Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Wednesday, February 20 and Thursday, February 21, 2013

Canada

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Wednesday February 20, 2013 beginning at 2:36 PM and on Thursday, February 21, 2013 beginning at 9:06 AM at the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario.

Present:

M. Binder, President
A. Harvey
R.J. Barriault
D.D. Tolgyesi
M. J. McDill
R. Velshi

M. Leblanc, Secretary
J. Lavoie, Senior General Counsel
T. Johnston, Recording Secretary

CNSC staff advisors were:
G. Rzentkowski, R. Jammal, R. Lojk, B. Poulet, P. Elder, C. Carrier, B. Carroll, K. Owen-Whitred, M. Beaudette, P. Thompson, B. Torrie, R. Awad, A. Régimbald, M. Dallaire, S. Faille, R. Duguay and P. Fundarek

Other contributors were:
AECL:

- R. Walker, President and Chief Executive Operator
- R. Lesco, Chief Nuclear Officer and Vice President of Operations

Constitution

1. With the notice of meeting, CMD 13-M10, 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 January 16 and 17, 2013, Commission Member Documents CMD 13-M8, CMD 13-M10 to CMD 13-M14.1A, and CMD 13-M16 were distributed to Members. These documents are further detailed in Annex A of these minutes.

Adoption of the Agenda

3. The revised agenda, CMD 13-M11.A, was adopted as presented.

Chair and Secretary

4. The President chaired the meeting of the Commission, assisted by M. Leblanc, Secretary and T. Johnston, Recording Secretary.

Minutes of the CNSC Meeting Held January 16 and 17, 2013

5. The Commission Members approved the minutes of the January 16 and 17, 2013 Commission Meeting. Minor editorial changes have been made to the "Update on Regulatory Document RD-336: *Accounting and Reporting of Nuclear Material*" section of these Minutes.

STATUS REPORTS

Status Report on Power Reactors

6. With reference to CMD 13-M13, which includes the Status Report on Power Reactors, CNSC staff informed the Commission that the date of the event notification involving unit 8 at Bruce B was to be corrected to February 2, 2013. CNSC staff presented no further oral updates on the status of power reactors.

7. CNSC staff notified the Commission of a press conference that was to be held by the Conservation Council of New Brunswick (CCNB) Action in St. John, NB, to describe their independent assessment of the seismic analysis for the Point Lepreau site. CNSC staff noted that the Commission licensed Point Lepreau based on safety and that the site as well as the reactor are, and will continue to be, safe. Later during the meeting, the Secretary of the Commission noted that the planned press conference was not held.

8. The Commission enquired as to when the final results of the seismic testing in Point Lepreau will be submitted to the CNSC. CNSC staff responded that the final results of the study will be provided by New Brunswick Power (NB Power) by the end of 2014. CNSC staff added that the preliminary report is under review and is expected to be completed by May 2013.

9. The Commission sought further information regarding the time it will take for NB Power to submit the final seismic testing report. CNSC staff responded that the study is an independent assessment and that the seismic activity needs to be studied directly on-site. CNSC staff added that the final report will provide significantly more detail as it will be site-specific compared to the seismic assessment that was provided for the area.

10. The Commission enquired about the safety of the Unit 1 annulus gas system at Bruce B Nuclear Generating Station (NGS). CNSC staff responded that Unit 1 is safe for continued operation.

11. The Commission enquired about the submission of root cause analyses in regards to the total loss of class IV power event involving Unit 8 at Bruce B NGS and the exhaust fan bearing event at Darlington NGS. CNSC staff responded that, following investigation, neither event was found to be significant by CNSC staff and, therefore, did not require further notifications to be provided to the Commission.

12. The Commission enquired as to when the transfer of reactor fuel to storage at Gentilly-2 will be completed. CNSC staff responded that Hydro-Quebec expects the transfer to be completed by May or June 2013, depending on maintenance outages. CNSC staff added that the transfer is proceeding as planned and according to regulatory requirements.

13. The Commission sought further information regarding the CNSC's direct regulatory involvement with Gentilly-2 following the completion of the combustible fuel transfer. CNSC staff responded that Hydro-Quebec would remain under the direct surveillance of the CNSC, and that they would be required to submit a final plan of operations. CNSC staff noted that Hydro-Quebec would be providing an update to the Commission regarding the Gentilly-2 decommissioning progress in May 2013. **ACTION** by May 2013

14. The Commission sought further information regarding the treatment of heavy water at Gentilly-2. CNSC staff responded that Hydro-Quebec is looking into a number of options to find the best solution to store the heavy water, but that a final decision has yet to be made.

Cameco Dose Miscalculations

15. CNSC staff notified the Commission of an event involving miscalculated doses to workers at Cameco's Fuel Manufacturing Facility. CNSC staff is presently analyzing the information provided by Cameco, but noted that the annual maximum doses remain below 10 millisieverts which is well below the annual regulatory limit. CNSC staff reported that an update would be provided to the Commission with more details on the event. **ACTION** by August 2013

16. The Commission enquired about the root cause of the event and potential consequences. CNSC staff responded that the calculation errors were specific to worker doses and that the event was isolated. CNSC staff explained that the Fuel Manufacturing Facility was purchased by Cameco several years ago and, as part of Cameco's oversight, the calculation error was discovered and immediately reported to the CNSC.

17. The Commission enquired if the miscalculated doses have resulted in workers' doses exceeding the regulatory limits. CNSC staff responded that, while there were a few cases where Cameco's action levels had been exceeded, there were no regulatory dose limit exceedances. CNSC staff added that Cameco would also be further investigating each of the cases in which action levels were exceeded. CNSC staff noted that Cameco has informed the affected employees and CNSC staff is ensuring that Cameco is adjusting their doses appropriately through the National Dose Registry (NDR).

18. The Commission enquired about the employees' confidence or concerns regarding Cameco's dosimetry program. CNSC staff responded that Cameco has made a proactive effort in notifying its staff regarding the situation. CNSC staff added that the requested information is currently unavailable but that this aspect would be examined during CNSC inspections, in part by talking to union representatives.

INFORMATION ITEMS

Atomic Energy of Canada Limited: *A Report on the Performance of Chalk River Laboratories*

CNSC Staff Presentation

19. With reference to CMD 13-M14, CNSC staff presented its first *Report on Performance of Atomic Energy of Canada Limited's (AECL's) Chalk River Laboratories (CRL)* that summarized CNSC staff's assessment of AECL's CRL safety performance during 2011 and provided recent updates on key issues of the regulatory oversight since the licence renewal in 2011.

20. CNSC staff reported that, since the licence renewal in 2011, AECL has operated safely and in compliance with regulatory requirements, and that AECL has made meaningful progress on its major initiatives and Safety and Control Areas (SCAs). CNSC staff added that compliance activities are planned over the next year to confirm the effective implementation of AECL's planned activities, including those activities related to the Fitness for Service and Management System SCAs.

21. CNSC staff stated that AECL's performance in the areas of Management System and Fitness for Service were rated as below expectations (BE), while all other SCAs were rated as satisfactory (SA).

22. In conclusion, CNSC staff reported that no member of the public or worker at CRL received a radiation dose that exceeded the regulatory limit; the frequency and severity of injuries and accidents involving workers at CRL were minimal; no radiological releases from the CRL site exceeded the regulatory limits; and AECL has complied with the *Nuclear Safety and Control Act*[1], its regulations and their licence conditions.

AECL Presentation

23. With reference to CMD 13-M14.1 and CMD 13-M14.1A, a representative from AECL reported that there are several projects and initiatives in place at AECL's CRL to ensure that AECL is meeting regulatory requirements. The AECL representative stated that AECL is taking action to improve areas requiring attention and is committed to meeting and exceeding the expectations of the CNSC and the public. The AECL representative added that these projects include the NRU Integrated Implementation Plan (IIP), NRU Fitness for Service, Voyageur II[2], and AECL's response to the events at the Fukushima Daiichi nuclear power plant.

General Questions

24. The Commission enquired about the submission date of the annual report and if there would be a more appropriate date that would provide a more timely representation of the annual data. CNSC staff responded that they are currently discussing revised dates with AECL but have not yet come to a final decision.

25. The Commission sought comment from AECL on the end status of the fissile solutions storage tank (FISST) vessel. An AECL representative responded that the liquid waste cementation project was recently approved and it is now out in the market for competitive bidding. The AECL representative added that, once the bidding is complete, AECL would present the project application to CNSC staff to be processed according to U.S. and Canadian rules and obligations.

26. The Commission asked AECL what was done to correct the cause of plaster coming off the ceiling of the NRU reactor. An AECL representative responded that AECL has programs in place to understand the root causes of the event. The AECL representative also stated that these programs help to identify corrective actions that are put in place to prevent the repetition of negative events.

[1] Statutes of Canada (S.C.) 1997, c. 9
[2] Voyageur II is a program developed by AECL aiming at improving human performance.

27. The Commission enquired about the reliability measurement at the NRU. An AECL representative responded that metrics are used to measure the reliability as well as the availability of the NRU. The Commission suggested that CNSC staff include a metric to describe reliability in the annual performance report. CNSC staff commented that they will include it into the report.

ACTION

by February 2014

28. In regards to the active drain system, the Commission enquired if the installation of the permanent transfer line between buildings 468 and 242 is still on schedule and when the Commission should expect the root cause analysis. An AECL representative responded that the repair is still on schedule and that the final results of the root cause analysis would be available within the next few months. CNSC staff commented that they do not have any new concerns, and that they would examine the results of the root cause analysis.

29. The Commission enquired about the status of scientific experiments and the NRU. An AECL representative responded that the Canadian Neutron Beam Center is still operating safely. The AECL representative added that, with the restructuring decisions within AECL, the potential of this activity will be discussed for long-term research uses in Canada.

30. The Commission sought information regarding the decommissioning activities involving the heavy water site. An AECL representative responded that decommissioning has begun on the heavy water site and should be completed by the end of 2013. The AECL representative added that the decommissioning of the facility does not impact AECL's CRL current operations.

31. The Commission asked for more information regarding the AECL decommissioning liability. The AECL representative responded that the Federal Nuclear Legacy Liability Program is addressing the issue with a 70-year decommissioning plan in place.

32. The Commission enquired if there are any safety concerns regarding AECL's management system and fitness for service areas having a below expectation rating. CNSC staff responded that none of the issues that impacted the below expectation ratings are immediate safety concerns. CNSC staff added that AECL needs to implement mitigation measures to ensure that the below expectation ratings are addressed in a timely manner. CNSC staff still considers that AECL's CRL is operating safely. CNSC staff also noted that any major issues would be brought to the attention of the Commission. The Commission further enquired if, over the next 12 months, the ratings are expected to

be deemed satisfactory. CNSC staff responded that the management system SCA is expected to receive a satisfactory rating before the fitness for service SCA. An AECL representative stated that there are projects in place to improve the infrastructure and reliability of the plan, including an integrated improvement plan.

Management System

33. The Commission enquired how AECL is addressing the below expectations rating that their management system SCA received. An AECL representative responded that AECL is improving their management system by restructuring their management framework and progressing towards compliance with the new SCA management standard. AECL expressed its confidence to address all identified gaps by the end of the year 2013.

Fitness for Service

34. The Commission enquired how AECL is addressing the below expectations rating that their fitness for service SCA received. An AECL representative responded that AECL is continuing to improve equipment and reliability issues, but that significant improvement would not be seen until after specific programs have been implemented, which implies a long timeframe.

35. The Commission sought information on the actions that would be taken by AECL to improve equipment reliability and maintenance in the NRU reactor and how these actions would be prioritized. CNSC staff responded that the results of the actions taken by AECL in regards to aging management cannot be predicted with absolute certainty, but that it is a proactive program that would allow AECL to continue managing equipment maintenance and allowing them to take the necessary compensatory actions. CNSC staff added that AECL was subjected to an integrated safety review to learn how to prioritize improvement and maintenance actions.

36. As there was reference to minor evidence of corrosion, the Commission sought clarification regarding the safety status of the NRU vessel and on its future reliability. CNSC staff responded that inspection results and fitness-for-service evaluations indicated that the vessel is presently structurally sound but that it would be necessary to monitor the progress of vessel wall corrosion with continued operation. An AECL representative responded that AECL is making improvements to the surrounding area as well as taking preventive measures to slow the existing corrosion progress of the vessel. The AECL representative added that they are expecting to keep the vessel fit

for service until 2021. CNSC staff noted that they have asked AECL to determine by mid-2014 whether or not they will be asking to operate the NRU reactor beyond 2016.

37. The Commission enquired about the level of risk a potential leak in the NRU vessel would cause to public health and safety. An AECL representative responded that a small leak would be considered a reliability issue in terms of continued operation but it would not pose any risk to the safety of the environment or the public. CNSC staff responded that there are presently no safety concerns regarding the structural integrity of the vessel and, similarly, the consequences of an environmental release are much lower since AECL has completely changed the heavy water in the vessel which now contains 90 percent less tritium than before.

38. The Commission asked if there was a plan to repair the light water reflector to render the NRU reactor leak free. The AECL representative responded that mechanical sealing technology is being considered for repairs in the light water reflector, which would eliminate the source of water contributing to the corrosion in the vessel. The AECL representative added that AECL anticipates the first repair in this respect to be completed during the next NRU reactor planned outage in 2014.

39. The Commission sought additional information regarding cementation and the FISST tank. An AECL representative stated that AECL is continuing to develop formulations to allow for the cementation of liquids in various tanks across the CRL site. AECL is also reducing the associated risks with cementation by processing the liquids in their waste treatment center. The AECL representative added that there are no current issues with the FISST tank but that there are challenges with respect to thermal wells. CNSC staff added that there are no safety concerns on thermal wells but a lack of redundancy on the temperature measurements. AECL is investigating the issue. CNSC staff stated that the FISST tank is fit for service.

40. In regards to an undesired and uncontrolled reactivity change event with the NRU control rods, the Commission asked CNSC staff and AECL to comment on the safety implications of the events and possible mitigation measures. The AECL representative noted that the incident was reflected in the safety case. The AECL representative also stated that following this incident, AECL has increased their prestart-up checks for performance and function verification of the control rods. The AECL representative also described the remedial actions taken and to be taken to improve control and reliability. The Commission further enquired about the risk to health and safety

if the rods behave unexpectedly. An AECL representative responded that there are no safety concerns and that safety systems are in place to ensure that the reactor is tripped in the event of a control rod malfunction. CNSC staff concurred with AECL.

Radiation Protection

41. The Commission asked for more information regarding the reliability of the fixed radiation monitors. An AECL representative responded that, when there are issues with the fixed radiation monitors, portable radiation monitoring equipment is installed to ensure the safety of workers. The AECL representative added that AECL has a planned process for the repair of the fixed radiation monitors but that the repairs will only move forward once the proper specifications and equipment are acquired. CNSC staff noted that the original repair schedule was unreasonably long; therefore, stronger enforcement action was taken to ensure that AECL does not become reliant on temporary monitors. CNSC staff also noted that the fixed radiation monitors account for one element of the radiation protection program but that the equipment was verified in the NRU to ensure that it was continuing to function as designed.

42. The Commission asked for more information on the organization of health physicists and the radiation protection program at AECL. CNSC staff responded that AECL has made changes in the organization of their radiation protection program to remain independent of the NRU operational line. An AECL representative noted that AECL's CRL has certified health physicists for the NRU radiological assessments.

Conventional Health and Safety

43. The Commission sought comment from CNSC staff on their statement regarding the few lost time incidents. CNSC staff responded that AECL's CRL is a bigger site than other nuclear power reactor sites, which would explain the higher number of lost time incidents at AECL's CRL. CNSC staff added that, in future annual reports, they would try to make a comparison with other research sites. The Commission also requested the addition of units to frequency data.

ACTION
By February 2014

44. The Commission enquired about additional initiatives that are in place at AECL's CRL to address the increasing trend of lost time incidents caused by slips and back injuries. A representative from AECL responded that they have implemented awareness sessions and increased their site maintenance.

45. The Commission sought clarification regarding the frequency and severity of the reported lost time accidents at AECL's CRL. An AECL representative responded that AECL is taking constructive measures that include improvements to site maintenance as well as promoting workplace safety procedures. The AECL representative added that AECL's goal is to reach zero lost time injuries.

46. The Commission enquired about the units used by AECL to report the number of injuries in 2012. An AECL representative responded that there were 21 injuries that resulted in lost time; with a lost time frequency of 0.68 per 200,000 hours or per 100 workers each year. The AECL representative added that this indicator is used industry-wide.

Security and Safeguards

47. The Commission sought information regarding AECL's fulfillment of their international obligations on safeguards. CNSC staff confirmed the significant IAEA oversight of the FISST vessel. CNSC staff also confirmed the satisfactory rating of this SCA, which is the reason why this topic was not mentioned in the report. An AECL representative stated that AECL is continuing to meet their IAEA safeguard requirement obligations for all of the facilities at the Chalk River site.

48. The Commission sought clarification on AECL's CRL security culture. An AECL representative responded that AECL hired an independent third party to assess their security program and that the findings identified areas of improvement. The AECL representative added that AECL is currently preparing an action plan that is expected to be finalized by March 2013 to address the areas in need of improvement. CNSC staff noted that there were a number of isolated incidents over a period of time which led to this independent review of AECL's CRL security program. CNSC staff stated that they were satisfied with AECL's proactive actions on this issue.

Voyageur II Program

49. In regards to the Voyageur II Program, the Commission enquired if AECL would follow the same existing program if they could start over. An AECL representative responded that they would have the same type of improvement plan going forward if given the opportunity to start over.

50. The Commission sought comments from CNSC staff regarding the progress of the Voyageur II program. CNSC staff expressed their satisfaction on the progress of this program. CNSC staff

added that AECL's actions have reflected good practice seen in the industry, including consistency with projected time frames.

NRU Fire Hazard Assessment

51. The Commission sought further information regarding the findings of the NRU Fire Hazard Assessment. An AECL representative responded that CNSC staff identified new findings during a subsequent inspection, which are being managed. CNSC staff stated that AECL is diligently working to address the issues.

Presentation on a Proposed Approach to Conduct an Environmental Protection Assessment Process under the *Nuclear Safety and Control Act* and an Environmental Assessment Process under the *Canadian Environmental Assessment Act, 2012*

CNSC staff Presentation

52. With reference to CMD 13-M8, CNSC staff presented to the Commission its proposed environmental protection assessment (EPA) process and a revised approach to conducting environmental assessments (EAs) under the *Canadian Environmental Assessment Act 2012*[3], (*CEAA 2012)* and the *Nuclear Safety and Control Act*[1] *(*NSCA), respectively.

53. CNSC staff stated that, with the proposed approach to conducting EPAs under the NSCA, the licensing basis would be defined in part by the information contained within the environmental risk assessment (ERA) conducted for each facility. CNSC staff noted that this licensing basis would be an important consideration for the EPA process. CNSC staff added that the CNSC licensing and compliance processes would be used to confirm the implementation of mitigation measures and to verify their effectiveness in protecting the environment and human health. CNSC staff further noted that the EPA process would rely on existing tools and processes and would not result in any increase in regulatory workload.

54. CNSC staff reported that, with the creation of the CNSC under the NSCA in 2000, the Commission was given a clear mandate for the protection of human health, safety and the environment. CNSC staff added that, at that time, the ERA tool was implemented to bridge the gap between the EA frameworks provided under the *Canadian Environmental Assessment Act*[4] (*CEAA 1992)* and the NSCA. CNSC staff stated that the changes to the *CEAA* 2012 did not, and would not, diminish the CNSC's

[3] S.C. 2012, c. 19, s. 52
[4] S.C. 1992, c. 37

strong environmental review process nor impede further enhancement to the CNSC's environmental protection and assessment program.

55. CNSC staff reported that the proposed EPA process would formalize practices for early engagement, as well as determining the scope of public participation and Aboriginal and stakeholder consultation for all significant licensing activities that do not trigger an EA under the new *CEAA 2012*. CNSC staff also noted that public participation opportunities would be enhanced and supported by the CNSC's participant funding program and growing outreach program.

56. CNSC staff reported that the key changes resulting from the *CEAA 2012* have already been implemented at the CNSC, and listed these key changes.

57. CNSC staff described the key steps and timelines associated with the EA and EPA processes. CNSC staff noted that the CNSC would apply the same rigor of technical review to every EA under the *CEAA 2012* as it was under the *CEAA 1992*.

58. CNSC staff reported that timelines have been introduced in the *CEAA 2012*, but do not apply to the CNSC. The CNSC, however, has chosen to adopt the *CEAA 2012* requirement to have all EAs completed within 24 months, where the CNSC is required to carry out an EA separate from its regulatory review. CNSC staff noted that the proposed timelines apply to CNSC activities and not to the time periods required for steps outside of the CNSC's control.

59. CNSC staff stated that Aboriginal and public participation would be determined by a criteria-based approach including the following areas:
    - public and Aboriginal interest criteria;
    - environmental characterization and potential impact criteria; and
    - additional factors (e.g., other jurisdictions, participant funding, etc.).

60. CNSC staff concluded with the recommendation that all EA reports under the *CEAA 2012* be reviewed in a public hearing, with a licensing review where possible. CNSC staff also recommended that the results of the EPA process be considered in the same hearing as the licensing application and noted that the EPA conclusions would be considered within the licensing decision.

General Questions

61. The Commission enquired if CNSC staff is considering formal consultation on guidelines for the conduct of an EPA. CNSC staff responded that the intent is not to develop guidelines, instead using the Canadian Standards Association (CSA) standard 288.6, *Environmental Risk Assessment at Class I Nuclear Facilities and Uranium Mines and Mills*, to provide guidance on the information required for the EPA process. CNSC staff also stated that should additional guidance be required, it would be provided through the licensing process without the issuance of formal guidelines. CNSC staff added that the proposed regulatory document will provide further information on the technical requirements for an EPA, and how these requirements are determined.

62. The Commission sought clarification regarding the determination of the EA project list. CNSC staff responded that, currently, the project list includes the *CEAA 1992* comprehensive list, with major expansions of a facility being defined as a 35 percent expansion. CNSC staff added that the Canadian Environmental Assessment Agency (CEA Agency) is responsible for the revised project list and that the list is expected to be published in the *Canada Gazette* at the end of March 2013. CNSC staff further added that the Federal Ministry of Environment would be responsible for issuing the project list for consultation as per regulations under the *CEAA 2012* and that approval by the Cabinet is expected by July 2013.

63. The Commission sought comment regarding public criticism in that the EPA would be viewed as a less rigorous assessment than that of an EA. CNSC staff responded that both the EA and the EPA are comparable processes that rely on Aboriginal and public involvement and rigorous scientific and technical review.

64. The Commission enquired as to what date the proposed regulatory document on the EPA process would be delivered. CNSC staff responded that a regulatory document could be made available by the fall of 2013 for public review. However, CNSC staff stated that they would prefer to make the regulatory document available only after the revised project list has been released so that the regulatory document reflects the new *CEAA 2012* requirements.

ACTION
By December 2013

EA and EPA Process Integration

65. The Commission sought further information regarding the integrated EA and licensing processes. CNSC staff responded that, in order to integrate the EA and the licensing process,

licensees would be required to provide all of the necessary EA and licensing information in the same timeframe. CNSC staff added that the processes currently in place at the CNSC allow for integration. CNSC staff noted that it is the decision of the proponent to proceed with either separate EA and licensing processes or to integrate the processes into one public hearing. CNSC staff also stated that a positive EA decision would be required before the Commission could issue a decision on the licence. CNSC staff added that many issues that might impede a licensing decision would be addressed during the EA process.

66. The Commission asked how the EA and licensing integration process would impact CNSC staff and resources. CNSC staff further responded that integrating the EA and licensing processes would shorten the entire process significantly and that the quality of the technical review remains the same.

EA Timelines

67. The Commission enquired if CNSC staff would be able to provide to the applicants a fixed date upon which the EA would be completed. CNSC staff responded that it is their objective to establish and confirm a timeline for the length of the EA review. CNSC staff noted that there is flexibility in the timeline ranges to accommodate the complexity or the public interest of the specific project.

68. The Commission enquired if there was a deadline for proponents to submit their environmental impact statements (EIS) in the EA process and the consultation processes that would ensue. CNSC staff responded that under the *CEAA 1992*, there was no mechanism to conclude the EA process. CNSC staff responded that they would consult with the proponents to determine the planned date for submission of the EIS (or ERA in the case of an EPA process). The Commission being the sole Responsible Authority, CNSC staff could establish a guideline for the length of time an applicant would have to submit their EIS.

69. The Commission further enquired about public hearings for EAs under the *CEAA 2012*. CNSC staff reported that the need for a public hearing is at the discretion of the Commission, however, CNSC staff recommend that all EA reports, even those not integrated with the CNSC licensing process, are considered by the Commission in a public hearing. CNSC staff noted that further details regarding the Commission hearing process and public participation opportunities are provided in appendix B.1 of CMD 13-M8.

70. The Commission sought information regarding outdated EAs and whether EAs expire. CNSC staff responded that a gap analysis would be completed involving a review of the technical and scientific basis, the design, and the project details to ensure the proposed project is within the bounds of the completed EA before considering any licensing action under the NSCA.

71. The Commission sought clarification on the timeline of 9 to 24 months for the conduct of an EA. CNSC staff responded that this timeline includes CNSC staff's technical review of the proponent's submissions but it does not include the estimated time it would take the proponent to prepare and submit their documents to the CNSC.

EA and EPA Consultation

72. The Commission sought clarification regarding Aboriginal and public participation criteria. CNSC staff responded that the determination of the level of public and Aboriginal participation was based on the anticipated level of public and Aboriginal concerns as well as the technical aspects of the project.

73. The Commission sought information regarding the potential uses and processes associated with review panels regarding EA decisions. CNSC staff responded that the CNSC is the sole responsible authority for nuclear projects under the *CEAA 2012*, and the CNSC is no longer subject to CEAA review panels.

Regulatory Cooperation

74. The Commission enquired if CNSC staff anticipates the need for additional standards from the CSA with the introduction of the EPA process. CNSC staff responded that they are reviewing their regulatory framework, including the elements of EPA that exist in CNSC regulations to determine if updating is required. CNSC staff added that a Memorandum of Understanding (MoU) with the Department of Fisheries and Oceans (DFO) is being finalized.

75. The Commission enquired about the EA and licensing processes and how they will affect other jurisdictions. CNSC staff responded that, should the Commission issue a positive EA decision under the *CEAA 2012* and a positive licensing decision under the NSCA, proponents would still be responsible for obtaining the approvals and licences required from other jurisdictions, if any. For example, there are cases where the CNSC would be responsible for the technical work of the EA and DFO would have a permitting decision.

76. The Commission asked for more information on the coordination between the Quebec EA process and the CNSC EA process. CNSC staff responded that they have previously cooperated with the Bureau d'audiences publiques sur l'environnement (BAPE). CNSC staff has participated in BAPE hearings as technical experts. CNSC staff also worked on ensuring that follow-up programs met the CNSC and the Quebec Ministry of the Environment's requirements. CNSC staff noted its recommendation to consider the BAPE process as meeting CNSC requirements.

77. The Commission commented that delays can be caused by differences of opinions between experts. CNSC staff responded that work plans are in place to consult with proponents as well as provincial and federal partners. CNSC staff stated that the CNSC EA specialists are skilled in consensus building and negotiation and have demonstrated, over the years, successful resolutions between various external specialists and other government departments.

78. The Commission sought comments from CNSC staff regarding the continued role of the Major Projects Management Office (MPMO). CNSC staff confirmed that *CEAA 2012* projects would continue to be subject to the MPMO requirements and oversight and that this would facilitate issues being addressed more quickly.

Decision

79. After considering the recommendations submitted by CNSC staff, the Commission endorses the proposed approach to conduct EAs under *CEAA 2012* and to integrate EPAs into the existing licensing processes under the NSCA. The Commission has accepted CNSC staff's recommendations and directs CNSC staff to: **DECISION**
    - develop and implement the revised approach to conduct EAs under the *CEAA 2012*;
    - develop and implement the EPA process under the NSCA*;* and
    - develop a regulatory document to provide clarity on the EA and EPA processes, recognizing that CNSC staff will follow the REGDOC development process and provide consultation opportunities to interested persons.

DECISION ITEM

Regulatory Document REGDOC 2.12, *Security Measures for Sealed Sources*, presented for approval

CNSC Staff Presentation

80. With reference to CMD 13-M16, CNSC staff presented to the Commission its recommendation to approve REGDOC 2.12 Security: *Security Measures for Sealed Sources* (previously RD/GD-338) for publication and to supersede S-322[5], *Physical Security Requirements for the Storage of Sealed Sources* and S-338[6], *Physical Security Requirements for Sealed Sources during Transport*.

81. CNSC staff also presented to the Commission its recommendation that REGDOC 2.12 be incorporated into licence conditions:
    - within the next two years for licensees with high risk category 1 and 2 radioactive sources; and
    - as licence renewals would be issued for licensees with medium and low risk category 3, 4, and 5 radioactive sources

82. CNSC staff noted that REGDOC 2.12 would be the first published regulatory document under the modernized nomenclature. CNSC staff added that the implementation of the new nomenclature, classified as REGDOCs, would improve web-oriented documentation regarding regulatory requirements, guidance and processes. CNSC staff noted that, during the consultation period, the regulatory document was published with the current RD/GD nomenclature, specifically referred to as RD/GD-338 and, should the Commission approve this document for publication, CNSC staff intends to publish it using the new CNSC REGDOC nomenclature.

83. CNSC staff reported that REGDOC 2.12 would set out the security measures that licensees must implement to prevent the loss, sabotage, illegal use, possession, or removal of sealed sources during their entire lifecycle, including sources that are in storage, transport or storage during transportation.

84. CNSC staff reported that the regulatory document would provide licensees with information and guidance on how to meet the security requirements, including requirements related to transport vehicles, containers, and security plans. CNSC staff added that this regulatory document is also intended to assist licensees who use contract carriers who are not licensed by the CNSC to ensure that specific security measures are taken into consideration when transporting sealed sources.

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[5] CNSC Draft Regulatory Document S-322, *Physical Security Requirements for the Storage of Sealed Sources*, 2006.
[6] CNSC Draft Regulatory Document S-338, *Physical Security Requirements for Sealed Sources during Transport*, 2006.

85. CNSC staff stated that this regulatory document would apply to category 1, 2 and 3 radioactive sealed sources and would provide best-practice guidance for category 4 and 5 sources, as defined in the International Atomic Energy Agency's (IAEA) *Code of Conduct on the Safety and Security of Radioactive Sources*[7] (IAEA *Code of Conduct*), IAEA's Safety Guide RS-G-1.9[8], *Categorization of Radioactive Sources*, and IAEA's Technical Document TECDOC-1344[9], *Categorization of Radioactive Sources*.

86. CNSC staff reported having received 127 comments from 22 respondents during the consultation period and that, in the period for feedback on comments, seven additional comments were received from four reviewers.

87. CNSC staff reported that, in response to comments requesting additional guidance regarding the personal trustworthiness and reliability process (involving criminal record name checks), CNSC staff revised the document to allow for alternative methods of verification.

88. CNSC staff concluded that this regulatory document would provide a clear and consistent set of comprehensive requirements regarding security measures for radioactive sealed sources. CNSC staff added that the implementation of REGDOC 2.12 would serve to align CNSC regulations with the IAEA *Code of Conduct*, the IAEA nuclear security series documents, and international best practices.

General Questions

89. The Commission sought clarification regarding non-removable threaded screws, as mentioned on page 15 of REGDOC 2.12. CNSC staff responded that some screws are considered non-removable if there is no external access or if the top of the screw has been intentionally deformed in such a way to ensure it remains affixed.

90. The Commission sought further information regarding the total number and types of licensed devices and their associated classification labels. CNSC staff responded that there are approximately two to three thousand licensed devices that use sealed sources. CNSC staff reported that the activity of the source is displayed on the device but not the category level. CNSC staff added that the source activity is used to determine

[7] IAEA CODEOC, *Code of Conduct on the Safety and Security of Radioactive Sealed Sources*, 2004.
[8] IAEA Safety Guide RS-G-1.9, *Categorization of Radioactive Sources*, 2005.
[9] IAEA Technical Document TECDOC-1344, *Categorization of Radioactive Sources*, 2003.

the category of the source. CNSC staff stated that licensees have security programs in place to maintain inventory control and to ensure the safety of workers and the public.

91. The Commission enquired if the same devices that would be exempt for the military are within the CNSC's jurisdiction. CNSC staff responded that devices used for military purposes and within military hospitals fall under the jurisdiction of the Department of National Defence. CNSC staff noted that the military uses comparable requirements to the CNSC for the control of security measures for sealed sources.

92. The Commission sought information on the new nomenclature regarding potential sub-chapters under REGDOC 2.12 Security. CNSC staff responded that the naming system would be addressed over the next month to provide greater clarity.

93. The Commission sought clarification regarding the differences in the security plans between category 1 and category 2 sources. CNSC staff responded that the requirements for security plans and security management are more stringent for category 1 sources. CNSC staff added that some of the physical security measures, such as barriers, detection and response protocol, are also more stringent for category 1 sealed sources.

94. The Commission sought information regarding the 3-year record retention term, mentioned on page 2 of the regulatory document. CNSC staff responded that the 3-year term is an internationally accepted practice for record keeping. CNSC staff added that the 3-year term is found in the *Nuclear Substances and Radiation Devices (NSRD) Regulations*[10] and was deemed by CNSC staff to be a reasonable time period.

95. The Commission sought information regarding an IAEA technical document referenced on page 6 of REGDOC 2.12. CNSC staff responded that, in order to avoid repetition of IAEA documents, a reference to an IAEA technical document was included in the regulatory document. CNSC staff noted that a hyperlink would lead directly to the IAEA technical document when the regulatory document will be published on the CNSC website. CNSC staff added that an appendix was included in REGDOC 2.12 to identify the specific requirements that apply to each radioactive source use type and their respective security level.

96. The Commission asked about verifications of consistency between Transport Canada regulations and REGDOC 2.12.

[10] SOR/2000-207

CNSC staff confirmed having consulted with Transport Canada in the development of this document. CNSC staff also noted that they had verified that the requirements set out in the regulatory document do not conflict with or duplicate requirements for the transport of dangerous goods in Canada.

97. The Commission enquired about the responsible directorate within the CNSC for the drafting and implementation of REGDOC 2.12. CNSC staff responded that the development of the document was a shared effort between the Directorate of Security and Safeguards (DSS) and the Directorate of Nuclear Substance Regulation (DNSR). CNSC staff added that the DNSR would be responsible for implementing the security requirements through licensing and compliance verification. CNSC staff noted that CNSC inspectors have received specific training on the security requirements and a list was provided by the Nuclear Security Division (NSD) to verify compliance in the field. CNSC staff also noted that security inspection reports would be reviewed by the specialists in DSS and, should corrective measures be needed, there would be coordination between DNSR and DSS for appropriate follow-up with licensees.

Transport

98. The Commission enquired if, in transport, the total activity of the sealed sources would affect the overall categorization of the shipment. CNSC staff responded that the total activity of the transported goods would be considered and the categorization would change according to the overall activity of the shipment.

99. The Commission enquired if the inspections of transport vehicles are recorded. CNSC staff responded that they are all recorded and that inspectors have access to all survey and transport records and they verify them as part of the licensee's overall facility inspection. CNSC staff clarified that transport carriers, who do not need to be licensed by the CNSC, are required to comply with the CNSC's *Packaging and Transport of Nuclear Substances Regulations*[11]. CNSC staff noted that the licensees, being the consignors of the transported material, must ensure that the carriers they hire comply with these regulations.

100. The Commission enquired about the relationship between the *Packaging and Transport of Nuclear Substances Regulations* and REGDOC 2.12 and whether there is duplication. CNSC staff responded that the *Packaging and Transport of Nuclear Substances Regulations* cover a wide range of material, including sealed and unsealed sources, and that REGDOC 2.12 would

[11] SOR/2000-208

capture only those sealed sources that require specific security measures. CNSC staff added that this approach would allow CNSC staff and licensees to follow the graded regulatory approach depending on the risk of the sealed source category. Furthermore, CNSC staff noted that the regulatory document also provides minimum security measures for storage of sources in addition to transport security measures.

Sealed Source Registry and Tracking

101. The Commission enquired about the process by which sealed sources are registered and tracked. CNSC staff responded that licensees must comply with requirements defined in licence conditions including pre-notification, approval and post-notification requirements for each source transaction between licensees involved in the transaction. CNSC staff added that, in the case of non-compliance with these requirements, the CNSC has several regulatory measures that could be used to address the issue.

102. The Commission sought comment from CNSC staff regarding past events involving misplaced sealed sources. CNSC staff responded that there have been no lost Category 1 sealed sources. CNSC staff added that most incidents involve Category 3 and 4 sources and, less frequently, Category 2 sealed sources, and that those sources are recovered very quickly. CNSC staff noted that the majority of the sealed sources that are reported as lost are lower risk Category 4 and 5 sources.

Licensing

103. The Commission sought clarification regarding CNSC staff's recommendations on amending all affected licences to incorporate the regulatory document in the licence conditions. CNSC staff responded that, over the next two years, CNSC staff will seek approval from the Commission to amend on its own motion approximately 250 licences containing inventories of Category 1 and 2 sealed sources. CNSC staff reported that licences with Category 3, 4, and 5 sealed sources currently have sufficient security measures and would be amended, under the authority of the Designated Officer (DO), to reference the regulatory document in the licence conditions when a licence would come up for renewal.

104. The Commission enquired about the measures that are in place to ensure compliance with Canadian regulations when international proponents are shipping radioactive sealed sources or radiation devices to Canada. CNSC staff responded that, pursuant to the

Nuclear Non-Proliferation Import and Export Control Regulations[12], the foreign exporters must receive pre-approval from the CNSC to ship nuclear substances and devices to Canada, and the recipients of the shipment must be licensed by the CNSC. CNSC staff added that, since the adoption of the IAEA *Code of Conduct*, all Canadian and international transport regulations are consistent with one another, if not identical. Licensees would also be required to comply with the requirements of REGDOC 2.12 and the provisions of the IAEA *Code of Conduct*. CNSC staff further stated that every country who has adopted the IAEA *Code of Conduct* would have the same regulatory control as in Canada.

105. The Commission enquired about licensing requirements if Health Canada was to authorize the use of irradiators in food processing facilities. CNSC staff responded that, as all radioactive sources in Canada require a licence, these facilities would require a CNSC licence as well.

106. The Commission commended CNSC staff for their collaborative efforts regarding the regulatory document and provided CNSC staff with editorial comments.

Decision

107. After considering the recommendations submitted by CNSC staff, the Commission approves REGDOC 2.12: Security, *Security Measures for Sealed Sources*, for publication and use. DECISION

Closure of the Public Meeting

108. The meeting closed at 12:19 on February 21, 2013.

Recording Secretary — Date: MAY 15 2013

Secretary — Date: MAY 15 2013

[12] SOR/2000-210

APPENDIX A

CMD	DATE	File No

13-M10 2013-01-21 Edocs #4069201
Notice of Meeting of February 20 and 21, 2013

13-M11.A 2013-02-14 Edocs #4082625
Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on Wednesday and Thursday, February 20 and 21, 2013, at the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario

13-M12 2013-01-09 Edocs #4082824
Draft of Minutes of the Meeting of the CNSC held on February 20 and 21, 2013

13-M13 2013-02-19 Edocs #4086732
Status Report on Operating Reactors as of February 19, 2013

13-M14 2013-02-05 Edocs #4033119
Report for the Performance of Atomic Energy of Canada Limited Chalk River Laboratories

13-M14 2013-02-20 Edocs #4087164
Presentation on Report for the Performance of of Atomic Energy of Canada Limited Chalk River Laboratories

13-M14.1 2013-01-31 Edocs #4080489
Written Submission from AECL on Chalk River

13-M14.1A 2013-02-13 Edocs #4089667
Presentation from AECL - Chalk River

13-M8 2013-02-05 Edocs #4080761
CNSC Staff on Proposed Approach for the CNSC to Conduct an Environmental Protection Assessment Process under the NSCA

13-M16 2013-02-01 Edocs #4081406
CNSC Staff on RD/GD-338 Security Measures for Sealed Sources