Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Wednesday and Thursday, August 10 and 11, 2011 beginning at 9:06 a.m. at the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario.

Present:

M. Binder, President
R.J. Barriault
M. J. McDill

M. Leblanc Secretary
J. Lavoie, Senior General Counsel
S. Gingras and D. Major, Recording Secretaries

CNSC staff advisors were: G. Rzentkowski, R. Jammal, A. Robert, F. Rinfret, M. Santini, D. McCool, P. Webster, L. Love-Tedjoutomo, F. Harrison, L. Colligan, C. McDermott, B. Poulet, P. Thompson, K. Mann, J. Lavoie, G. Frappier, S. Djeffal, S. Simic, P. Hawley, A. Viktorov, C. Harwood, L. Sigouin, B. Gracie, A. Thibert, P. Elder, D. Sims, M. Dallaire, M. Broeders, P. Corcoran, R. Ravishankar, S. Faille, I. Tremblay, H. Rabski, P. Fundarek and K. Glenn,

Other contributors were:

- Bruce Power: D. Hawthorne and F. Saunders,
- NB Power: B. Kennedy, C. Hickman, W. Parker and R. Eagles
- Hydro-Québec: C. Gélinas and P. Desbiens
- Ontario Power Generation: G. Jager, P. Tremblay, M. Elliot, L. Swami, F. Demarkar and R. MacEacheron
- University of Alberta: G. Pavlich and J. Duke

Constitution

1. With the notice of meeting, CMD 11-M41, having been properly given and a quorum of Commission Members being present, the meeting was declared to be properly constituted.

2. Since the meeting of the Commission held June 8 and 9, 2011,Commission Member Documents CMD 11-M41 to CMD 11-M54 were distributed to Members. These documents are further detailed in Annex A of these minutes.

Adoption of the Agenda

3. The revised agenda, CMD 11-M42.A, was adopted as presented.

Chair and Secretary

4. The President chaired the meeting of the Commission, assisted by M. Leblanc, Secretary, and S. Gingras and D. Major, Recording Secretaries.

Minutes of the CNSC Meeting Held June 8 and 9, 2011

5. With reference to CMD 11-M43.A, the Commission enquired about an action that arose during the Commission meeting held in June 2011. The Commission asked if information regarding the availability of radiation detectors for nuclear energy workers in the event of a nuclear accident is known. CNSC staff stated the number of detectors at each facility and noted that a more comprehensive overview would be available in their final report, expected at the end of September 2011.

6. The Commission Members approved the minutes of the June 8 and 9, 2011 Commission Meeting as presented in CMD 11-M43.A.

STATUS REPORTS

Status Report on Power Reactors

STATUS REPORTS

Status Report on Power Reactors

7. With reference to CMD 11-M44, which includes the Status Report on Power Reactors, CNSC staff presented updates on the following:
   - Bruce B: Unit 6 is synchronized to the grid and at 55 percent of full power operation;
   - Pickering A: Unit 4 is de-rated due to recent fuel machine unavailability. Repairs to the fuel emission machine are now complete; and
   - Pickering B: Unit 5 had a setback from 30 percent of full power operation to approximately four percent of full power due to a turbine trip on boiler high level. The unit is back to 30 percent of full power operation.

8. The Commission asked when the valve oscillations issue at Bruce A was going to be resolved and how Bruce Power intends to resolve the issue. Representatives from Bruce Power responded that they intend to resolve the issue during the next planned outage. Representatives from Bruce Power noted that the issue is not safety related and only results in a power reduction.

9. The Commission enquired about the difficulties encountered when replacing a part of the main output transformer at Bruce B. Representatives from Bruce Power explained why the part needed to be replaced and noted that they replaced the faulty part without investigating the cause since they felt the cause would be difficult to determine. Representatives from Bruce Power added that the unit returned to service following the replacement of the part.

10. The Commission commented on a CNSC staff's statement in the status report that says that "the Bruce B units are limited to 93% of Full Power due to the Large Loss of Coolant Accident safety margin issue". The Commission said that the language used can lead to misinterpretation of this statement. CNSC staff clarified that there is no safety issue related to the units and that they are de-rated to ensure that a proper safety margin is maintained. CNSC staff committed to rephrase their statement in subsequent status reports.

11. Further to a clarification request from the Commission on the status of work at the Point Lepreau Generating Station (Point Lepreau), CNSC staff and representatives from NB Power explained that the calandria tube installation is complete and pressure tube assembly and fuel channel installation is ongoing.

12. The Commission asked NB Power if the change in management at AECL has impacted refurbishment activities or if they foresee any potential impacts from the restructuring. Representatives from NB Power responded that they are carefully monitoring new developments with respect to the restructuring of AECL and that they are not concerned at this time.

Early Notification Reports

13. With reference to CMD 11-M48, CNSC staff presented information regarding the Gentilly-2 Generating Station (Gentilly-2) heavy water leak to the heat transport collection system.

14. The Commission enquired on the volume of the leak. Representatives from Hydro-Québec responded that they were unable to quantify the leak because it was an internal leak and the heavy water was not collected, but rather circulated back into the system. Representatives from Hydro-Québec added that there was a small external leak through a system component that resulted in the collection of approximately 150 to 200 litres of heavy water. Representatives from Hydro-Québec noted that the leak occurred for a period of a day and a half.

15. With reference to CMD 11-M52, CNSC staff presented information regarding the Pickering Nuclear Generating Station A Unit 1 reactor trip due to an increased condenser vacuum pressure.

16. CNSC staff reported that the event was not of safety significance. CNSC staff and representatives from Ontario Power Generation (OPG) added that the cause of this event was not determined during investigations and inspections held during the outage. Representatives from OPG explained two likely causes of this event.

17. The Commission requested further information on the magnitude of the pressure surge and the implications of this increase in pressure on the system. Representatives from OPG and CNSC staff reported that the pressure rose from 5 kilopascals to 14 kilopascals and that there were no safety implications resulting from this operational issue. Representatives from OPG added they were able to restore the pressure following the turbine trip.

18. The Commission further enquired about the safety significance of this event. CNSC staff explained that the event occurred on the secondary side of the plant and that the reactor responded in accordance with its design. CNSC staff added that a report was filed according to Regulatory Standard S-99, "*Reporting Requirements for Operating Nuclear Power Plants*", but that the root cause assessment was ongoing.

19. The Commission asked if the equipment configuration was unique to Pickering A and, if not, if this event was reported to other nuclear operators with similar configurations. Representatives from OPG responded that the configuration is common for turbines in general, and that the event was reported to the World Association of Nuclear Operators (WANO) and the CANDU Owners Group (COG).

20. With reference to CMD 11-M53, CNSC staff presented information regarding the Pickering Nuclear Generating Station B Unit 7 reactor trip on Shutdown System 2 (SDS-2) during channelized maintenance.

21. The Commission asked if there is a system in place to evaluate the operator's fitness for duty following an event of this type. Representatives from OPG explained that they conduct post trip reviews following events of this type and that they remove individuals involved in events of this type from active control room duties until they can satisfactorily demonstrate that the individual is meeting the necessary standards.

22. The Commission also asked if panel design modifications can be made to help reduce the occurrence of an event of this type. Representatives from OPG explained that the panels are designed to minimize this type of error, but that for safety reasons, the panels must be impediment-free to easily trip the reactor.

23. With reference to CMD 11-M54, CNSC staff presented information regarding the Darlington Nuclear Generating Station Unit 3 manual Shutdown System 1 (SDS-1) trip.

24. The Commission requested further information on actions that led to this event. Representatives from OPG explained the event and said that it is most probable that the wires appeared to have been incorrectly configured during their installation in the construction of the plant. Representatives from OPG reported having modified their maintenance procedures to include further checks to prevent a reoccurrence of this event.

25. In response to a question from the Commission asking if this event was unique to the Darlington units, OPG said this event could occur at any station and that they plan on sharing their operating experience with the industry.

26. The Commission made a general comment on CNSC's event report form, noting that a referenced internal document is not available in both official languages. CNSC staff acknowledged the Commission's request for translation in French of the referenced procedure DP-1900-15 "*Preparing Significant Development Reports (SDRs)*". **ACTION** by December 2011

INFORMATION ITEMS

Annual CNSC Staff Report for 2010 on the Safety Performance of the Canadian Nuclear Power Industry

27. With reference to CMD 11-M46, CNSC staff presented its annual report on the safety performance of Canadian nuclear power plants (hereinafter NPP report). CNSC staff summarized the 2010 nuclear power industry safety performance results and reported on the new additions to the 2010 NPP report. CNSC staff noted that there was period to comment on the NPP report, to which the public was invited to participate in writing, but that no submissions were received. CNSC staff explained the methodology used to perform the assessment and provided station specific summaries, performance guidelines, and regulatory and licensing issues for each of the power plants.

28. CNSC staff reported that the station safety and control area ratings were assessed as fully satisfactory for a total of six areas, below expectations for two areas, and satisfactory for the remaining 83 areas. CNSC staff further reported that no area received a rating of unacceptable during 2010. CNSC staff stated that the integrated plant ratings for six of the stations was satisfactory, and for Darlington, fully satisfactory.

29. CNSC staff reported that they have added benchmarking to the 2010 NPP report by comparing the performance of Canada's nuclear power plants against international and national values available for the period of 2006 to 2009. CNSC staff provided their observations from their benchmarking.

30. CNSC staff noted that, during 2010, there were no serious failures of operating systems at any NPPs that could potentially challenge protective barriers. CNSC staff further noted that no regulatory dose limits for members of the public and for nuclear energy workers were exceeded in 2010, that environmental releases from the NPPs were below the station derived release limits, and that the severity of injuries and accidents involving workers was minimal in 2010.

31. With regards to the Japanese earthquake and tsunami event, CNSC staff reported having requested from licensees a review of lessons learned from the event and a re-examination of their safety cases. CNSC staff reported that all NPP licensees have submitted their proposed plans and schedules, and that CNSC staff's initial assessment demonstrated that the safety cases for Canadian licensees remain strong.

32. CNSC staff reported that Canadian reactors operated safely in 2010, that NPP operators maintained their focus on safety and made adequate safety and control provisions to protect the health and safety of Canadians and their environment, as well as ensure that Canada was able to meet its international obligations on the peaceful use of nuclear energy. CNSC staff also reported that they expect that NPP operators will continue to strive for improvements in their safety performance, and expect they will continue to remain committed to aligning their programs and procedures with modern standards and international best practices.

33. Representatives from Bruce Power presented further information on the alpha contamination event, their efforts to reduce their maintenance backlog, and their progress made during 2010 on the restart project. Representatives from Ontario Power Generation (OPG) discussed the importance of CNSC's annual NPP report and significant commitments they completed in 2010. Representatives from Hydro-Québec discussed their efforts to reduce the number of regulatory actions in 2010, as well as improvement plans they initiated and implemented to improve operations. Representatives from New Brunswick Power (NB Power) commented on the areas of emergency preparedness and fire response, provided an update on refurbishment activities and information on their response to the events at Fukushima.

34. The Commission asked if it was possible to compare the unplanned capability loss factor of Canadian reactors against that of other international reactors of similar age. CNSC staff responded that a comparison of the unplanned capability loss factor of different reactors is only achievable by selecting values from reactors of similar technology. Representatives from Bruce Power added that age is not necessarily an indication of decreased reliability, but that it most likely results in a higher number of inspections and unplanned outages. Representatives from Bruce Power also stated that they have found their units to compare well against other reactor types.

35. The Commission asked if the right comparisons were being made in CNSC's benchmarking. Representatives from Bruce Power responded that benchmarking is helpful as long as technological differences are well understood. Representatives from Bruce Power suggested benchmarking shutdowns against the plant's assumed forced outage rate. CNSC staff agreed that Bruce Power's suggestion would be a good measure and said that they will refine their approach. Representatives from OPG stated that they will continue to discuss and suggest measures and indicators with CNSC staff.

36. The Commission asked if the CNSC and NPP operators were in agreement with the transition from the requirements of CSA N286 Series of Quality Assurance (QA) Standards (N286.0 through N286.6) to the new requirements of CSA N286-05 *Management System Requirements for Nuclear Power Plants* and asked why the change was required. CNSC staff responded that the standard was revised based on industry needs and that the standard has improved from a regulatory perspective. Representatives from Bruce Power indicated that the standard has also improved from an operator's perspective since the new version is more consistent and reduces the risk of contradiction.

37. The Commission enquired about the pending resolution of the remaining safety issues related to a large loss of coolant accident (LOCA). CNSC staff explained that, for most of the safety issues that remain, the risk control measures are identified and implementation paths for these risk control measures are defined. CNSC staff stated that the approach for the closure of the large LOCA issues was explained during the 2011 Convention on Nuclear Safety and that the work will be completed by the end of 2013. The Commission made a comment that the language used in the report could lead to misinterpretation. CNSC staff responded that they are satisfied with the safety of operating reactors.

38. The Commission enquired on the types of data obtained from the World Association of Nuclear Operators (WANO) that could be used to compare Canadian NPPs with other international NPPs. Representatives from Bruce Power explained there is the ability to benchmark against the WANO standard for corrective maintenance backlog. Representatives from Bruce Power stated that WANO does not collect data for mandatory safety system tests that are missed because there is a variation in the way operators perform testing and in the number of tests. Bruce Power also cautioned that the Commission requires more information to fully characterize the information presented in Table 6 and Figure 7 of CNSC staff's CMD 11-M46.

39. With regards to Appendix E of CMD 11-M46, the Commission enquired about the assessments of the computer code and plant model validations for all facilities. CNSC staff responded that they have completed their assessments and identified outstanding issues. CNSC staff noted that there has been good progress achieved by the industry to date. CNSC staff also briefly explained the validation process for the stated voiding transient.

40. The Commission enquired about consistency in the method of analyzing the accident severity rates (ASR) at NPPs. CNSC staff stated that while the method of reporting should be identical, it currently is not, and that they will be more specific with utilities on how information on ASR should be reported to the CNSC for the 2011 NPP report. Representatives from NB Power explained that they are challenged by the current metric and feel that there is significant room for improvement in terms of reporting. Representatives from Hydro-Québec noted that interpretation of reporting requirements varies by utility and that clarifications from the CNSC are required. Representatives from OPG stated that when their internal measures differ from those used by the industry or by the community, they endeavour to change their measures to report as they do in other jurisdictions. Representatives from Bruce Power recommended that the accident frequency rate be measured instead of the ASR, as it is easier to compare.

41. With regards to performance indicators being comparable between stations, CNSC staff explained that performance indicators are one of the compliance data points collected and their intent is to complement the other compliance activities that are conducted by the CNSC. CNSC staff reported that the issue with ASR is that the document that defines reporting requirements for this performance indicator was open to interpretation. CNSC staff added that the definition for reporting the ASR has been modified in the current RD-99 revision project, which will address the inconsistencies in reporting methods.

42. The Commission enquired about the reason for reviewing the minimum shift complement at NPPs. Representatives from Bruce Power and OPG explained that the re-evaluation of the minimum shift requirement is a validation exercise to confirm they have adequate resources for daily shifts and for emergency response, and to maximize efficiency and drive performance. CNSC staff stated that they are re-evaluating the minimum shift requirement at each station using a complex assessment which takes into account human performance issues.

43. The Commission asked if there is going to be integration of safety, safeguards and waste management in the integrated safety analysis for the plants. CNSC staff stated that they are currently assessing whether these three areas will be included in the integrated safety analysis.

44. The Commission asked why operators are moving maintenance on day shifts. Representatives from OPG indicated that performing maintenance during daytime will increase productivity and efficiency. Representatives from OPG added that fewer resources on a rotating crew results in fewer handoffs of work and better quality of work. Representatives from Bruce Power, NB Power and Hydro-Québec all agreed with OPG's reasoning. CNSC staff indicated that they verify that the plants are adequately maintained.

45. The Commission enquired about Aboriginal consultation with regards to Bruce Power's whitefish studies. Representatives from Bruce Power and CNSC staff provided information on Bruce Power's Aboriginal consultation progress to date. Representatives from Bruce Power explained that they have an on-going dialogue with First Nation communities around Bruce Power through a protocol that they entered last year. The Commission asked if there were similarities between OPG's project regarding plume simulation and effects on round whitefish and Bruce Power's whitefish studies in terms of Aboriginal consultation. Representatives from OPG explained that their consultation is separate from Bruce Power's consultation but they ensure their consultation with Aboriginal groups is very extensive. Also, representatives from OPG noted that they are working with the Department of Fisheries and Ocean (DFO) and that DFO is contributing to OPG's plans.

46. Further to the Commission's question regarding Aboriginal consultation, representatives from NB Power stated that they conducted Aboriginal consultation during the Environmental Assessment (EA) for the expansion of their waste facility, which occurred prior to the start of the outage. Representatives from NB

Power discussed their progress on Aboriginal consultation, indicating that they have been informing Aboriginal groups on the developments periodically since the beginning of the outage. Representatives from Hydro-Québec stated that they had good exchanges with Aboriginal groups during the licence renewal and that they have committees to inform Aboriginal groups about refurbishment activities.

47. The Commission enquired about Aboriginal consultation with regards to the Crown's duty to consult. CNSC staff explained the duty to consult and the approach used.

48. The Commission requested further information with regards to oral certification examinations for Senior Health Physicists (SHP) administered by the CNSC. CNSC staff explained that the CNSC is responsible to examine SHP, and that the CNSC designs, develops and administers the examination.

49. The Commission also requested further information regarding the deficiencies that were found in similar examinations administered by the licensees, along with their failure rates. CNSC staff explained that some deficiencies noted are misinterpretation of CNSC regulatory documents and examination expectations, and indicated that all deficiencies were corrected before administering the examinations. With regards to failure rates, CNSC staff stated that they are only notified when a worker passes an examination. Representatives from OPG stated that they retain for their records the pass rate of examinations they administer. Representatives from OPG added that they proceed to remediation for candidates who do not pass in order to determine whether they will move forward and assume roles and responsibilities in the control room. Representatives from OPG and Hydro Québec also explained that they have continuing training programs and a requalification process. Representatives from Bruce Power added that there is an ongoing challenge in meeting the qualified complement; therefore it is important that they select and mentor candidates they believe will be successful. Representatives from NB Power agreed with statements made by OPG and Bruce Power and explained that their staff have had ongoing training throughout the refurbishment to maintain their authorities.

50. The Commission enquired about tritium management at NPPs and asked what inventory of heavy water is safely stored in stainless steel containers at the Darlington Tritium Removal Facility (DTRF). CNSC staff responded that Darlington is licensed to store up to 400 megacuries of tritium in the basement of the facility and that they normally store around 200 megacuries of tritium. Representatives from OPG stated that they provide heavy water tritium removal services for the Darlington and Pickering

NPPs. Representatives from Bruce Power added that they also employ these services. Representatives from NB Power stated that they do not employ the Darlington tritium removal facility for the removal of tritium from their heavy water since it is not cost effective. Representatives from NB Power added that they currently manage their tritium inventory carefully and continue to look for alternatives for tritium management. Representatives from Hydro-Québec stated that they do not currently remove tritium from their heavy water and that they are looking at options for possibly reducing the concentration of tritium in their heavy water during refurbishment.

51. The Commission enquired about the life extension of NPPs following refurbishments. CNSC staff explained that the range of 25 to 30-year life extension following refurbishment is for reactor components, namely pressure tubes, and that the life of the plant ultimately depends on the operating capacity factor of the plant. CNSC staff added that they can reduce or extend the operating life of the facility if the safety case remains valid. Representatives from Bruce Power noted that the extension of the operating life of a NPP also depends on economics.

52. The Commission commented that they were satisfied with the NPP report and the operators' ratings in the area of engineering change control. The Commission suggested that CNSC staff provide, in their oral presentation, an update on actions stated in their CMD that were closed between the end of the period covered in the Annual Report (December) and the Commission Meeting. CNSC staff responded that they will provide updates in their presentation of future NPP reports.

53. The Commission enquired about the sudden need for aging management on concrete. CNSC staff explained that degradation mechanisms for concrete are known and that aging management ensures these mechanisms are properly monitored and managed as the life extension goes on. Representatives from OPG added that their inspections to date have not revealed issues affecting the structural integrity of concrete. Representatives from Bruce Power explained that they monitor concrete for potential flaws.

54. The Commission requested information on the interpretation of data presented in the Annual Dose tables for each station. CNSC staff defined the values and explained that the annual fluctuations are due to maintenance outages and other radiological work. Representatives from OPG expressed the importance of this data when tracking their dose targets to ensure they are as low as reasonably achievable (ALARA).

Station Specific: Point Lepreau Nuclear Generating Station

55. The Commission requested information from NB Power regarding actions taken to remediate the deficiencies found in the area of emergency management and fire protection. Representatives from NB Power explained the reason for the low rating and their approach to remedy the deficiencies and stated that they continue to meet with CNSC staff to ensure they are aligned with expectations. Representatives from NB Power also reported that safety is their top priority. CNSC staff stated that they are pleased with NB Power's actions to date for the resolution of this issue. CNSC staff also explained the regulatory approach they are using to help NB Power bring this safety area program rating from "Below Expectations" to "Satisfactory".

56. The Commission asked NB Power to explain how they are effectively executing whole body counting for ascertaining and recording workers' doses. NB Power explained that they have reviewed their contracts to add specific requirements for contractors with reference to whole body doses, and have changed the initial declarations made by people coming to the site so that they specifically acknowledge that they give a whole body count or present themselves for the whole body count before they leave the site. NB Power stated that they have also communicated requirements with major contractors' line staff and supervision. The Commission asked what level of compliance NB Power was getting regarding the requirement for whole body counts. Representatives from NB Power stated that the compliance rate was 90 to 95 percent.

Station Specific: Gentilly-2 Nuclear Generating Station

57. The Commission asked for more information regarding the low value of preventive maintenance completion ratio (PMCR) for Gentilly-2. CNSC staff explained that the PMCR for Gentilly-2 is low due to how Gentilly-2 has defined their safety-related systems. CNSC staff committed to reviewing this low number with Hydro-Québec within the next few months.

58. The Commission enquired about the increase in the number of accidents at Gentilly-2 in 2010. Representatives from Hydro-Québec responded that there is no precise cause for this increase and explained their action plan for reducing the number of accidents.

Station Specific: Darlington and Pickering A & B Nuclear Generating Stations

59. The Commission enquired about the minor weaknesses noted by CNSC staff in the area of configuration management, as well as on the lack of involvement of human factor specialists. Representatives from OPG explained that, during an inspection, CNSC staff found that some aspects of human factors could be improved. Representatives from OPG stated that CNSC staff's expectations on what is required were well understood. CNSC staff added that they are encouraging licensees to incorporate human factors in more areas, such as engineering change control, performance monitoring, maintenance, aging management, and corrective actions. With regards to human factors specialists, CNSC staff explained that these specialists would analyze specific situations, identify root causes, and develop corrective actions.

60. The Commission asked for more information on the missing anchor fasteners that went unnoticed during previous vacuum building inspections at the Pickering NGS and enquired about the status of CNSC's acceptance of the engineering analysis. Representatives from OPG reported that, while they did not previously recognize the fasteners were missing, an evaluation was conducted which indicated that the hangars provide adequate seismic protection despite the missing fasteners. The fasteners were not replaced during the last vacuum building outage because OPG focused on higher priority issues. CNSC staff reported having reviewed the engineering analysis and confirmed that it was acceptable. CNSC staff explained that they are now waiting OPG to perform an investigation to determine the reasons why the bolts were not found missing during previous vacuum building outages.

61. CNSC staff enquired about CNSC's acceptance of OPG's request to exempt Darlington feeder dissimilar metal welds from periodic inspections. CNSC staff responded that they found the existing programs to be adequate and that they are not concerned about the integrity of the welds. CNSC staff also stated that inspections at that particular location using the current technology is not as effective as required and would result in high radiological doses to inspectors. Representatives from OPG added that their analyses show they meet the "leak before break" requirement on their reactors and that they might inspect the feeders during the refurbishment.

62. The Commission requested information regarding the adjuster rod power supply failure event that occurred at the Darlington Unit 4. Representatives from OPG explained that the failure was found to be due to an uncommon vendor quality issue, and that power supplies have since been replaced. Representatives from OPG said that they are currently looking at ways to prevent future faults of this kind and that they have shared information on this event with the CANDU industry.

63. The Commission asked OPG how they plan to meet fish mortality reduction objective set by the Department of Fisheries and Oceans (DFO) for the Pickering nuclear generating station. Representatives from OPG explained that they are required to achieve an 80 percent reduction in fish mortality, and that their preliminary analysis show a 78 percent reduction. However, representatives from OPG stated that a more detailed review of the gathered information is likely to indicate that they have achieved a reduction greater than 80 percent. Representatives from OPG added that they continue to work with the DFO and the CNSC to establish alternatives to ensure they meet the reduction target.

64. The Commission enquired about the root cause for the Pickering B emergency low-pressure service water pump shaft failures. CNSC staff and representatives from OPG explained the findings of the extent of the root cause assessment. Representatives from OPG stated that, although the pumps are unique to Pickering B, their findings were communicated to the CANDU industry.

65. The Commission requested information on the 37-element (37M) fuel bundle. Representatives from OPG explained that they are developing the 37M fuel bundle to enhance the safety margin and permit the plant to operate at full power, as well as to enhance efficiency. Representatives from OPG indicated that they are currently testing this new fuel bundle in a number of channels and are looking into a full core application in the late spring of 2012. CNSC staff stated that they are fully aware of the project and that they perform periodic reviews of the progress.

Station Specific: Bruce A & B Nuclear Generating Stations

66. The Commission enquired about the closure of Bruce Power's alpha contamination event file. Representatives from Bruce Power responded that the Radiation Safety Institute report is now available and that all employees who were at risk of contamination have been assessed and that there has been no contamination above regulatory limits. Representatives from

ACTION
by
March
2012

Bruce Power added that they have also been developing a capability to perform alpha monitoring at the station. CNSC staff reported that four elements remain to be addressed by the industry[1] before the radiation protection program can be deemed acceptable from a regulatory standpoint. CNSC staff also stated that closure of the alpha event and a final update to the Commission is scheduled for March 2012.

67. The Commission enquired about the legal action that was taken by Environment Canada against Bruce Power for events that occurred at Bruce A and B in the period of 2008 to 2010. Representatives from Bruce Power responded that they are currently challenging the findings and defending against the charges.

68. The Commission enquired about the possible replacement of the calandria shield tank assembly if Bruce A Units 3 and 4 are refurbished. Representatives from Bruce Power responded that they are currently looking at an alternative way to refurbish the reactor pressure vessel where the complete calandria shield tank assembly would be replaced by one built offline. Representatives from Bruce Power explained the assessments conducted to date and stated that they are performing a feasibility study. Representatives from Bruce Power also stated that this method could greatly reduce radiation doses, potentially enhance safety features of the vessel itself, and potentially reduce the refurbishment outage period. CNSC staff said that they have yet to perform a detailed technical assessment to determine the regulatory implications of this project.

<u>CNSC Task Force – Review of Japan Nuclear Event: Implications for Canadian Nuclear Power Plants</u>

69. With reference to CMD 11-M45, CNSC staff presented the lessons learned from the Fukushima event and its implications on Canadian nuclear power plants. CNSC staff provided a summary of the context and chronology of activities completed to date in response to this event, as well as lessons learned and actions planned for the future. CNSC staff also summarized the international and domestic initiatives associated with the Task Force reviews.

[1] CNSC staff confirmed after the hearing that four elements remain to be addressed by Bruce Power, not the whole industry.

70. The Commission asked for more information on the monitoring and cooling of spent fuel pools in Canada after an incident. CNSC staff responded that, assuming that the pool structure is intact, within 8 to 12 days, water level in the pools could lower enough to cause fuel issues. CNSC staff added that off-site monitoring of the spent fuel pools is being considered by the licensees as a long-term commitment.

71. In response to further questioning from the Commission, CNSC staff explained that, while spent CANDU fuel would deteriorate if not submerged in water, the heat generated is not as significant as for a boiling water reactor. Also, the pool being in the ground, the water would not leak as fast as those in Fukushima, leaving more time for intervention.

72. The Commission asked for more information on the fuel supply for backup power. CNSC staff explained that each of the four standby generators is tested once per week, and that the fuel is sampled for contamination before being put into the fuel tank (one for each generator), which is seismically qualified. CNSC staff added that only one standby generator is needed to supply the station, and that the fuel supply for that generator would last 12 days. CNSC staff also noted that the fuel could not be contaminated from an accident unless the tank is breached, and that because of the separation of the tanks, it is not credible that all of the four tanks would be affected by an accident.

73. The Commission asked for more information on passive autocatalytic recombiners (PAR) and hydrogen ignitors. CNSC staff explained that the Point Lepreau and Bruce A and B are the only NGSs with installed PARs. OPG ordered PARs, but the installation of all of them should be finished in approximately two years because of a shortage of this piece of equipment. In the meantime, hydrogen ignitors are in place in the case of a nuclear accident. CNSC staff also noted that the diminution of efficiency with time in PARs is well known, and that they are therefore maintained to retain their efficiency.

74. The Commission asked CNSC staff if they examined their facilities and activities after the Fukushima events. CNSC staff responded that they examined their own actions after the activities at the CNSC's emergency operating centre, and that the final report, containing more than 40 internal recommendations, would be added to the final report of the CNSC Task Force on the review of the Japan nuclear event. CNSC staff added that if the CNSC headquarters building was not available, other facilities in Ottawa (such as the CNSC Telesat offices) could be used as an emergency operation centre if necessary.

75. The Commission asked for reasons why none of CNSC staff went to Japan after the events. CNSC staff responded that the Fukushima area is still fragile, but that some CNSC staff representatives went to Vienna to help in preparing the IAEA mission that went to Japan. CNSC staff is considering asking to go to a subsequent mission. CNSC staff added that information on this event is readily available from the regulators who monitor the situation in Japan.

76. The Commission asked whether the sources of the water available to provide makeup to the pool include external sources. CNSC staff responded that, at this moment, specific options on water sources are being evaluated by the licensees.

77. In response to a question from the Commission on this topic, CNSC staff provided examples of low-cost changes made inside the Canadian NPPs, such as installing a barrier around a pump that was located lower than the generators to prevent this pump from being flooded, in order to improve safety in case of nuclear accidents.

78. The Commission asked how CNSC staff handle questions related to accident scenarios and emergency preparedness. CNSC staff explained that, as part of the emergency response, they would consider catastrophic accident conditions (including explosions and an airplane crash), even if they are not credible.

79. The Commission asked for comments from the licensees. The OPG representative responded that they consider the bounding scenario determined by CNSC staff very useful, and that, following that analysis, OPG has decided to install more equipment that would be useful in case of emergencies. OPG and Bruce Power representatives added that they are exploring emergency planning with other facilities in Canada and the USA. The Hydro-Québec representative commented that one lesson learned from this exercise is the importance of having protocols in place in the case of emergencies, and that equipment is planned to be installed during refurbishment activities to further increase safety at the plant. The New Brunswick Power representative commented on the usefulness of the discussions on equipment sharing and technical resources in the eventuality of an accident.

80. The Commission asked CNSC staff for more information on the coordination of emergency planning with the United States. CNSC staff responded that arrangements exist between Public Safety Canada, Health Canada and the United States related to a nuclear incident, and that these arrangements will be examined and discussed in the final report.

Canada's Participation at the Fifth Review Meeting of the Convention on Nuclear Safety, 4-14 April 2011

81. With reference to CMD 11-M47, CNSC staff presented an overview of Canada's participation at the Fifth Review Meeting of the Convention on Nuclear Safety, which included:
    - a brief overview of the influence of the Fukushima incident;
    - background information on the Convention;
    - a description of the peer review process;
    - highlights of Canada's national report to the Fifth Review Meeting;
    - the outcome of the Meeting;
    - the path forward to Canada's participation at the extraordinary meeting on the Fukushima incident in August 2012; and
    - Canada's commitment to international and domestic initiatives and roadmap to enhance safety.

82. The Commission asked for more details on the lack of support on CNSC staff's proposal to include discussions on the interface between safety, security and safeguards. CNSC staff responded that some countries opposed this proposal on the basis that this information is mostly of a protected nature and that, therefore, this convention was not a proper forum for discussion on this topic. CNSC staff plans on revising the proposal and resubmitting it at the Sixth Review Meeting.

83. The Commission enquired on CNSC staff's action to resolve the three challenges identified by the Rapporteur in his plenary session. CNSC staff responded that, for severe accident management guidelines, work is already in progress with activities done by the CNSC Task Force. For periodic safety reviews, CNSC staff hopes to make a presentation to the Commission or to have a policy discussion on this topic in the fall of 2011. For human resources challenges, discussions are needed to determine the necessity of an action.

84. The Commission asked CNSC staff about the incorporation of the good practices identified in the Meeting into the management of nuclear power plants. CNSC staff responded that these good practices will be considered as a part of their action plan in preparation for the next convention.

85. The Commission asked about the status of CNSC staff's actions related to the 18 recommendations originating from the 2009 Integrated Regulatory Review Service (IRRS) mission. CNSC staff responded that most of the recommendations have been completed, and that they expected them to all be completed by the follow-up mission scheduled for December 2011. The Commission asked for a written update on the status of the implementation of these recommendations before the follow-up mission.

ACTION
by
November
2011

86. The Commission commented that more transparency should be present at these conventions so that countries that did not participate have access to the information discussed. CNSC staff commented that disclosure of information in reports produced after peer reviews should be mandatory, and that mechanisms for efficient whistle-blowing should be in place.

87. The Commission asked for comments from representatives of the industry. The OPG representative responded that he considers Canada to have had a strong delegation, because of the combination of experts in the regulatory framework and in the design and operation areas. The OPG representative added that accountability of countries represented at the Convention should be strengthened, no driver currently being present for implementing the recommendations originating from peer reviews.

Nuclear Substances in Canada: a Safety Performance Report for 2008 and 2009

88. With reference to CMD 11-M51, CNSC staff presented the initial safety performance report entitled *Nuclear Substances in Canada: A Safety Performance Report for 2008 and 2009*. The presentation provided an overview of the core processes applied in regulating the use of nuclear substances in Canada. The 2010 report is to be presented at a Commission Meeting during the fall of 2011

ACTION by November 2011

89. The Commission asked for the time necessary to complete a full cycle of inspections of all licensees. CNSC staff responded that a risk-based approach is used for inspections and therefore, higher-risk licensees will be inspected on an annual basis, medium-risk licensees on a two-year cycle and low-risk licensees on a five-year cycle (as appropriate).

90. The Commission asked for the impact of a cycle higher than one year on the compliance data presented in the annual report on the industry. CNSC staff explained that the compliance rate does not radically change if a significant number of inspections for medium and low-risk licensees are performed.

91. The Commission asked for more information on the sealed source tracking system. CNSC staff explained that this system was established in 2006 in relation to the IAEA Code of Conduct, and is a Web interface for licensees to report on the movement of the high risk category sources. The National Sealed Source Registry also contains information on all categories of sources.

92. The Commission enquired on the differences in regulatory reinforcement action between "D" and "E" ratings. CNSC staff commented that an inspector would differenciate between a "D" and "E" rating if there is an immediate risk to workers, the public or the environment. If an "E" rating is given, there would then be immediate action, for example the issuance by the CNSC of an order or a voluntary shutdown by licensees. A request under section 12(2) of the *General Nuclear Safety and Control Regulations*[2] could also be performed for "D" ratings. The Commission commented that differentiating between "D" and "E" ratings might be preferable for the public.

93. The Commission suggested to provide more details in the report on the types of increased regulatory oversight activities that are performed.

94. The Commission suggested to provide a clearer reference to the report that was published on the CNSC's website[3] providing information on the loss and recovery of nuclear substances.

95. The Commission asked for more information on the incident involving Sunwave Forest Products. CNSC staff explained that the company went bankrupt and abandoned the site, leaving the gauges unregulated. The City of Prince Rupert took over the site for non-payment of the taxes and has also taken over the licensing of the nuclear gauges. CNSC staff noted that regulatory control was therefore present even if the company had not complied with the order issued.

96. The Commission asked for more details on the three nuclear substances missing from academic and research institutions. CNSC staff explained that one detector with a small activity source was mistakenly sent to a scrap metal facility and subsequently recovered, and another one was misplaced in transit. CNSC staff stated that all three sources were recovered. CNSC staff also noted that the majority of the nuclear substances missing in this category of licensees are caused by nuclear materials that have been ordered and not received at the expected time.

97. The Commission suggested to include in reports the half-life of substances that were involved in spills, to send the message that the level of radiation emanating from substances released during those events lowers with time.

[2] SOR/DORS/2000-202
[3] Report on lost and stolen sealed sources and radiation devices, CNSC web site, July 2011

98. The Commission asked for more information on the level of risk related to medical facilities. CNSC staff explained that medical facilities are not considered high-risk, so a two-and-a-half year cycle for inspection of these facilities is generally followed, in addition to the requirements for an annual report which allows CNSC staff to determine if there are any causes for concerns for a specific facility.

99. CNSC staff commented that, if there is an incident involving a machine certified by the CNSC, the relevant provincial regulatory agency would typically be leading if a patient is involved, and the CNSC would lead the investigation if a worker is involved. CNSC staff is still having discussions with the provincial authorities to determine which agency owns the responsibility for dealing with such incidents, for example when dealing with an error from a medical practitioner. CNSC staff also noted that, if a machine does not function as per design or if the radiation safety officer makes a mistake, the incident is reported to the CNSC.

100. The Commission asked CNSC staff for more information on the effectiveness of the CNSC campaign to reduce the number of incidents. CNSC staff explained that a strategy has been identified for each sector of the industry, and that while some areas are more difficult to get the message to, outreach activities continue, including a news bulletin on the CNSC Web site.

DECISION ITEMS – REGULATORY DOCUMENTS

Regulatory Document RD-99.1 and GD-99.1, *Reporting Requirements for Operating Nuclear Power Plants (NPP): Events*

Regulatory Document RD-99.2 and GD-99.2, *Reporting Requirements for Operating NPPs: Compliance Monitoring*

Regulatory Document RD-99.3 and GD-99.3, *Requirements for Public Information and Disclosure*

101. With reference to CMD 11-M50, CNSC staff presented to the Commission its recommendation on the approval of the final regulatory and guidance documents listed above for publication. CNSC staff also recommended beginning the process to amend, on the Commission's own motion with an opportunity to be heard by licensees, the applicable operating licences to include a reference to these regulatory documents as appropriate.

102. The Commission commented that several comments were received from licensees and asked CNSC staff how many of them were in favour of these regulatory documents. CNSC staff responded that many comments expressed a support for the new documents and, in particular, the new approach of risk-informed requirements instead of deterministic reporting requirements. CNSC staff added that this new approach allows the licensees to focus on safety-significant events and to remove a lot of unscheduled reporting for low-safety significance events.

103. The Commission asked for comments from members of the industry. The Bruce Power representative explained that they have no serious concerns regarding RD-99.1 and RD-99.3, but that, in their opinion, RD-99.2 would represent an increase in administrative workload in managing and sending data to CNSC staff. The Bruce Power representative also complained that no opportunity was provided to the industry to provide comments to the Commission on the final regulatory documents, which were only made available to industry and other stakeholders 13 days before the Commission Meeting. In addition, the normal Commission process for considering and approving regulatory documents did not allow for interventions on these documents. The OPG representative agreed with the Bruce Power representative, and is of the view that OPG is not ready to have these new reporting requirements included in their licences at this time. The Bruce Power representative requested that the Commission consider a two-month delay so that the industry could have an opportunity to review and provide comments to the Commission, either in a written or oral form, so that the Commission could hear both sides before rendering its decision.

104. The Commission asked for comments on the difference of opinions between CNSC staff and the industry on the workload related to reporting requirements as set out in RD-99.2. CNSC staff commented that they have decided to revise reporting requirements for events so as to redirect regulatory focus to safety-significant events only, thereby minimizing administrative work. The Bruce Power representative expressed the view that the scheduled compliance reporting as set out in the proposed RD-99.2 would significantly increase administrative workload, noting that reporting would be required in new areas such as hazardous materials. The Bruce Power representative also noted that further discussions are needed to determine the reporting format and avoid unnecessary workload related to having to reformat the same data for different regulators. The OPG representative agreed that event reporting as set out in RD-99.1 will reduce the regulatory workload for reporting events by reducing requirements to report lower safety significant requirements, but

stressed the importance of properly defining medium and low safety significance events. The OPG representative also expressed concerns about the workload related to the implementation of RD-99.2, expressing the view that performance indicators would have to be sorted out by safety significance.

105. The Commission asked CNSC staff whether the approval process would be unduly complicated if the Commission decides to allow the licensees to provide comments to the Commission. CNSC staff responded that no significant issues would be expected since existing regulatory document S-99, *Reporting Requirements for Operating Nuclear Power Plants*, is already referenced in the licences, and all mandatory reporting requirements are already in place.

106. The Commission asked CNSC staff for more information on the process for implementing these documents in the licences. CNSC staff explained that they are recommending these regulatory documents to be implemented in appropriate licences on the Commission's own motion with an opportunity to be heard by affected licensees, with an October 2012 target date for implementation. CNSC staff considers that the one-year delay for the regulatory documents to come into effect would provide the licensees and CNSC staff sufficient time to implement necessary changes.

107. CNSC staff commented that RD-99.2 is a controversial document because this document was trying to balance the opinion of the industry, which is to report only the data ultimately necessary to evaluate compliance with licence conditions, and CNSC staff's opinion that everything related to licence conditions should be requested. The project team, comprised of members of CNSC staff, decided that only data needed for the assessment of verification criteria and for annual reporting to the Commission would be required from licensees. CNSC noted that pre-consultation with the industry on amendments to S-99 started in 2007, and that even if the consultation period is extended, there will still likely be areas where CNSC staff and the industry have differing views on what should be reported.

108. A Bruce Power senior representative commented that they would like the opportunity to provide their views to the Commission as early as possible, and not during the opportunity to be heard for the proposed licence amendment for the implementation of the regulatory document, which would occur in several months. The Bruce Power representative is of the view that this would provide for a more efficient process.

109. The Commission noted that, if the Commission allows for such extension, the guidance documents might need to be revised to include more information on the differences of reporting between Class I and Class II licences.

110. The Commission commented that they would like the smaller licensees to have the opportunity to provide comments on these regulatory documents. CNSC staff noted that, in the case of Class II licensees, RD-99.3 would be selectively applied because, otherwise, the burden on them may be too onerous.

111. The Commission noted that the licensees might have difficulties with delays in the implementation of the requirements originating from these regulatory requirements if changes are made close to the October 2012 planned date for inclusion in the licence. CNSC staff noted that, while these regulatory documents would be referenced in the licences, the licence condition handbooks can specify what is applicable. CNSC staff plans on presenting an implementation plan to the Commission during the planned licence amendment hearing for the inclusion of the updated regulatory documents into the licences.

112. The Commission asked the members of the industry for comments on the timeline for the transition period. The Bruce Power representative commented that the planned one-year transition period would be acceptable, but expressed concerns on the determination of the changes in reporting, if that determination is made close to the planned licence amendment date.

113. The Commission asked for comments from CNSC staff's response (increasing the submission time) to comments from reviewers on the elimination of additional reports. CNSC staff explained that the main reason for eliminating the additional reports is that they increased the time for the submission of the detailed reports which contain more information.

114. The Commission asked for reasons for having separate regulatory requirements and guidance documents instead of merging them. CNSC staff explained that, previously, the distinction between requirements and guidance in these documents was not always clear to licensees or staff. To address this potential confusion, greater effort has been made to distinguish between requirements and guidance. CNSC staff reported having used different approaches to do so, and in this case, developed separate requirements and guidance documents. Staff noted, however, that alternative approaches could have been used.

115. The Commission asked for more information on whether GD-99.1 was revised to provide guidance on additional information that needs to be provided for low-significance events (comment 36). CNSC staff responded that this document was revised to clarify the information that the low-safety events can be submitted either within five business days of their occurrence or in the next quarterly report.

116. The Commission asked whether all reporting requirements were listed in the regulatory documents. CNSC staff explained that the reporting requirements set out in RD-99.1 do not include reporting requirements set out in the Regulations or in other regulatory documents, in order to avoid potential differences arising from amendments to these requirements from time to time. However, staff also noted that all reporting requirements, including those in the *Nuclear Safety and Control Act* and its *Regulations*, are listed in GD-99.1. The Commission commented that these regulatory documents should clearly list all reporting requirements for licensees, whether power reactors or hospitals.

117. The Commission asked if the regulatory documents contain clear information on which information will be made public. CNSC staff explained that RD-99.3 is structured to require the licensees to obtain guidance from the local public on what information they would like to receive. CNSC staff added that GD-99.3 also provides guidance for the licensees on how to proceed to obtain that information.

118. After considering the recommendations submitted by CNSC staff, the Commission defers its decision on the approval of these regulatory documents until the December 14-15 Commission Meeting. The Commission also requests that staff integrate RD-99.1 and RD-99.2 into a single requirements document, GD-99.1 and GD-99.2 into a single guidance document, and to integrate RD-99.3 and GD-99.3 into a single document setting out both requirements and guidance on public information and public disclosure. In addition, the Commission requests that CNSC staff make the integrated documents available to industry for comment to the Commission prior to the December meeting.

Updates on items from a previous Commission proceeding

University of Alberta: Update on Financial Guarantee for Non-power Nuclear Reactor Facility owned by University of Alberta

119. With reference to CMD 11-M49 regarding the updates to items from previous Commission proceedings, CNSC staff presented an update on the financial guarantee for the non-power nuclear reactor facility at the University of Alberta. CNSC staff provided a background on this topic and the SLOWPOKE facility, details on the current financial guarantee, progress on the revision of the financial guarantee and future courses of action.

120. The Commission asked if CNSC staff took into account the experience gained from Dalhousie University, where the decommissioning costs were higher than expected. CNSC staff responded that they ensured that the planned decommissioning activities for the SLOWPOKE reactor in Alberta were consistent with the one at Dalhousie. The University of Alberta representative noted that the end use of the facility is stated in the Preliminary Decommissioning Plan.

121. The Commission asked for the time for completion of CNSC staff's review of the revised Preliminary Decommissioning Plan and proposed financial guarantee submitted on July 4, 2011. CNSC staff responded that their review should be completed by October 2011[4].

122. In response to a question from the Commission on the possibility for the reactor to be decommissioned in the near future, the University of Alberta representative stated that the current projected date for decommissioning is 2034, with the possibility of extending it to 2040 if the reactor is not fully used.

123. The University of Alberta representative noted that only one quote for the cost of decommissioning could be obtained (AECL), since they are the only company qualified to do the work. AECL did not provide a detailed quote, and would charge significant costs for doing so. In response to comments requested by the Commission on this topic, CNSC staff stated that obtaining a detailed quote was not essential, since guidance document G-219, *Decommissioning Planning for Licensed Facilities* is guidance and not legal requirements, and that some experience in the actual cost of decommissioning could be obtained from the SLOWPOKE reactor at Dalhousie University.

[4] In September 2011, CNSC staff confirmed that the review is completed. CNSC staff has accepted the University of Alberta's revised preliminary Decommissioning Plan and has agreed with the proposed financial guarantee.

Closure of the Public Meeting

The meeting closed at 12:40 p.m.

Sophie Gingras
Recording Secretary

2011-09-23
Date

Recording Secretary

2011-09-23
Date

Secretary

23/09/11
Date

APPENDIX A

CMD	DATE	File No

11-M41 2011-06-30 Edocs 3746585
Notice of Meeting of Wednesday and Thursday, August 10 and 11, 2011

11-M42 2011-07-27 Edocs 3767472
Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on August 10 and 11, 2011, in the Public Hearing Room, 14th Floor, 280 Slater Street, Ottawa, Ontario.

11-M42.A 2011-08-04 Edocs 3770002
Updated agenda of the meeting of the Canadian Nuclear Safety Commission to be held on August 10 and 11, 2011, in the Public Hearing Room, 14th Floor, 280 Slater Street, Ottawa, Ontario.

11-M43 2011-07-27 Edocs 3745460
Approval of Minutes of Commission Meeting held June 8 and 9, 2011

11-M44 2011-08-03 Edocs 3763276
Status of power reactor units as of August 3, 2011

11-M45 2011-07-26 Edocs 3748369
CNSC Task Force - Review Japan Nuclear Event: Implications for Canadian Nuclear Power Plants – Oral presentation by CNSC staff

11-M46 2011-06-20 Edocs 3739733
2010 Annual CNSC Staff Report on the Safety Performance of Canadian Nuclear Power Plants – Oral presentation by CNSC staff

11-M46.A 2011-07-26 Edocs 3721962
2010 Annual CNSC Staff Report on the Safety Performance of Canadian Nuclear Power Plants – Contains prescribed security information and is not publicly available

11-M47 2011-07-26 Edocs 3724271
Canada's Participation at the Fifth Review Meeting of the Convention on Nuclear Safety 4 – 14 April 2011 – Oral presentation by CNSC staff

11-M48 2011-06-16 Edocs 3742560
Early Notification Reports – Hydro-Québec, Gentilly-2 Nuclear Generating Station: Heavy water leak to the heat transport collection system

11-M49 2011-07-26 Edocs 3763086
Update on an item from a previous Commission proceeding: University of Alberta: Update on Financial Guarantee for Non-power Nuclear Reactor Facility owned by University of Alberta

11-M50 2011-07-27 Edocs 3747858
Decision Item Regulatory Documents: Oral presentation by CNSC staff

RD-99.1 and GD-99.1, Reporting Requirements for Operating Nuclear Power Plants (NPP): Events; and

RD-99.2 and GD-99.2, Reporting Requirements for Operating NPPs: Compliance Monitoring; and

RD-99.3 and GD-99.3, Requirements for Public Information and Disclosure

11-M51 2011-07-13 Edocs 3755081
Nuclear Substances in Canada: A Safety Performance Report for 2008 and 2009 – Oral presentation by CNSC staff

11-M52 2011-07-26 Edocs 3766977
Early Notification Report: Ontario Power Generation Inc., Pickering Nuclear Generating Station A: Increased condenser vacuum pressure resulting in Reactor Trip (Unit 1 Reactor Trip)

11-M53 2011-07-26 Edocs 3766979
Early Notification Report: Ontario Power Generation Inc., Pickering Nuclear Generating Station B: Unit 7 Trip on SDS2 during channelized maintenance (Unit 7 Reactor Trip)

11-M54 2011-08-04 Edocs 3769938
Early Notification Report: Ontario Power Generation Inc., Darlington Nuclear Generating Station: Unit 3 Manual Shutdown System 1 (SDS-1) Trip