commission sought assurances than appropriate training was being delivered to ensure personnel at the facility are suitably qualified. In response, AECL noted that initial training is being given to all staff and that additional resources have been allocated to ensure timely delivery of training in the longer-term.

49. The Commission expressed its satisfaction with the progress made by AECL towards improving its performance. The Commission noted that AECL would be coming before the Commission in April 2006 for the licence renewal of the Chalk River Laboratories (including the NRU Reactor). Thus, the Commission notes it will have the opportunity to further examine the performance of AECL at this facility.

Institutional Control Management of Decommissioned Mine/Mill Sites Located on Saskatchewan Provincial Crown Land

50. With reference to CMD 06-M10, CNSC staff provided information to the Commission on the Province of Saskatchewan's development of a policy framework for the institutional control of decommissioned mined and mill sites in the province. CNSC staff said that it is in agreement with the Province's Institutional Control Working Group's conclusion that the appropriate conditions and guidelines could be developed to achieve the Province's goal of long-term care and management of the sites.

51. The Uranium Section of the Saskatchewan Mining Association noted that it views the policy initiative as beneficial to society, industry and regulatory agencies in terms of enabling a well-defined closure process and enabling the industry to meet both provincial and federal requirements.

52. The Commission sought further information with respect to the financial considerations for institutional control management. In response, Saskatchewan Industry and Resources (SIR) explained that two different funds are set up: one for monitoring and maintenance of the sites and one for unforeseen events. SIR further explained that the funds would be based on site ownership, and the Province, in the case of orphaned sites, would accept ownership and liability for the cleanup and institutional control. CNSC staff added that funds for long-term care and maintenance of sites are already part of the financial guarantees and detailed decommissioning plans for CNSC licensed sites and that these funds, if acceptable to the Province and the CNSC, would be carried over into the provincial registry under a longer term institutional control.

53. The Commission expressed the importance of cooperation and understanding on this matter while respecting the jurisdictions of the Province of Saskatchewan and of the CNSC. In this regard, while the Commission will not comment on the Province's policy per se, the Commission expresses its satisfaction with the progress made to date on this policy framework and welcomes further updates at future Commission proceedings.

Exemption for Licensees of Operating Class II Facilities Comprising Particle Accelerators

54. With reference to CMD 06-M7 and CMD 06-M7.A, the CNSC staff provided an update on the status of the exemption for certain types of Class II facilities from the provisions of subsections 15(2),

15(3) and 15(9)(c) of the *Class II Nuclear Facilities and Prescribed Equipment Regulations*. The existing exemption, which applies to certain designs of particle accelerators, is scheduled to expire on May 31, 2006. CNSC staff recommended that the Commission approve an extension to the exemption until May 31, 2008, at which time amendments pertaining to this exemption may be included to the *Class II Facilities and Prescribed Equipment Regulations*. The matter of proposed amendments to the regulations will be the subject of a future request for approval by the Commission.

55. The Commission sought assurances that the time frame recommended for the extension will allow for the planned amendments to be included to the regulations. In response, CNSC staff stated that its approach to proceed with the amendments, which include pre-consultations with stakeholders, will ensure that major issues are resolved early in the process. CNSC staff expressed the confidence that extending the exemption until May 31, 2008 will provide a sufficient timeframe.

56. Following its deliberation on the proposed extension to the exemption, the Commission concluded that, with reference to section 11 of the *General Nuclear Safety and Control Regulations*, the extension of the exemption to subsections 15(2), 15(3) and 15(9)(c) of the *Class II Nuclear Facilities and Prescribed Equipment Regulations*, as proposed in CMD 06-M7 and CMD 06-M7.A, would not pose an unreasonable risk to the environment, the health and safety of persons or national security, and would not result in a failure to achieve conformity with measures of control and international obligations to which Canada has agreed.

57. The Commission also concluded that an environmental assessment of the proposed extension of the exemption is not required pursuant to the *Canadian Environmental Assessment Act*.

58. Based on the information received, the Commission, pursuant to section 7 of the *Nuclear Safety and Control Act*, accepted the CNSC staff recommendation and decided to extend the exemption of particle accelerators that meet at least one of the criteria set out in Attachment A to CMD 06-M7.A from the application of subsections 15(2) and 15(3) and paragraph 15(9)(c) of the *Class II Nuclear Facilities and Prescribed Equipment Regulations*. The exemption is effective until May 31, 2008.

DECISION

Information Regarding the CNSC Nuclear Emergency Management Program

59. With reference to CMD 06-M9, CNSC staff presented an information item on the CNSC Nuclear Emergency Management Program. The information was related to, and provided relevant background information to the proposed *Nuclear Emergency Management Policy* (P-325) discussed below.

Approval of CNSC Regulatory Policy P-325, *Nuclear Emergency Management*

60. With reference to CMD 06-M8.A, CNSC staff presented a summary of the proposed CNSC Regulatory Policy on Nuclear Emergency Management (P-325). CNSC staff noted that the Regulatory Policy outlines high level elements of the CNSC emergency program while the specific elements are addressed in the CNSC Nuclear Emergency Response Plan and Procedures.

61. In response to the Commission's questions on certain of the comments received during the public consultation on the draft policy, CNSC staff noted that, during emergencies, the CNSC would maintain its regulatory role within its mandate as defined in the *Nuclear Safety and Control Act*. In this regard, CNSC staff noted that it is not mandated to be a first responder but that multiple jurisdictions cover specific roles and responsibilities during emergencies. CNSC staff further noted that, following certain types of emergency, there would be a transitional period until operations resumed to normal.

62. Following its deliberations on the matter after the close of the public portion of the meeting, the Commission approved Regulatory Policy P-325 without change. **DECISION**

Closure of the Public Meeting

63. The public portion of the meeting closed at 6:57 p.m.

Status Report on Gentilly-2 Security Measures and Implementation of CNSC Regulatory Standard S-298, *Nuclear Response Force*

64. The Commission moved in closed session with CNSC staff and Hydro-Québec to discuss security measures at Hydro-Québec Gentilly-2 site as set out in CMD 06-M11.

Amendments to CNSC Regulatory Standard S-298, *Nuclear Response Force*

65. The Commission moved in closed session with CNSC staff to discuss proposed amendments to the Regulatory Standard S-298, as set out in CMD 06-M12.

66. Following its deliberation on the matter, the Commission approved the amendments to Regulatory Standard S-298. **DECISION**

67. With respect to the effectiveness of the standard, the Commission requests that CNSC staff evaluate Regulatory Standard S-298 and report to the Commission at a future Commission meeting, in approximately three years. **ACTION**

68. The Commission also requests that CNSC staff continue to present any proposed modifications to Regulatory Standard S-298 to the Commission for approval.

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Chair *Recording Secretary*

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Secretary

APPENDIX A

CMD DATE File No

06-M1 2006-01-09 (1-3-1-5)
Notice of meeting held on Thursday, February 16, 2006 in Ottawa

06-M2 2006-02-01 (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, February 16, 2006

06-M2.A 2006-02-09 (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, February 16, 2006 – Supplementary Information

06-M3 2006-01-31 (1-3-1-5)
Approval of minutes of Commission meeting held December 1, 2005

06-M4 2006-01-27 (1-3-1-5)
Significant Development Report no. 2006-1 for the period of November 15, 2005 to January 27, 2006

06-M4.A 2006-01-23 (1-11-42-0)
Significant Development Report no. 2006-1 for the period of November 15, 2005 to January 27, 2006 – Supplementary Information - Contains prescribed security information and is not publicly available

06-M4.B 2006-02-08 (1-3-1-5)
Significant Development Report no. 2006-1 for the period of November 15, 2005 to January 27, 2006 – Supplementary Information

06-M5 2006-01-31 (1-3-1-5)
Status report on power reactors for the period of November 14, 2005 to January 31, 2006

06-M6 2006-01-31 (24-1-0-1/ 26-1-54-0-0)
Update on AECL's National Research Universal (NRU) Reactor Improvement Initiatives Program Plan

06-M7 2006-01-31 (29-1-0-0-0/ 1-3-1-5)
Extension of the exemption from Class II Nuclear Facilities and Prescribed Equipment Regulations

06-M7.A 2006-02-08 (29-1-0-0-0/ 1-3-1-5)
Extension of the exemption from Class II Nuclear Facilities and Prescribed Equipment Regulations – Supplementary Information

06-M8 2006-01-31 (1-8-8-325)
Regulatory Policy P-325, Nuclear Emergency Management

06-M8.A 2006-02-08 (1-8-8-325)
Regulatory Policy P-325, Nuclear Emergency Management – Supplementary Information

06-M9 2006-01-31 (1-8-8-325)
Information regarding the CNSC Nuclear Emergency Management Program

06-M10 2006-01-31 (21-7)
Institutional Control Management of Decommissioned Mine/Mill Sites located on Saskatchewan Provincial Crown Land

06-M11 2006-01-23 (1-11-27-6)
Status Report on Gentilly-2 security measures, S-298 standard implementation – Contains prescribed security information and is not publicly available

06-M12 2006-02-09 (1-11-40-0)
Amendments to Nuclear Response Force Standard S-298 – Contains prescribed security information and is not publicly available