Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

# Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Wednesday, January 19 and Thursday, January 20, 2011

Canada

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Wednesday, January 19 and Thursday January 20, 2011 beginning at 2:10 p.m. at the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario.

Present:

M. Binder, President
A. Graham
A. Harvey
D.D. Tolgyesi
M. J. McDill

M. Leblanc/K. McGee, Secretary/Assistant Secretary
J. Lavoie, Senior General Counsel
D. Major, Recording Secretary

CNSC staff advisors were: A. Régimbald, K. Scissons, J. Schmidt, S. Faille, K. Bundy, P. Webster, F. Rinfret, P. Elder, R. Ravishankar, N. Riendeau, A. Erdman, M. Rinker, D. Howard, B. Barker and C. David

Other contributors were:

- Cameco Corporation: A. Wong, J. Takala and J. Alonso
- Ontario Power Generation Inc: G. Jager
- McMaster University: M. Elbestawi, M. Butler and D. Tucker
- Shield Source Incorporated: B. Lynch, T. Cairns and L. McMurray
- Atomic Energy of Canada: H. Drumhiller, J. Miller, D. Garrick and S. Kenny
- Natural Resources Canada: D. McCauley
- Sakatchewan Research Council: J. Muldoon
- Saskatchewan Environment: G. Bihun and T. Moulding
- Saskatchewan Energy and Resources: H. Sanders
- Indian Head Camp Adventures: P. Mathias

Constitution

1. With the notice of meeting, CMD 11-M1, 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 December 8 and 9, 2010, Commission Member Documents CMD 11-M1 to CMD 11-M5 and CMD 11-M7 to CMD 11-M11 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-M2.C, was adopted as presented.

Chair and Secretary

4. The President chaired the meeting of the Commission, assisted by M. Leblanc, Secretary; K. McGee, Assistant Secretary; and D. Major, Recording Secretary.

Minutes of the CNSC Meeting Held December 8 and 9, 2010

5. The Commission Members approved the minutes of the December 8 and 9, 2010 Commission Meeting as presented in CMD 11-M3.

STATUS REPORTS

Early Notification Report (ENR)

*Cameco Corporation: Incident at sea involving a shipment of uranium concentrate*

6. With reference to CMD 11-M4.A, representatives from Cameco and CNSC staff presented information on the incident that occurred in the Pacific Ocean involving a shipment of uranium concentrate destined for China. CNSC staff reported that a vessel transporting drums of uranium concentrate from Cameco Corporation (Cameco) experienced very rough seas over several days. Cameco representatives reported the event to the CNSC, stating that the cargo on board the vessel sustained damages and that breach of packages was suspected. Cameco representatives also reported that all the uranium concentrate was contained within the enclosed cargo hold and that the vessel was in good working order.

7. Cameco representatives explained that the vessel has returned to Canada and is now anchored in Ladysmith for assessment and remediation of the content. Preliminary evaluation, which involved contamination monitoring, was performed by both Cameco and the CNSC. The results of the preliminary evaluation indicated no presence of contamination outside of the cargo hold. CNSC staff and representatives from Cameco further explained that there has not been any risk to the crew, the public and the environment resulting from this incident.

8. CNSC staff stated that Cameco is working on a detailed recovery and remediation plan, which will be submitted to the CNSC for review and approval prior to commencing the remediation activities. Cameco affirmed that they will direct the remediation work to ensure it is performed safely. CNSC staff also stated that they will continue to work with Transport Canada and other regulatory agencies involved to ensure that the work is conducted

safely, protecting the health and safety of persons and the environment.

9. Cameco explained that all the uranium concentrate will be collected from the cargo hold, secured in appropriate containers, and returned to a Cameco facility for repackaging or reprocessing through the mill. Cameco vowed to continue to provide regular updates to CNSC staff and other authorities and stakeholders involved.

10. CNSC staff will present more complete information about the incident, on the actions taken by the licensee, and any regulatory action or follow-ups by the CNSC once the investigation is complete. **ACTION** by June 2011

11. The Commission inquired about what other commodities were onboard the vessel and if these commodities were contaminated with the spilled uranium concentrate. CNSC staff responded that other dangerous goods were onboard but were isolated in a separate cargo hold. CNSC staff explained that the uranium concentrate contamination was not spread to other cargo holds.

12. The Commission inquired about the number of drums damaged to the extent of exposing uranium concentrate. CNSC staff responded that two drums were observed with their lids opened and that further investigation is required to determine if other drums were damaged and the extent of the damages. The Commission also inquired on the nature of the contamination. CNSC staff responded that contamination resulting from the uranium concentrate has not been detected outside the cargo hold. Cameco representatives explained that the uranium concentrate only poses a risk if large amounts are inhaled or ingested.

13. The Commission requested clarification as to who is responsible for determining if the port selected for remediation activities consents with the work being done at their site. Cameco representatives stated that Cameco is responsible for ensuring facilities involved and regulators consent to the remediation work.

14. The Commission inquired about the monitoring that is performed when drums are loaded into sea containers. CNSC staff explained that Cameco has procedures for drum loading and transportation and that CNSC staff performs compliance inspections to verify that these procedures are followed. CNSC staff noted that they do not oversee each load. Cameco representatives explained that the sea containers loaded with the drums are inspected prior to leaving the mill site and are inspected at the warehouse in Saskatoon to ensure they meet regulations.

15. The Commission asked if there is a requirement to unload all the containers containing drums of uranium concentrate, or only those with apparent signs of damage. Cameco representatives stated that they are still working on the remediation plan, which would address this question, but that they are planning on examining each drum. The Commission further asked if containers from other cargo holds remain on board. Cameco representatives confirmed that all containers have remained on the vessel to date.

16. The Commission asked if shipments by sea from Cameco will be halted until the investigation is complete. CNSC staff responded that they are evaluating the situation and are looking at the available information to determine shipments by sea from Cameco should cease pending the outcome of the investigation or if short-term measures are required during the investigation. Cameco representatives stated that they are also working with the shipping company to assess the need to stop shipments of uranium concentrate by sea or take other measures until the cause of the incident is known.

*Ontario Power Generation Inc.: Pickering Nuclear Generating Station A, P-2011-00339 – Unit 1 Trip on High Heat Transport System Temperature*

17. With reference to CMD 11-M4.B, representatives from OPG and CNSC staff presented information on the reactor trip event that occurred at OPG Pickering A Nuclear Generating Station (NGS). CNSC staff reported that Unit 1 was shutdown by Shutdown System A as a result of a short in a cable while a recorder was withdrawn from a panel for maintenance. CNSC staff explained that the short in the cable caused the level control valve to close, reducing water flow to the boilers, which led to higher temperature in the primary heat transport system.

18. CNSC staff reported that OPG determined the trip was not a serious process failure and returned Unit 1 to full power. CNSC staff does not believe subsequent reporting to the Commission is necessary unless an anomaly is found during the detailed investigation.

19. The Commission asked if pulling field chart recorders from panels during maintenance is standard practice. OPG representatives explained that it is, and that this model of chart recorders remains powered during maintenance and that the cable travelling with the chart recorder, when it was withdrawn, was nicked on the casing which caused the short.

20. The Commission asked if this was the first occurrence of an event of this type. OPG representatives stated that it was the first event of its kind at Pickering NGS and that they have not yet found

similar events elsewhere. The Commission also inquired on the frequency of maintenance on the chart recorders and OPG representatives estimated the maintenance frequency as once every month.

21. The Commission asked if there is a need to revise any operating procedure associated with this event. OPG representatives responded that no changes to operating procedures are required as a result of this event and that an extended condition check was performed on all chart recorders of similar model to evaluate the risk of an identical fault. OPG explained that they have repositioned cables in a few chart recorders in order to prevent this event from reoccurring.

22. The Commission asked if the details of this event will be publicly available to other utilities. OPG representatives responded that they will share information related to this event both internally and externally through forums and through the CANDU Owner's Group. — No Action. Matter is closed.

Status Report on Power Reactors

23. With reference to CMD 11-M5, CNSC staff presented the Status Report on Power Reactors, which included updates on the following:

    - Bruce A and Bruce B;
    - Gentilly-2;
    - Pickering A and Pickering B; and
    - Point Lepreau.

24. CNSC staff provided further details regarding Bruce A Unit 4, which was operating close to full power; Bruce B Unit 6, which was operating at 93% full power; and Pickering B Unit 5, which was shutdown by both shutdown systems[1]. CNSC staff noted that an Event Notification Report for Pickering B will be presented at the next Commission Meeting.

25. The Commission asked if the power restriction on a reactor can be increased to 100% full power following a refurbishment. CNSC staff explained that the power restriction to full power margin will exist following a refurbishment, although smaller than prior to the refurbishment.

26. The Commission asked for more information regarding compensatory measures taken by Hydro-Québec to assure

[1] CNSC staff confirmed after the hearing that the cause of the forced shutdown at Pickering B Unit 5 was not the same as the cause of the event described in paragraphs 17 to 22 above for Pickering A, Unit 1.

appropriate fire protection given that the fire suppression system is leaking. CNSC staff explained that isolations were made in the leaking sections of piping and flex hoses were installed to re-route the water.

Updates on Items from Previous Commission Proceedings

*McMaster University: Interim Status Report*

27. With reference to CMD 11-M7 and 11-M7.1, representatives from McMaster University and CNSC staff presented an interim status report on the McMaster Nuclear Reactor (MNR). McMaster University representatives provided an overview of facility operations, radiological and environmental performance, accomplishments and improvements, and planned activities. CNSC staff discussed regulatory compliance and performance in the standard safety and control areas.

28. The Commission asked for more information regarding completion dates for outstanding action items (personnel certification, safety analysis, quality management and fire protection). McMaster University representatives explained their progress for the different items and stated that all items should be completed in 2011. CNSC staff stated that there has been satisfactory progress and that they expect most items to be closed in 2011.

29. The Commission inquired about Canadian and international researchers working at the MNR. McMaster University representatives explained that, for the last 10 years, they have had 70 to 120 researchers per year using their facility. McMaster University representatives added that the period of time spent at the MNR by researchers is defined by the type of work they conduct. The Commission also inquired on the safety training received by the researchers. McMaster University representatives stated that anyone seeking access to the MNR facility undergoes radiological safety training as well as reactor orientation and procedural training. McMaster University representatives further added that those not granted free access, such as visiting researchers, are escorted by a trained facility staff.

30. The Commission asked for more information on the general operating level. McMaster University representatives responded that the MNR is operated 16 hours per day, five days per week and that an hour is spent each morning to perform operation checks.

31. The Commission inquired about the frequency of power interruptions and the need for backup power supply. McMaster University representatives explained that small interruptions lead to a reactor shutdown. McMaster University representatives also

explained that the MNR is equipped with enough backup power supply for monitoring instrumentation and that further backup power supply is not warranted since there are no safety issues.

32. The Commission asked for more information on the statement made by McMaster University that there were no lost time injuries in the facility. McMaster University representatives confirmed that the few incidents recorded during the licence period did not result in any lost time. McMaster University representatives also stated that the University does compile statistics on injuries.

33. The Commission asked what was the highest potential risk identified in the safety analysis. McMaster University representatives responded that a flow blocking incident, which diminishes flow through the reactor, was identified as having the most significant consequence and that their emergency preparedness and procedures take into account possible consequences of this event. CNSC staff agreed that safety analysis is used to identify events of high consequences. CNSC staff added that, from a compliance perspective, they also look at high probability events and that they have identified maintaining personnel training up-to-date as a high probability event due to the constant changeover in personnel.

34. The Commission asked if McMaster University has an employee dedicated to training personnel at the MNR. McMaster University representatives explained that the health physics group looks after radiological training, the reactor operations group looks after facility orientation and area-specific training, and a training coordinator looks after staff certification. McMaster University representatives also stated that they are in the process of hiring a manager who will oversee training.

35. The Commission asked for more information on improvements required in the areas of organizational roles and responsibilities and implementation of the non-conformance process. CNSC staff explained that improvements required are related to their internal audit process to ensure McMaster University looks at how to correct non-conformances, how to ensure the non-conformances do not reoccur, and how to evaluate the significance of the non-conformances in their quality assurance program.

36. The Commission inquired about the status of efforts required by the licensee to strengthen their internal audit process and enhance their annual program review. CNSC staff responded that this action was issued recently and that they expect it to be completed in 2011, prior to the Type I inspection due to occur before the next licence renewal.

37. In regards to CNSC staff's plan to verify the implementation of McMaster University's training program for authorized operating positions during a Type II inspection, the Commission asked why it is not planned before 2013. CNSC staff explained that they are currently focussing on the certification process itself and that, since the risk to this action is low in terms of compliance, they will verify this action once McMaster University's training approach and certification process are accepted.

38. The Commission inquired about the work that has been done to reduce the dose per unit production for iodine in 2010. McMaster University representatives explained that they have reviewed work practices, provided additional training, and reduced the ambient radiation fields from the reactor pool, all of which should lead to lower doses per production.

39. The Commission asked if a third party review of the fire protection program is required and, if it is, the periodicity of this review. CNSC staff responded that an annual third party review is required and that there were no major findings from the reviews conducted during this licensing period.

40. The Commission asked if the current operating licence allows the use of highly enriched uranium (HEU) fuel. CNSC staff responded that HEU fuel is allowed on site since the current licence was issued with no amendments because McMaster University wanted to keep their options opened for possible molybdenum-99 (Mo-99) production in the future. CNSC staff stated that McMaster University's criticality programs continue to cover the use of HEU fuel.

41. The Commission asked if, through the expansion of medical isotope production facilities, McMaster University is looking at commercial production and, if they are, the status and requirements of commercial production. McMaster University representatives explained that they have expanded their iodine-125 (I-125) facilities to increase their production to meet increased customer demands and demands not met by shutdown facilities. McMaster University representatives further explained that they looked at the process for possibly producing Mo-99 and determined that there are a number of technical issues that would need to be addressed, including the use of HEU fuel.

42. The Commission asked CNSC staff if a licence amendment is required to start producing Mo-99. CNSC staff responded that there is a high probability that a licence amendment would be required and that a specific proposal is required to address issues such as storage, security and transportation, and how it would affect the safety case. CNSC staff stated that McMaster University

requires permission to receive HEU fuel.

43. The Commission asked for more information with regards to the financial guarantee since HEU fuel has been removed from the facility. CNSC staff explained that, in order to determine if the decommissioning fund of $6 million presently available is sufficient, the updated decommissioning plan needs to be reviewed. The Commission asked McMaster University the amount they can afford to contribute yearly into the fund. Without having the exact number available during the meeting, McMaster University representatives responded that they estimate the minimum amount they are obligated to contribute yearly as being $250,000. McMaster University representatives added that, when they can, they contribute more than the minimum amount.

44. The Commission asked for more information regarding CNSC staff's statement that McMaster University has a reasonable emergency preparedness response capability. CNSC staff clarified that the emergency plan is appropriate for the hazards present in the facility.

45. The Commission inquired about the life expectancy of the MNR. McMaster University representatives explained that the nature of the operation, the simplicity of the MNR, maintenance efforts, and funding to refurbish, upgrade and modernize should enable reactor operation for another 20 years but that the life will ultimately depend on research and commercial demands.

*Shield Source Incorporated (SSI): Mid-term Status Report on SSI's Class IB Nuclear Substance Processing Facility*

46. With reference to CMD 11-M8.1 and 11-M8, Shield Source Incorporated (SSI) representatives and CNSC staff presented the midterm status report on the SSI facility. Representatives from SSI provided an overview of the facility, of the changes made during the current licence period, and presented the results of their environmental monitoring program. CNSC staff discussed the regulatory compliance and performance in the different safety control areas and presented recent ground water monitoring information.

47. The Commission asked for clarifications on the vegetation sampling locations. SSI representatives explained that the annual average results refer only to samples taken from the crab apple tree in proximity to the site. The Commission also asked for more information pertaining to the high tritium concentrations found in the crab apples sampled. SSI representatives explained that results from samples taken in 2010 show a slight decrease from the 2009 results. CNSC staff explained that apple trees regularly show

higher tritium levels in areas surrounding nuclear facilities. CNSC staff added that concentrations found in the crab apples is half of the drinking water limit, but that the comparison between the two cannot be made since they are consumed at different rates and quantities. CNSC staff added that the dose resulting from the consumption of crab apples would be small and that they are safe to eat.

48. The Commission inquired about the outcome of the February 2010 tritium release on the facility. SSI representatives responded that a process change was made through the installation of an electronic gate valve to help prevent releases resulting from human error. CNSC staff added that they are satisfied with this corrective action and noted that SSI will also be providing additional training to their staff to prevent the reoccurrence of this event.

49. The Commission asked for information on health and safety at SSI. SSI explained that, other than minor cuts, they have had two injuries requiring medical intervention, which did not result in loss-time accidents. SSI added that they maintain records of all injuries, including minor ones. The Commission expressed the importance of presenting data on health and safety at licensed facilities.

50. The Commission asked if the Respiratory Protection Program action was completed by the due date of December 2010. SSI representatives responded that it was not finalized but that the program was going to be submitted to CNSC staff for review by the end of January 2011.

51. The Commission asked for more information on employees taking an accident investigation course. SSI representatives explained that accident investigation training will be provided to supervisors and managers, and that they will provide additional training to employees to help identify deficiencies with procedures.

52. In a response from a question from the Commission asking if they have a joint health and safety committee, SSI representatives stated that they have a trained health and safety committee comprised of members that meet nine times per year and who are available to all employees.

53. The Commission inquired about the high sampling result for the critical receptor drinking water well. SSI representatives responded that the elevated sampling results for the drinking water well reported in 2005 are incorrect as presented. SSI representatives explained that an incorrect value was reported during laboratory analysis due to possible cross contamination and that the sample had been reanalyzed shortly after. SSI representatives added that the change in sampling result was submitted to the CNSC, but had

not been updated in their database, and subsequently in their presentation.

54. The Commission inquired about the variation in monitoring results observed. CNSC staff explained that the seasonal variations in the well samples are due to the shallow depth of the wells; precipitation can raise the level of the water table exposing it to tritium. However, CNSC staff noted that some of the wells are deep, which should not be affected by the amount of precipitation, and that the variation in results could be due to the analysis of samples.

55. The Commission inquired about the plume dispersion resulting from raising the stack and why an increase in tritium concentration has not been observed at air monitoring stations away from the facility. CNSC staff explained that raising the stack avoids high deposition rates close to the facility and disperses the tritium farther where concentrations are hardly affected. CNSC staff added that the reduction in tritium concentration in air in close proximity to the facility will reduce ground water tritium concentration in close proximity, but should not affect ground water concentration further away from the facility.

56. The Commission asked for more information on the water samples taken from wastewater treatment plant effluent stream. SSI representatives explained that, while they are not required to sample the wastewater treatment plant effluent stream, it proves that their releases do not harm the environment or the public. CNSC staff concurred with SSI and noted that the wastewater treatment plant does not remove tritium from SSI's wastewater stream.

57. The Commission inquired about the environmental impact of the process used to clean the signs. SSI representatives responded that they determined that there was less waste associated with cleaning the signs and that they have not seen negative impact on their wastewater effluents. CNSC staff explained that, in terms of waste management, it is preferable to minimize waste that has to be stored in long-term waste management facilities, but that they strictly control SSI's effluent releases to ensure there is no risk associated with releases to the sewer during the cleaning process. CNSC staff stated that SSI is well within their release limits but that they will be monitoring SSI's cleaning practices more closely for the remainder of the licence period.

58. The Commission inquired about the increasing trend observed in ground water sample results in 2010. SSI representatives responded that high tritium concentrations observed in samples taken in 2010 result from the accidental tritium release that occurred in February

2010.

59. The Commission asked if the accidental tritium release was a reportable event. CNSC staff indicated that the event was not reportable, even though internal action levels were exceeded, because regulatory limits were not exceeded.

60. The Commission asked if the public is informed about the ground water plume. CNSC staff explained that they have not yet confirmed that the plume is slowly migrating towards the drinking water well and that they are continuously monitoring available information. CNSC staff also explained that they do not believe that the drinking water source in proximity to the site is at risk, but think that monitoring is warranted and have required SSI to add additional monitoring wells. SSI representatives explained that, while they have not directly informed neighbours of possible future drinking water well contamination, they have a public awareness program and distribute well sample results to the neighbouring public yearly, in addition to providing information on their website. SSI representatives added that they are implementing a new plan to help facilitate information sharing with the public and will look in the possibility of holding town meetings to further inform the public. The Commission emphasized the importance of informing the public and suggested that SSI consider a wider area and a broader approach to public communication.

61. The Commission inquired about the expansion of the area for the distribution of public information. SSI representatives explained that they chose to double the distribution area arbitrarily. CNSC staff stated that they are satisfied with the environmental data available on SSI's website and that they are now looking at how proactive SSI is at ensuring that the public is aware of the information on the website.

62. The Commission inquired about the procedures used to mitigate breakage of devices during manufacture at the facility. SSI representatives explained that they have defined procedures on how to react, control and manage breakage of tubes within the facility during manufacture.

63. The Commission inquired about SSI's financial guarantee. SSI representatives stated that there is a payment schedule, that they are in compliance with the payment schedule and that they expect the total decommissioning fund to become current by December 2012. SSI representatives also stated that they are reviewing the decommissioning plan and that they will return to the Commission if changes to the financial guarantee are required.

*Atomic Energy of Canada Limited (AECL): Update on the Progress and Effectiveness of the Organizational Corrective Action Plan*

64. With reference to CMD 11-M9.1 and 11-M9, representatives from Atomic Energy of Canada Limited (AECL) and CNSC staff presented an update on the progress and effectiveness of the Organizational Corrective Action Plan (OCAP). Representatives from AECL presented the following: background information and a reminder on the key drivers for the OCAP; information on key considerations and implementation of the plan; information on the six key areas of focus; future steps for program implementation; and a brief update on the operation status of the National Research Universal (NRU) reactor. CNSC staff commented that AECL has put in place a detailed implementation schedule of the corrective action plan. CNSC staff added that the NRU reactor had been producing isotopes safely and that AECL continued to implement its corrosion mitigation strategy. CNSC staff also described AECL's actions to reduce radiation fields around the reactor.

65. The Commission asked for clarification on CNSC staff's statement that AECL may not have resources required in the areas of human and organizational performance to support improvements under the OCAP. CNSC staff clarified that they see a lack of resources in the areas of human and organizational performance as a possible issue in seeing the OCAP becoming a sustainable improvement. CNSC staff explained that they will continue to monitor these areas to ensure AECL is able to sustain improvements going forward. AECL representatives responded that they have filled the position of Human Performance Manager and that they are training staff in the areas of human performance to reinforce, coach and change behaviours, and improve performance in these areas.

66. The Commission asked AECL if they can provide assurances that activities planned for the NRU reactor will be properly performed, safely and on time. AECL described recent activities that were properly done and stated that they have high hope in their abilities. CNSC staff stated that the inspectors on site verify the safety of the operations of the reactor. CNSC staff added that they have been tracking AECL's commitments to ensure that all safety-related work is done.

67. The Commission inquired about attrition at AECL. AECL representatives explained that reductions in personnel occurred early in 2010 and that there are no additional reductions in staff planned at this time. AECL representatives added that they have successfully hired additional operators and technical support engineers but that uncertainty surrounding the future of AECL has led to the loss of two candidates for the senior control room engineer position. AECL representatives stated that they are

working towards addressing the uncertainty felt by staff surrounding the future of the company.

68. The Commission inquired about completion of maintenance work during shutdowns at the NRU reactor. AECL representatives stated that, since the return to service of the NRU reactor, they have produced 100 percent of the isotope demand so far and that they have the capability to produce the same quantity of isotopes as in the past. AECL representatives explained that work has been planned to allow the continued performance of the NRU reactor and that they have been able to increase maintenance work during shutdowns twofold through job planning, preparation and schedule scope freeze. AECL representatives described activities that will be performed during the extended outage. CNSC staff agreed with AECL's assessment and noted that the maintenance backlog is not increased because of AECL's work efficiency.

69. The Commission also inquired about completion of maintenance work while the NRU reactor is operating at the current moderator activity levels. AECL representatives responded that work that cannot be completed during reactor operation due to restricted access to certain rooms caused by the moderator activity is delayed until reactor outages. AECL representatives explained that, although they are currently seeing a 40 percent reduction in uranium in the moderator, the activity is still high. AECL representatives also explained that, since they are reducing maintenance backlogs in NRU, they are keeping up with required work even with dose limitations. CNSC staff agreed with AECL's response and stated that AECL is managing the hazards through a good radiation protection program and methods to eliminate the hazards but noted that they continue to monitor the issue associated with increased moderator activity levels.

70. The Commission asked for more information on the source of high uranium concentrations in sections of the NRU reactor. AECL representatives explained that elevated uranium concentrations are due to defect fuel that was placed in the NRU reactor approximately in early 2009 that allowed uranium to leave the fuel cladding and to be deposited on the reactor wall. AECL representatives further explained that they suspect that a significant reduction in uranium concentration after draining and replacing the moderator during the extended outage did not occur due to plating of uranium on some areas of the vessel walls, on the piping system and on the fuel that was reloaded into the core. AECL representatives added that they are removing uranium from the moderator system through the evaporator and through modified ion exchange columns.

71. The Commission inquired about remediation measures taken to remove uranium from the moderator. CNSC staff responded that the ability to detect and remove defect fuel in a timely fashion is important from radiological and safety perspectives and that AECL has had to prove to the CNSC that they have the ability to detect new fuel defects with the currently elevated activity in the moderator. CNSC added that, even though the removal of the uranium from the moderator is taking longer than they would like due to engineering challenges, AECL has been properly managing the situation for the short term.

72. The Commission asked if there is contamination in the light water leak present at the NRU reactor. AECL representatives explained that there is no contamination present in the water, and that the water is diverted to the drain system. AECL representatives further explained that the water goes to the waste treatment centre where it is analyzed and monitored before it is released or further processed.

73. The Commission asked for more information on the problems associated with the start-up of the NRU reactor following outages. AECL representatives explained that they have looked at the causes of forced outages, and difficulties associated with start-up from outages, and have attributed the issues to the planning process for the outage itself, human performance and equipment. AECL representatives indicated that they are now better at planning outages and are increasing awareness for better use of human performance tools. CNSC staff explained that the start-up delays associated with the control rod drop issues have not been reportable events since they have no safety impact and that they have been monitoring start-up related issues to confirm that there is no safety impact.

74. The Commission asked for more information on the cold spray technique[2]. AECL representatives explained that the tools for application of the cold spray have been manufactured, delivered, and are being tested. AECL representatives stated that they plan on fully implementing the cold spray during the May outage. CNSC staff added that they are waiting on AECL's detailed approach for cold spray applications and that AECL needs to demonstrate that there is no safety concern associated with it. CNSC staff stated that they expect to review AECL's safety case by May 2011.

75. The Commission asked for the top successes in the actions completed by AECL to date. AECL representatives described the efforts to improve human performance, improvements in causal analysis and the quality of the causal analysis, as well as the

[2] Cold spray is a technique that sprays powdered aluminum on aluminum surfaces at high velocity, which fuses to the surface to add wall thickness.

transition made in safety culture. CNSC staff added that they hope to start seeing evidence from AECL's indicators that changes are occurring but that they are already seeing improvements in the aging management program and the nuclear safety policy related to safety culture. CNSC staff noted that some data on this topic should be available at the next update to the Commission.

**ACTION**
due
June 2011

76. The Commission asked for more information on the self-assessments performed by AECL. AECL representatives explained that the self-assessments are performed internally by the organization by groups not involved with activities being assessed, and that they also bring in external resources from other nuclear organization. AECL representatives explained that they expect the assessors to be critical and to learn from the different assessments, which helps improve other areas of the organization. AECL representatives stated that they are developing a culture of being self-critical, which is a key foundation to start developing a strong organizational culture.

77. The Commission asked AECL if they will be expanding their website to inform the public on their plans and progress. AECL representatives responded that the information is currently only available on their internal website but that they will consider publishing information externally.

78. The Commission inquired about long term plans to mitigate the remaining light water reflector leak. AECL representatives explained that they are pursuing multiple ways to reduce, and potentially eliminate, the leakage from the reflector and that they are working on finding the best solution to address the reflector leak. AECL representatives stated that they are seeing improvements and continue to address this problem. The Commission noted that this light water leak is not a safety or environmental issue.

79. The Commission inquired about work being planned for the May extended outage. AECL representatives explained that the May extended outage is a 31-day outage, which includes three days of contingency, and that many inspections are planned during this outage. AECL representatives added that other actions planned during the extended outage are to provide a better understanding of the equipment and components as AECL enters the finalization of the relicensing period.

INFORMATION ITEMS

Atomic Energy of Canada Limited (AECL): Status of Specified AECL Facilities in Decommissioning

80. With reference to CMD 11-M11, CNSC staff presented an update on the decommissioning status of the following AECL reactors that are currently in a safe state of storage with surveillance: the Douglas Point, Gentilly-1 and Nuclear Power Demonstration (NPD) prototype power reactors, and the National Research Experimental (NRX) reactor at the Chalk River Laboratories (CRL). CNSC staff provided an overview of AECL's current decommissioning plans and schedules, as well as the current status of each of these facilities. Representatives from AECL discussed the management of shutdown prototype reactors in Canada and the long term strategy for the reactor facilities in decommissioning.

81. The Commission inquired about the storage of the nuclear fuel from the four AECL reactors in decommissioning. CNSC staff explained that fuel from the Douglas Point and the Gentilly-1 reactors is stored onsite, next to the facilities, and that fuel from the NPD and the NRX reactors is stored at other facilities on the CRL site. CNSC staff further explained that the spent fuel dry storage facilities are inspected annually. AECL representatives stated that they have a monitoring program in place and perform maintenance to ensure the integrity of the storage. AECL representatives also indicated that the storage facilities are inspected regularly by the IAEA.

82. The Commission inquired about the type of licence issued to the shutdown facilities and the renewal period of the licences. CNSC staff explained that the three prototype reactors were issued waste facility licences in 1992 with an indefinite expiry date, and that these licences have been amended. CNSC staff stated that they are currently working with AECL on applications for modern licences with expiry dates to ensure that financial guarantees, decommissioning plans and the decommissioning approach are routinely updated.

83. The Commission asked for more information on the method used by AECL to report their monitoring results to CNSC staff and on monitoring expectations defined in each licence. CNSC staff responded that monitoring results are reported by AECL to CNSC staff on an annual basis and that the monitoring requirements are defined in the licences and in the storage surveillance plans in effect at each facility. CNSC staff also explained that monitoring program requirements evolve based on revised derived release limits.

84. The Commission inquired about the length of the time period associated with phase two of AECL's decommissioning strategy. AECL representatives explained that the length of the storage with surveillance phase is defined by the radiation levels and the availability of waste management facilities. AECL representatives also explained that they continuously revise their plans and timelines, given consideration to safety of workers, the public and the environment. CNSC staff added that some of these facilities are located in close proximity to operating facilities; therefore the consideration needs to be given to timing of decommissioning work in order to limit impact on operations.

85. The Commission inquired about the risk associated with the shutdown facilities. CNSC staff responded that the shutdown reactors are low-risk facilities since fuel is stored and monitored, and radioactive components are well shielded and in a safe state.

86. The Commission inquired about the location of spent fuel storage at the Gentilly-1 site. CNSC staff responded that spent fuel at Gentilly-1 is stored in a section of the turbine building, separate from the Gentilly-2 CANSTOR system. CNSC staff added that they regularly inspect the condition of the storage containers and that the IAEA ensures that spent fuel has not been removed or diverted.

87. The Commission asked for more information regarding requests made for new licence applications. CNSC staff explained that they have been in communication with AECL over the last few years to move forward with applications for CNSC storage licences for phase two of the decommissioning strategy and will, in the future, discuss the need for a decommissioning licence for phase three of the decommissioning strategy.

88. The Commission inquired about the length of the Nuclear Legacy Liability Program (NLLP) and whether the federal government will extend the program past its current end date of 2076 if decommissioning of the facilities is incomplete. A representative from Natural Resources Canada (NRCan) explained that, since AECL is an agent of the Crown, its liabilities will continue to be liabilities of the Government of Canada, therefore the Government of Canada will continue to recalculate the NLLP on an annual basis based on AECL's progress. The Commission also asked if the NLLP covers annual facility maintenance costs, such as inspections and repairs. The representative from NRCan confirmed that the NLLP covers care and maintenance costs.

89. The Commission inquired about the evolution of the net present value of the NLLP compared to the initial value defined in 2006. The representative from NRCan explained that this value is re-

evaluated yearly, based on achievements made by AECL in its expenditures and in reducing milestones, which reduces liability but increases the value of money. The representative from NRCan also stated that the current liability was evaluated at around $2.95 billion in 2010 dollars.

90. The Commission inquired about the scope of nuclear liabilities owned by the federal government. The representative from NRCan responded that the nuclear operators are responsible for the management of their own liabilities and that it is only in situations where owners or operators cannot be considered able to manage the waste that the federal government becomes responsible of providing funding and management. The Commission further inquired on the amount of the Port Hope liability. The representative from NRCan stated that Port Hope Area Initiative (PHAI) was funded at a level of $260 million in 2001 for Phase I of the PHAI program and that they will conduct another accounting of the liability as they head into Phase II of the PHAI program.

91. The Commission asked how the five-year start-up phase amount of $520 million was derived. The representative from NRCan explained that, after reviewing the strategy the defined five-year program and associated milestones, the federal government decided to provide funding for the first five years of the strategy. The Commission also asked if the five-year allocation differs from the AECL budget or if it is part of the appropriation at AECL. The representative from NRCan responded that the NLLP is kept separate, and exists in NRCan's main estimates.

92. The Commission inquired about the criteria used to determine which non-radioactive building is maintained and which is demolished. AECL representatives responded that the method used to determine which building was to be demolished varied for each site. AECL representatives gave an overview of buildings that were removed at each site and stated that they undertake decommissioning in a progressive manner and on a prioritized basis from a safety perspective.

93. The Commission inquired about the availability of staff and expertise at AECL to manage the decommissioning of the shutdown reactors over the next 20 years and on the location of the staff. AECL representatives responded that staff supporting the portion of the NLLP related to the prototype reactors are located in Chalk River and that they utilize internal resources with operations knowledge or knowledge of the particular reactor, and external expertise in nuclear reactor decommissioning. AECL representatives added that they will obtain expertise as required by the schedule.

94. The Commission expressed concern regarding AECL's ability to maintain corporate memory over the next 20 years and asked if there is internal transfer of knowledge. AECL representatives explained that they are spending a considerable amount of effort producing and preserving documentation to transfer operational expertise. CNSC staff added that the IAEA promotes immediate decommissioning for the reason that knowledge is lost with time but that before decommissioning work commences, programs must be developed and reviewed, and staff must be properly trained both from a radiation and occupational health and safety perspectives.

95. The Commission asked when another status update on the specified AECL facilities in decommissioning will be presented. CNSC staff responded that they are working with AECL on applications for new licences and that they expect to return before the Commission in 2011. AECL indicated that they are working with CNSC staff on applications for new licences and that the timelines estimated by CNSC staff seems appropriate.

96. The Commission inquired about public access to the NPD site from the waterfront. AECL representatives explained that the shoreline in front of NPD is steep and rocky, which has discouraged trespassers from camping on the property. AECL representatives added that, while they have the occasional person wandering on the site, the nuclear area is fenced off, monitored and controlled by their security program. CNSC staff concurred with AECL.

97. The Commission inquired about the end state of the facilities after final decommissioning is complete. AECL representatives responded that, in order to determine the end state of the sites, a site conceptual model that looks at the detailed risk assessments to the environment and the public will be developed. AECL representatives stated that they have only started looking at endpoints and are currently focusing on end states for the Chalk River site. AECL representatives added that public involvement will be important in determining the end state of the sites.

98. The Commission asked why decommissioning has not started on the NPD reactor and what is the barrier to decommissioning. AECL representatives stated that their strategy to date has been to wait until a long-term waste management facility is available in order to limit waste transfers. AECL representatives also stated that they are starting to look at other options to better understand and better define their waste management strategy. CNSC staff added that the decommissioning of the NPD reactor would generate a fair amount of low level radioactive waste and Chalk River Laboratories does not currently have an extra waste facility. CNSC staff also explained that since the NLLP funds other active work at Chalk River Laboratories, efforts need to be directed towards the

reduction of higher risks.

99. The Commission asked for more information on the transfer of ownership of the lands in the above-grade floors of the service building and the pump house to Hydro-Québec at the Gentilly-1 site. CNSC staff explained that the licence is issued to who has day-to-day control of the facility and not the owner of the facility. Therefore, AECL is still responsible for the lands that have been transferred to Hydro-Québec. AECL representatives added that they still patrol and monitor the areas transferred to Hydro-Québec to ensure they are utilized as expected.

100. The Commission inquired about the number of staff involved in decommissioning at AECL. AECL representatives responded that the overall effort to carry out the NLLP has been a little over 600 person-years in the last two years. AECL representatives added that they have a large number of contracts provided to external companies for design and construction work associated with the NLLP. AECL representatives stated that they expect internal resources to remain constant.

Saskatchewan Research Council (SRC): Status report on the summary of remediation activities and safety performance at the Gunnar and Lorado mine sites

101. With reference to CMD 11-M10 and 11-M10.1, representatives of the SRC and CNSC staff reported on compliance with Commission Order 10-1 (the Order) issued to the SRC for the Gunnar mine site, remediation activities planned for 2011 for the Gunnar mine site, and provided an update on the progress of the environmental assessments (EA) and the licensing process for both the Gunnar and Lorado mine sites.

102. The Commission asked SRC to comment on CNSC staff's concerns on the slow progress of the licensing process. The SRC representative recognized that they are not progressing as planned. The SRC representative explained that their efforts have been focused on re-establishing a safe environment at the Gunnar mine site in accordance with the Order, and on preparing the EA documents for both mine sites. The SRC representative also acknowledged the amount of work required to licence both facilities and stated to have hired consultants, developed a plan and developed a schedule in order to meet deadlines. The SRC noted that the plan and schedule were submitted to CNSC staff on January 18, 2011 for review. The SRC representative stated that the slow progress was not due to lack of resources or funding, and that they expect to be able to meet the submitted schedule. The SRC representative added that the challenge lies in effectively and efficiently managing the resources.

103. The Commission inquired about the timelines associated with the licensing processes for both the Gunnar and Lorado mine sites. CNSC staff explained that the current licence exemptions for the Gunnar and Lorado mine sites expire on April 30th, 2013. CNSC staff stated that they have not received any licensing documentation to date and do not expect any in the near future. CNSC staff also stated that, for these two sites, they are planning to consider the EA and the licensing at the same time. The SRC representative noted that the environmental impact statement for the Gunnar site was submitted to CNSC staff in January 2011.

104. The Commission asked SRC when they expect to submit an application for licensing with an EA for consideration by the Commission. The SRC representative responded that they, with the help of a consultant, have started working on the various documents required and are following the schedule they presented. The SRC representative added that the detailed decommissioning plan is scheduled to be completed in March 2012.

105. CNSC staff explained that they are concerned with the lack of progress and that they will remain concerned until the relevant documents are submitted and reviewed. CNSC staff noted that the documentation previously submitted by the SRC associated with the Order has been of quality and stated the importance of quality documentation to remain on schedule. The SRC representative expressed their intention to get ahead of schedule by maintaining a collaborative working relationship with CNSC staff, producing quality documentation and submitting documents as soon as they become available.

106. The Commission asked if time was allocated within each activity of the SRC's schedule for public consultation. The SRC representative responded that they have a full-time community liaison which ensures that the SRC regularly interacts with the public. The SRC representative stated that they have an office that is seasonally opened in Uranium City and that they communicate through the local radio stations. The SRC further stated that they hold formal public meetings to ensure they inform the public about the developments at the Gunnar and Lorado mine sites. The SRC also mentioned that they participate in the public consultation process for the Gunnar site EA.

107. The Commission asked who performed the work at the Gunnar mine site during the year 2010. The SRC representative responded that there was one prime contractor and a number of sub-contractors who carried out the work in 2010, totalling approximately 15 people on-site at any given time. The SRC confirmed that there were no accidents to any worker, including all

contractors involved.

108. The Commission requested more information on the asbestos removal work that was completed in 2010. The SRC representative responded that, in 2010, asbestos abatement was carried out in a portion of the mall on the Gunnar site and that asbestos collected was stored in a clean area of the mall, since it was the only building to have passed the structural assessment. The SRC representative explained that asbestos was also removed from wood frame buildings using appropriate methods and wearing appropriate personal protective equipment and clothing. The SRC representative noted that the work planned for 2011 involves removing the asbestos on the production side of the Gunnar site. The SRC representative added that asbestos will be temporarily stored on site until the EA is complete, from which a path forward will be determined. Some of the asbestos will be removed from the site during the year 2011.

109. The Commission requested more information on the monitoring that was performed in 2010 during the asbestos removal. The SRC responded that the monitoring they performed was to help determine the type of personal protective equipment and clothing that would be required for asbestos removal on site.

110. The Commission inquired about the purpose of the fences at various locations on the Gunnar mine site. CNSC staff explained that the fences were erected to discourage access to numerous hazards on site. CNSC staff also explained that, in addition to erecting fences, the SRC has posted signage describing the various hazards, and the SRC has people inspecting the site regularly to ensure the effectiveness of these institutional controls.

111. The Commission asked for clarification in regards to the complaint from the Métis local president saying that they were not aware of the Order being issued to the SRC. CNSC staff explained that they notified the local residents, stakeholders and Aboriginal groups by mail that there was going to be an opportunity to be heard at a hearing based on the Order issued. CNSC staff stated that their records showed that the Métis local president had in fact received the notification and documentation pertaining to the Order that had been mailed out since attestation of receipt of the correspondence had been signed.

112. The Commission requested an explanation on the process which will remove the Order issued to the SRC for the Gunnar mine site. CNSC staff explained that items contained within the Order have specific completion dates and that the Order will remain active until all items are completed. CNSC further explained that the item with the latest completion date is to be

completed by October 2011. CNSC staff recommended that the item that could not be completed by its original completion date of October 2010 for health and safety reasons be extended to show that the SRC is still in compliance with the Order. CNSC staff also recommended that the completed items be marked off as complete in the revised Order in order to show compliance with the Order.

113. The Commission inquired about the disposal of containers of toxic substances from the Gunnar mine site. CNSC staff added that the containers containing toxic substances will be removed offsite to a licensed facility for their disposal as soon as possible and that proper care and precautions will be taken when transported offsite.

114. The Commission inquired about the budget for remediation activities at the Gunnar site for 2010 and what is expected to be spent going forward. The SRC stated that they have spent just under $800,000 in 2010 and are planning on spending several millions going forward. The SRC could not disclose the exact budget for the upcoming year since they are involved in a tendering process.

115. The Commission inquired about who is leading the inspections at the Lorado site and whose responsibility it is to invite participants to these inspections. CNSC staff responded that inspections at the Lorado site are joint inspections between Saskatchewan Environment and the CNSC and that invitations to other groups can be done by either the province or CNSC staff.

116. The Commission requested information on the ownership of the airstrip at the Gunnar site and on the lease conditions. The Saskatchewan Ministry of the Environment (MOE) provided a background on the airport at Gunnar and explained that the owner of Indian Head Camp Adventures was issued an annually-renewed miscellaneous use permit for temporary use of the airport. The Saskatchewan MOE also explained that, at the time of issuance, the owner of Indian Head Camp Adventures was made aware that the permit would only be issued yearly until the future of the airport site and the Gunnar mine site is established.

117. The Saskatchewan MOE explained that they are currently in the process of addressing SRC’s request to cancel the indemnity contract attached to the permit and restrict access through the site while remediation is occurring. This indemnity contract allows Indian Head Camp Adventures personnel and tourists to travel through the Gunnar site. The Saskatchewan MOE stated that the airport permit would be renewed for the year 2011.

118. In a response to a question from the Commission as to who maintains the airstrip, the Saskatchewan MOE stated that, while the airstrip is public with unlimited access, an agreement was made indicating that the owner of Indian Head Camp Adventures would refurbish and maintain the airstrip at no cost.

119. Indian Head Camp Adventures explained that flying float planes to the camp is not an option due to the economics involved and using the access road from the airstrip through Jug Bay is also not an option because the route by boat to the camp is too dangerous. Indian Head Camp Adventures also explained that the possible option of removing the airstrip or using it for fill is inappropriate since it would prohibit them from carrying out their business.

120. The Commission inquired about why the road through the Gunnar mine site is required to be closed during remediation work. The SRC representative explained the concerns associated with buildings structural and asbestos contamination issues. The SRC stated that, in assuring public safety, they are not prepared to let people through the site unless they are attached to the contractors or the SRC.

121. The Commission asked if the airstrip was a part of the Gunnar mine site. The SRC representative explained that the airstrip is not part of the Gunnar mine site in terms of remediation activities assigned to the SRC. The SRC representative further explained that they may have to remediate the airstrip if contamination is found. The SRC representative stated that fill from the airstrip may be utilized as part of the remediation activities at the Gunnar site.

122. Indian Head Camp Adventures explained that they have identified alternatives to going through the Gunnar site and that these alternatives have been discussed with both the SRC and the Saskatchewan MOE. Indian Head Camp Adventures also explained that they have supplied the SRC and the Saskatchewan MOE with the schedule by which they access the Gunnar mine site. Indian Head Camp Adventures stated their support for the remediation activities at the Gunnar mine site and their intent to cooperate, but do not support the approach that the SRC has taken to help Indian Head Camp Adventures resolve the issue of transporting guests to their camp.

123. The Commission asked if cost estimates were performed for an alternative route through the site, away from the head frame. The Saskatchewan MOE responded that the Minister of the Environment received the letter from Indian Head Camp Adventures which discussed the issue and alternative routes and is

currently formally responding to that letter. The Saskatchewan MOE further stated that they have made recommendations to the Minister and that the Minister's letter will address what is expected from the province.

124. The Commission asked the Saskatchewan MOE what accommodations are made. The Saskatchewan MOE explained that they were hoping for more discussions with Indian Head Camp Adventures but that the issuance of the Order accelerated these discussions. The Saskatchewan MOE have therefore made some accommodations, namely keeping the airport open until a decision is made on whether or not it will be used for fill and determining an alternative access through Jug Bay.

125. Jug Bay Sport Fishing expressed the importance of maintaining the airport at Gunnar opened for their business, explaining that other means of transportation are not viable options.

126. The Commission requested that alternative transportation routes be discussed given that the SRC's mandate is to grow Saskatchewan's economy. The Commission explained the importance of maintaining existing jobs in northern Saskatchewan and requested guidance from the Saskatchewan Ministry of Energy and Resources into the resolution of this issue. The Saskatchewan Ministry of Energy and Resources agreed with the position taken by the Saskatchewan MOE, based on recommendations from health and safety experts that were brought in to look at the implications of the work that had to be done at the Gunnar site. The Saskatchewan Ministry of Energy and Resources stated that they would rely on the Saskatchewan MOE to look after the interest of provincial Crown land.

127. The Commission asked if it was possible to access the waterfront through Dixon Bay. Indian Head Camp Adventures responded that access through Dixon Bay is an option, provided a suitable access road from the airstrip to Dixon Bay is constructed.

128. The Commission decides to replace Order 10-1 with a new Order to indicate a revised completion date for one of the items and to indicate which items are complete. A *Record of Proceedings, Including Reasons for Decision* will be issued. **DECISION**

Closure of the Public Meeting

129. The meeting closed at 3:34 p.m. on January 20, 2011.

Recording Secretary — Date: 2011/04/01

Secretary — Date: 01 / 04 / 11

APPENDIX A

| CMD | DATE | File No |
|---|---|---|

11-M1 2010-12-17 (Edocs 3652455)
Notice of Meeting of January 19 and 20, 2011, 2010

11-M2.C 2011-01-18 (Edocs 3664965)
Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on Wednesday and Thursday, December 8 and 9, 2010, at the Public Hearing Room, 280 Slater Street, Ottawa, Ontario.

11-M3 2011-01-17 (Edocs 3664431)
Approval of Minutes of Commission Meeting held December 8 and 9, 2010

11-M4.A 2011-01-17 (Edocs 3664603)
Incident at sea involving a shipment of uranium concentrate

11-M4.B 2011-01-17 (Edocs 3664619)
Pickering Nuclear Generating Station A, P-2011-00339 – Unit 1 Tripped on High Heat Transport System Temperature

11-M5 2011-01-12 (Edocs 3644870)
Status Report on Power Reactors

11-M7.1 2011-12-23 (Edocs 3657155)
Oral presentation by McMaster University

11-M7.1A 2011-01-12 (Edocs 3663267)
Supplementary Information – Oral Presentation from McMaster University

11-M7 2010-12-23 (Edocs 3657164)
Oral presentation by CNSC staff – McMaster Nuclear Reactor Facility Mid-Term Performance report

11-M7.A 2010-12-23 (Edocs 3631670)
McMaster Nuclear Reactor Facility Mid-Term Performance report
Oral presentation by CNSC staff – Contains prescribed security information and is not publicly available

11-M8.1 2010-12-23 (Edocs 3656927)
Oral presentation by Shield Source Inc. – Mid-Term Status Report on Shield Source Incorporated’s Class 1B Nuclear Substance Processing Facility

11-M8.1A 2011-01-12 (Edocs 3663043)
Oral presentation by Shield Source Inc. – Supplementary Information

11-M8 2010-12-23 (Edocs 3656927)
Oral presentation by CNSC staff – Mid-Term Report on Shield Source Incorporated's Class 1B Nuclear Substance Processing Facility

11-M8.A 2010-12-23 (Edocs 3645612)
Shield Source Incorporated - Mid-Term Status Report on Shield Source Incorporated's Class IB Nuclear Substance Processing Facility – Oral presentation by CNSC staff – Contains prescribed security information and is not publicly available

11-M9.1 2010-12-24 (Edocs 3657292)
Oral presentation by Atomic Energy of Canada Limited – Written submission from Atomic Energy of Canada Limited

11-M9.1A 2011-01-12 (Edocs 3662994)
Oral presentation by Atomic Energy of Canada Limited – Supplementary Information

11-M9 2011-01-04 (Edocs 3658637)
Oral presentation by CNSC Staff – Update to the Commission in regards of AECL's Implementation of the Organizational Corrective Action Plan

11-M11 2011-01-05 (Edocs 3659444)
Oral presentation by CNSC Staff – Status of Specified AECL Facilities in Decommissioning

11-M10.1 2010-12-23 (Edocs 3657159)
Oral presentation by Saskatchewan Research Council – Written submission from Saskatchewan Research Council

11-M10.1A 2011-01-13 (Edocs 3663474)
Oral presentation by Saskatchewan Research Council – Supplementary Information

11-M10 2011-01-04 (Edocs 3658796)
Oral presentation by CNSC Staff – Saskatchewan Research Council: Status report on the summary of remediation activities and safety performance at the Gunnar and Lorado mine sites.

11-M10.2 2011-01-14 (Edocs 3664494)
Written submission from the Indian Head Camp Adventures

11-10.3 2011-01-18 (Edocs 3664903)
Written submission from Jug Bay Sport Fishing

11-M10.4 2011-01-26 (Edocs 3669722)
Written submission from the Saskatchewan Ministry of Environment