Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held on December 17 and 18, 2014

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Canada

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Wednesday, December 17, 2014 and Thursday, December 18, 2014at the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario.

Present:

M. Binder, President
A. Harvey
D.D. Tolgyesi
R. Velshi
S. McEwan

M. Leblanc, Secretary
L. Thiele, General Counsel
S. Dimitrijevic and M. Hornof, Recording Secretaries

CNSC staff advisors were: R. Jammal, G. Rzentkowski, F. Rinfret, K. Lafrenière, S. Laberge, D. Newland, N. Riendeau, B. Poulet, C. Carrier, D. Howard, J. Thelen, T. Barr, B. Carroll, M. Jones, D. Constantinescu, A. Régimbald, L. Simoneau, H. Rabski, A. Bouchard and P. Fundarek

Other contributors were:

- Bruce Power: F. Saunders
- Ontario Power Generation: B. McGee, B. Finnigan and K. Gilbert
- New Brunswick Power: P. Thompson
- Cameco Corporation: D. Clark and D. Ingalls
- Hydro-Québec: L. Pelletier, M. Désilets and B. Poulin
- Canadian Nuclear Laboratories: R. Walker, R. Lesco, J. Miller, C. Hebert, G. Dolinar and K. Smith
- Isologic Innovative Radiopharmaceuticals Ltd.: A. Gagnon

Constitution

1. With the notice of meeting CMD 14-M75 having been properly given and all eligible permanent Members of the Commission being present, the meeting was declared to be properly constituted.

2. Since the meeting of the Commission held November 5, 2014, Commission Member Documents CMD 14-M75 to CMD 14-M86 were distributed to Members. These documents are further detailed in Annex A of these minutes.

Adoption of the Agenda

3. The revised agenda, CMD 14-M76.B, was adopted as presented.

Chair and Secretary

4. The President chaired the meeting of the Commission, assisted by M. Leblanc, Secretary and S. Dimitrijevic and M. Hornof, Recording Secretaries.

Minutes of the CNSC Meeting Held November 5, 2014

5. The Commission Members approved the minutes of the November 5, 2014 Commission Meeting as presented in CMD 14-M82.

STATUS REPORTS

Status Report on Power Reactors

6. With reference to CMD 14-M77, which includes the Status Report on Power Reactors, CNSC staff presented updates on the following items:

   - Darlington NGS, Unit 4 had been manually shut down on December 3, 2014, in order to replace a leaking valve gasket in the primary heat transport system. CNSC staff stated that the unit had been restarted and brought to full power operation;
   - The recuperation of the moderator at Gentilly-2 NGS had been completed;
   - Pickering NGS, Unit 6 had been manually shut down on November 30, 2014 in order to repair a leaking pump seal and a valve of the shutdown cooling system. CNSC staff stated that the unit had been restarted and was approaching full power operation; and
   - The CNSC Executive Vice-President and Chief Regulatory Operations Officer approved, on December 16, 2014, the removal of the Point Lepreau NGS continued operation hold point. This regulatory hold point required New Brunswick Power to implement several upgrades to its fire protection program before the end of 2014 in order to comply with the requirements of CSA Standard N293-07 "Fire protection for CANDU nuclear power plants."

7. The Commission asked about reasons for the manual shutdown of Unit 4 of Darlington NGS, being that the shutdown limit had not been approached. CNSC staff responded that the unit had been shut down to determine the source of the leakage and to determine whether the situation could deteriorate to reach the operational limit. The leaking seal was replaced and eroded surfaces were repaired.

8. The Commission asked about the ways that the CNSC is informed about the leaks. CNSC staff responded that the CNSC has real-time knowledge of any leakage through CNSC site staff that attends morning operational meetings where those issues are discussed.

9. The Commission enquired about reasons for Bruce A units operating at 92.5 %. CNSC staff responded that the power was limited and that the unit currently operates at even lower power due to limits related to the transformers. A Bruce Power representative explained that the Bruce A units had been designed to provide steam to the heavy water plant, with the maximal electrical output of 92.5 % of full power. The units do not provide steam to the heavy water plant anymore, so that the units only run at 92.5 %. The Bruce Power representative added that the reason for the units to operate as low as 88 % is the increased output efficiency obtained through improvements and upgrades of the turbine generators and the generator sets, causing the transformers to be the limiting factor.

10. The Commission sought more details regarding the December 20, 2014 mineral oil spill at the Pickering NGS. The Ontario Power Generation (OPG) representative provided details on the event and noted that the catch containment capability was sufficient to capture any oil spill from the leaking pump, that their investigation had not been fully completed and necessary actions would be taken after the investigation.

11. The Commission asked if the actions completed by NB Power at Point Lepreau NGS were the final ones required for the station to comply with the standards on fire protection. An NB Power representative responded that they had successfully completed all of the necessary elements to demonstrate compliance with the CSA standard. CNSC staff added that they had reviewed all of the related documents and verified the installation and performance of the equipment. CNSC staff stated that the licensee was in full compliance with all fire protection requirements and that all conditions for lifting the hold point have been met.

12. The Commission asked about the progress of the seismic protection project. CNSC staff responded that they had reviewed the summary report and that NB Power was expected to publish the results of the study by the end of December 2014. The representative from the licensee concurred with the information provided by CNSC staff.

Event Initial Reports (EIR)

Ontario Power Generation: Leak of Heavy Water within Containment at Unit 7 of Pickering Nuclear Generating Station (NGS)

13. With reference to CMD 14-M80, CNSC staff presented information regarding a heavy water leak that had occurred at Pickering Unit 7 during a planned maintenance outage. Although the containment had been isolated to ensure retention of airborne tritium inside the reactor building, a small release was needed in order to reduce workers' doses. The impact of this release to the public and the environment was negligible, while the highest estimated dose to an individual worker was 2 mSv (milliSieverts), significantly below the regulatory dose limit of 50 mSv per year.

14. A representative from OPG stated that appropriate actions were taken to minimize potential for environmental releases and actual airborne emissions were maintained well below any regulatory or plant action levels, and noted that the leakage was likely the result of a moderator drain valve that had been brushed open by an operator working in tight working constraints in the moderator room. The OPG representative provided a detailed description of the event, including mitigation measures taken by Pickering staff and corrective actions taken to prevent a reoccurrence of the event. The OPG representative stated that operating staff had followed procedures and acted conservatively in dealing with the event and providing notifications.

15. The Commission asked if there were broader lessons that can be learned from this event. The OPG representative responded that the investigation was still ongoing and that, as an interim action, they were locking the valves in position before returning the unit into operation.

16. The Commission sought more details about the functioning of the valve, its accessibility during the planned shutdown, and the lock-out procedure. The OPG representative explained the function of the valve and stated that this valve was not part of the guaranteed isolation required for the work that was in progress at the time. The OPG representative added that the lock-out procedure, as well as ways to optimize the approach to the system maintenance, was considered during the ongoing investigation.

17. The Commission asked about investigating valves in other units. The OPG representative responded that, due to high levels of radiation in the moderator room, there is restricted access to this area and the investigation would take place during future planned outages.

18. The Commission enquired about the alarm system and evacuation procedure for events like this one. The OPG representative responded that there is a station emergency tone that is sounded in close proximity to the affected area, and that, in such situations, the workers are not evacuated but rather asked to assemble. In this case, the primary reason for the shift manager's discretionary decision to declare a station emergency was to assemble staff to ensure their safety.

19. The Commission asked about the recuperation and recycling of the spilled heavy water. The OPG representative responded that the water that remained inside the closed collection system had been pumped back to the main moderator system of the calandria, and the water recovered from outside the collection system had been drummed, processed and reclaimed.

20. The Commission asked about the frequency of declaring this type of station emergency. CNSC staff responded that they occurred one to two times per year, and that most station emergencies were declared not because of a perceived emergency, but rather to account for staff.

21. The Commission asked about CNSC staff's assessment of the mitigation activities after the event. CNSC staff responded that they had initiated a reactive inspection to verify the work done by OPG and that this inspection had resulted in one action item.

22. The Commission noted that information on the event available to the public was rather scarce and lacking details, and asked for the reason. The OPG representative responded that, beyond the notifications required by the station emergency, OPG had contacted all of the community leaders, advised them of the situation, and discussed the event during one of their community information sessions. The OPG representative stated that they would look into providing more specifics on the OPG website.

23. The Commission asked if OPG was compliant with the proactive disclosure requirements in this case. CNSC staff stated that there was compliance with the proactive disclosure requirements. CNSC staff added that, in this case, data received were only preliminary and as such, the decision was made to provide the information in a more qualitative rather than quantitative fashion.

24. The Commission noted that, given the attention this event had attracted, it would be desirable to provide more specific data even in the preliminary stage.

25. The Commission asked about the time needed for a complete investigation. The OPG representative responded that the investigation was following their corrective action process, according to which a full evaluation of the event had to be completed within 42 days.

Release of Anhydrous Hydrogen Fluoride (HF) at Cameco Port Hope Conversion Facility

26. With reference to CMD 14-M83.1 and CMD 14-M83, representatives from Cameco Corporation (Cameco) and CNSC staff presented information regarding an unplanned release of anhydrous hydrogen fluoride (aHF) that had occurred at Cell #10 of the uranium fluoride (UF_6) plant cell room on November 26, 2014. The release, which lasted for about six seconds, occurred through a pipe which was disconnected from the rest of the installation in the course of maintenance taking place at the time. The Cameco representatives provided a detailed description of the event and actions taken after the event. During the event, three workers had been exposed to aHF fumes. Two workers immediately reported to Cameco's medical department for assessment, while the third individual later experienced symptoms of aHF exposure and proceeded to the hospital. There were no lost-time injuries as a result of this event, and there was no impact on the public or the environment. The facility remained shut down from the time of the occurrence until November 28, 2014, when Cameco completed safety stand-downs with all work crews and management was satisfied that no safety issues remained. The Cameco representatives added that a root cause investigation was underway and expected to be completed in early 2015.

27. CNSC staff informed the Commission about their ongoing and future actions and stated that, given the potential seriousness of the event, it had been decided to conduct an onsite inspection to visually assess the areas where the occurrence took place, discuss with Cameco the processes and expectations for conduct of maintenance and lockout, interview the three affected staff and review the facts of the event. On December 4, 2014, CNSC staff met with senior Cameco representatives to once more review the event and the actions taken by Cameco, as well as to discuss CNSC concerns regarding events at the Port Hope Conversion Facility that have occurred over the course of 2014. In addition, CNSC staff was conducting an augmented inspection to evaluate Cameco's management system processes related to the conduct of maintenance.

28. CNSC staff added that Cameco had taken appropriate and timely mitigation actions specific to this particular event; however, CNSC staff expressed concerns regarding the number of events that have

occurred at the facility in 2014. CNSC staff is considering further compliance activities depending on the outcome of the most recent inspection and upon review of Cameco's root cause and common cause analyses.

29. The Commission enquired about Cameco's response to the series of events that had occurred in 2014. The Cameco representative responded that Cameco was fully committed to addressing these incidents and had invested considerable time and energy in strengthening the safety culture at the conversion facility over the past several years. As a result, safety performance across the division has been significantly improved, which shows the effectiveness of the applied defence-in-depth approach. Cameco had increased the number of shift supervisors and initiated an analysis of recent incidents to determine if there were any common causes that could be identified.

30. The Commission noted a lack of schematic description of the installation and flow diagrams needed for better understanding of the event. The Cameco representative provided a detailed description of the installation, the sequence of performed tasks and the occupancy of this space during the event. The Commission requested that the 2015 Annual Report on uranium processing facilities include more details on the nature of the recent events and on corrective activities and measures taken by Cameco. **ACTION** by Fall 2015

31. The Commission enquired about the largest potential release of aHF. The Cameco representative responded that the potential for a larger release was minimal since the leaking valve orifice was small and the automatic detection system had already indicated the release and shut down the system.

32. The Commission asked about the measures Cameco intends to apply to prevent reoccurrence of similar events until the full investigation is completed and corrective actions are implemented. The Cameco representative reflected on the organization and the communication between the two working groups that were involved in the event, described in detail their lockout procedure, and explained the errors made in the applied lockout procedure. To avoid similar confusion in the future, Cameco provided each of their maintenance groups with department locks having tags with precise information on the status of unfinished tasks. These locks cannot be removed by other groups.

33. The Commission enquired about station procedures and actions with respect to treating injured workers, as well as on the symptoms displayed by the workers and the first aid applied in this event. The Cameco representative responded that the company relies on employees to report when they have had an exposure, and

that their practice is very conservative in terms of sending employees for treatment as a precautionary measure. The Cameco representative explained the symptoms resulting from an aHF exposure and the first aid treatment for skin and respiratory tract injuries.

34. The Commission expressed the view that a standard procedure that would include a mandatory checkup for all workers who could potentially have been exposed should be in place regardless of whether they feel symptoms or not. CNSC staff noted that, after the ongoing follow-up inspection, CNSC staff's expectations regarding this issue will be discussed with Cameco. The Cameco representative added that the initiated root cause investigation would likely result in recommendations regarding these issues.

35. The Commission asked about the public reaction to the event. The Cameco representative responded that Cameco had not received any inquiries related to this event from the public.

Canadian Nuclear Laboratories (CNL): Conventional Accident at Chalk River Site

36. With reference to CMD 14-M86, CNSC staff presented information regarding an industrial accident that occurred on a construction site at CNL's Chalk River Laboratories (CRL) on November 28, 2014. CNSC staff noted that the regulatory reporting requirements had been met. The regulatory oversight of occupational health and safety is multijurisdictional, and the Ministry of Labour (MOL) is leading the investigation into the accident. A representative from CNL provided a detailed description of the event.

37. The Commission noted that the EIR does not include information on the nature of the injury and asked for more details. The CNL representative responded that the report was based on the MOL initial investigation and that the individual was unconscious after falling from the scissor lift to the ground, which is defined as a critical injury in the MOL guidelines. The individual was taken to the hospital, released the following day and was resting at home.

38. The Commission enquired about CNL's long term follow-up to this incident. The CNL representative responded that they will be following up with the MOL's investigation and that they want to ensure that the contractor is taking appropriate action to avoid the repetition of the event. CNL will also discuss the event with the contractor and use it as an opportunity for lessons learned with their application to other construction projects.

39. The Commission asked if reporting and statistics regarding these kinds of events include contractors and sub-contractors. The CNL representative responded that CNL monitors the safety performance of its contractors very carefully, including the screening of their safety performance and using it as a procurement criterion. The CNL representative added that the data can be provided to the Commission upon request. CNSC staff added that they would make an effort to include this information in reports to the Commission in a consistent way. This is further discussed in paragraph 81 as part of the Annual Performance Report 2013, Canadian Nuclear Laboratories Nuclear Sites and Projects.

40. The Commission enquired about communication with the MOL and feedback on the root cause analysis. CNSC staff responded that they have access to the results of the investigation through the Memorandum of Understanding with the MOL and will receive a copy of their final report.

INFORMATION ITEMS

Hydro-Québec: Update on the Activities Related to the Closure of the Gentilly-2 Nuclear Power Plant

41. With reference to CMD 14-M78, Hydro-Québec presented *Bilan des activités liées au déclassement de la centrale nucléaire de Gentilly-2, 2013-2014*, an information update on the decommissioning activities that have been conducted at the Gentilly-2 nuclear generating station (NGS) since October 2012, when it was announced that the NGS would cease operating at the end of that year. Hydro-Québec representatives also provided future organizational information for Gentilly-2, how the organization has changed since the beginning of the transition from an operational NGS to an NGS in a safe storage state, and security, conventional health and safety, radiation protection, and environmental protection information for the site. The activities that will be undertaken between 2015 and 2020 were presented to the Commission, including preparations for dry storage of spent fuel and activities related to the 2016 facility licence renewal.

42. The Commission expressed its appreciation for the detailed presentation, and requested that Hydro-Québec's next update to the Commission on Gentilly-2 include more detailed information on future work timelines and schedules. — ACTION by December 2015

43. Hydro-Québec also presented to the Commission a video showing the activities that have been conducted at Gentilly-2 during 2013 and 2014. The Commission expressed its appreciation for the visual representation of the activities that have been performed to

date, and requested that Hydro-Québec make the video publicly accessible on its corporate web site[1].

44. The Commission enquired about safety at the Gentilly-2 site, including how risk has been reduced since the reactor was shut down, and whether residual risks have been identified. The Hydro-Québec representative responded that safety risks at the site have greatly decreased since achieving a state of safe storage. The Hydro-Québec representative also provided information from a recently updated safety report and identified two principal events that could threaten safety at the site. The Hydro-Québec representative assured the Commission that all required safety measures have been implemented to prevent these postulated events from occurring.

45. The Commission asked about site security at Gentilly-2 since the shutdown of reactor operations. The Hydro-Québec representative responded that very little has changed in terms of site security from the time when the NGS was operational. The Hydro-Québec representative also stated that, while the level of security at the site has decreased, site surveillance and security check points are still in place. CNSC staff added that a security-focused CNSC inspection was conducted last year, and that the Gentilly-2 security program was found to meet all regulatory requirements.

46. The Commission enquired about access control at the Gentilly-2 reactor containment building. The Hydro-Québec representative responded that, unlike at Gentilly-1, the reactor containment building at Gentilly-2 will remain a restricted and access-controlled area.

47. The Commission expressed concerns about the retention of key staff during the next phase of activities, from 2015 to 2020, and asked how Hydro-Québec planned to ensure that the required expertise will remain available for the project. The Hydro-Québec representative responded that, as of January 1, 2015, the permanent 60-employee staff complement at Gentilly-2 will be composed of highly-experienced and trained personnel, all of whom worked at the NGS during its operation. Furthermore, many previous employees from Gentilly-2 remain employees of Hydro-Québec and, should it be necessary, their expertise is available to the Gentilly-2 staff.

48. The Commission further enquired about how Gentilly-2 staff will be motivated to remain committed to the project since most of the work at the site will be completed in 2020. The Hydro-Québec

[1] CNSC staff has confirmed after the meeting that the video has been posted on Hydro-Québec's website: http://www.hydroquebec.com/production/centrale-nucleaire/processus-declassement.html

representative responded that the 60-employee permanent staff complement is comprised of employees that desired to be retained for this project, and that they are highly motivated to complete it. Furthermore, these employees recognize that Hydro-Québec provides excellent employment security, and that they will be provided with future employment opportunities within the organization when the project is completed.

49. The Commission asked about how many previous Gentilly-2 employees found employment within Hydro-Québec after the NGS shut down. The Hydro-Québec representative responded that, out of the approximately 600 employees employed at the NGS prior to its shutdown, 346 employees found employment within Hydro-Québec. Furthermore, 112 employees left Hydro-Québec via retirement or to pursue personal projects, one employee obtained employment at another NGS, and approximately 130-135 employees are still trying to find employment within the company. The Hydro-Québec representative assured the Commission, however, that the company is committed to helping these employees find employment as quickly as possible.

50. The Commission asked whether contractors and consultants will be used during the next phase of activities. The Hydro-Québec representative responded that, as in the past, contractors and consultants will be brought in for specialized work for which the Gentilly-2 staff is not trained (i.e., construction work). This practice will continue during the next phase, and the number of contractors on site will be dependent on the amount and the type of work that needs to be completed.

51. The Commission enquired about the January 2015 organizational structure. The Hydro-Québec representative responded that the licensee will remain Hydro-Québec, and that the new Gentilly-2 Facilities Director will be mandated with the responsibility of managing the licence. The Hydro-Québec representative assured the Commission that the Gentilly-2 Facilities Director will be provided with all of the required knowledge and support to ensure proper management of the licence and its associated regulatory requirements.

52. The Commission asked about the relevance of aging management for the NGS, since the reactor is now in a safe storage state. The Hydro-Québec representative responded that aging management will be focussed on waste management facilities, as well as the CANSTOR dry fuel storage containers. There is also a monitoring program for all concrete structures on the site to prevent their degradation and to ensure that this infrastructure remains safe and in working order during the entire decommissioning period.

53. The Commission enquired about the benefits of conducting the Gentilly-2 NGS decommissioning over a 40-year period. The Hydro-Québec representative responded that, since permanent storage of spent fuel will not be available until at least 2050, a delayed decommissioning plan was most economically feasible for the Gentilly-2 NGS. The Hydro-Québec representative also presented information justifying the longer-term decommissioning plans.

54. The Commission noted that Hydro-Québec proposed the year 2050 as the approximate date to begin the transfer of spent fuel at Gentilly-2 to a long term repository and enquired about whether Hydro-Québec has alternate plans for the spent fuel should the repository not be available at that time. The Hydro-Québec representative responded that, as long as the CANSTOR dry storage containers are well maintained and an appropriate aging management plan is applied to them, they could remain at the Gentilly-2 site longer than proposed, should it be required.

55. The Commission asked whether Hydro-Québec received assistance from OPG with respect to their experiences with the transfer to safe storage state of Units 2 and 3 at the Pickering NGS. The Hydro-Québec representative responded that, in early 2013, a group from OPG shared their lessons learned with Hydro-Québec and provided them assistance with their decommissioning plans for the Gentilly-2 NGS. Additionally, Hydro-Québec has received support from the CANDU Owners Group (COG) when challenges have been encountered. The Commission stated that building a collection of best practices for the decommissioning of NGS would be beneficial to the nuclear industry. The Hydro-Québec representative confirmed that they have been actively sharing their experiences, lessons learned, and best practices with industry through the COG, and that they have a representative who attends monthly Nuclear Waste Management Organization meetings.

56. The Commission enquired about the status of the Gentilly-1 NGS. The Hydro-Québec representative responded that, although located on the Gentilly-2 site, the Gentilly-1 NGS is the property of CNL, and that CNL is responsible for its decommissioning. The Hydro-Québec representative assured the Commission that it conducts regular meetings with CNL, but noted that there is no formal agreement in place to decommission the two facilities at the same time.

57. The Commission enquired about the salvage value of equipment and instrumentation from the NGS. The Hydro-Québec representative responded that much of the equipment and instrumentation in the NGS is from the 1970s, that there is not very much interest in it and, as such, it has very little value. The Hydro-

Québec representative noted, however, that they were able to reclaim the heavy water used at the NGS, and that it has been purchased by another licensee.

58. The Commission asked about the current location of the heat exchangers, steam generators and steam turbines used in the NGS. The Hydro-Québec representative responded that these reactor components are in the reactor building, where they will remain during the 40-year safe storage phase.

59. The Commission enquired about how Hydro-Québec ensures that materials and equipment from the NGS, which are sold to a third party, are free of radioactive contamination. The Hydro-Québec representative responded that any equipment and materials that are sold to a third party are subjected to rigorous contamination testing, performed by qualified personnel prior to leaving the site, and that all of the test results are documented.

60. The Commission asked whether, as a result of the recent work done at the Gentilly-2 NGS, CNSC staff had any lessons learned on the adequacy of the CNSC regulatory framework. CNSC staff responded that the regulatory framework is adequate for the conduct of regulatory activities during the transition from an operational NGS to an NGS in a safe storage state, and that CNSC staff had all the tools that they required for these activities. CNSC staff also stated that Hydro-Québec's decommissioning plans were developed with adequate detail and that, throughout the past two years, CNSC staff has assured that they are following this plan, and that there are no adverse impacts on safety and security from Hydro-Québec's activities. CNSC staff added that, since many of these regulatory activities were new to both the licensee and CSNC staff, there were many lessons learned with respect to the conduct of these activities in the field.

Annual Performance Report 2013, Canadian Nuclear Laboratories Nuclear Sites and Projects

61. With reference to CMD 14-M79 and 14-M79.A, CNSC staff presented its annual report for 2013 on the safety performance and regulatory compliance of Canadian Nuclear Laboratories (CNL, formerly Atomic Energy of Canada Limited (AECL)) nuclear sites and projects. The report includes a safety performance assessment by 14 safety and control areas (SCA) and encompasses the safety performance of the following sites and projects:

    - Chalk River Laboratories (CRL);
    - Whiteshell Laboratories; and
    - Port Hope Area Initiative (PHAI) that includes the Port Hope project and the Port Granby project.

CNSC staff concluded that CNL has operated all facilities and conducted all activities safely during 2013.

62. With reference to CMD 14-M79.4, CNL informed the Commission of the restructuring and transition process of their organisation. CNL stated that the transition, formally completed in November 2014, included the transfer of all AECL regulatory licences to CNL. CNL provided a schematic illustration of the GoCo Model with primary relationships at end-state, including the Government of Canada, Atomic Energy of Canada as the owner and customer of the CNL, future contractor/operator, and the CNSC as independent regulator. CNL also provided a brief update on activities to improve fitness for service, informed the Commission about investments in this area since 2011, and about efforts related to the safe operation of the NRU.

63. The Commission noticed some differences between the English and French versions of the report and directed CNSC staff to correct the errors and bring both versions to concordance. The Commission also recommended some minor changes to the draft Report.

Written Submission from Best Theratronics

64. With reference to the CMD 14-M79.3, Best Theratronics submitted a written intervention recognizing the role of CNL in the production of the cobalt-60 isotope for medical purposes.

65. The Commission sought more information regarding cobalt-60 production in Canada. The CNL representative informed the Commission that two types of cobalt-60 are produced: one is used for sterilization purposes, and the other is used for cancer therapy. There had been a long-standing contract with OPG through the Pickering reactors to produce the cobalt-60 used for sterilization. With the coming shutdown of the Pickering site, a contract has been established to maintain that capability into the CANDU reactors at the Bruce site. The high specific activity cobalt-60 needed for cancer therapy is produced by CNL in the NRU reactor, which is currently increasing its output. The CNL representative added that the production of cobalt-60 and other isotopes would continue should the operation of NRU continue beyond 2016.

Written Submission from an Individual

66. With reference to the CMD 14-M79.2, an individual submitted a written intervention in which the benefit of the Port Hope Area Initiative was questioned, given the risks associated with carrying it out. The intervenor also suggested that there is a lack of public

support for this project.

67. The Commission enquired about the level of public support for this project. The CNL representative reminded the Commission that the project was undertaken following a very comprehensive environmental assessment, with the conclusion that the project could be conducted safely. The CNL representative stated that they had carried out surveys in the communities, and that in all cases, there was a strong support for the project. CNL was conducting radiological surveys and the public participation indicated its interest in the project is continuing. The nature of most of the concerns expressed by the public was related to the slow progress of the project.

68. The Commission asked about concerns regarding the transportation of a large amount of contaminated soil and radioactive waste through densely populated communities. The CNL representative responded that the transportation of radioactive waste had been addressed in the environmental assessment and traffic routes had been identified to reduce impact on the community. A comprehensive public communication program will ensure that the public is well informed about all of the details regarding the transportation of the waste.

69. The Commission sought more information regarding traffic safety and pollution from exhaust gases. The CNL representative responded that their transportation studies have shown that the expected increase in traffic would be five to six percent, depending on the route, and that they intend to upgrade some of the intersections to improve safety. CNSC staff confirmed that the issues related to transportation had been addressed in the environmental assessment and stated that there was a mitigation plan put in place as part of the environmental assessment follow-up. This mitigation plan is reflected in the licence condition for which CNSC staff will provide regulatory oversight.

Written Submission from the Municipality of Port Hope

70. With reference to the CMD 14-M79.1 and CMD 14-M79.1A, the Municipality of Port Hope submitted a written intervention with a list of ongoing items that the Municipality believes should be considered and clarified prior to the commencement of contracting and remedial work.

71. The Commission noted that the municipality has expressed numerous concerns and enquired about communication between the municipality, CNL and CNSC staff. CNSC staff stated that they had met with the Mayor and the Mayor-Elect of Port Hope, who had expressed a number of concerns. Many of these concerns were

not regulatory concerns, but rather related to the agreement between the municipality and the Government of Canada. With respect to the CNSC's involvement, the Municipality of Port Hope had been looking for clarity as to how the licence and its Licence Conditions Handbook will be used to verify that CNL meets all of its obligations. During that meeting CNSC staff provided clarification regarding both licence requirements and how these licence requirements may overlap with other agreements and requirements, including the legal agreement. CNSC staff will continue to collaborate with the municipality and intends to update the Commission on this activity. The CNL representative added that the legal agreement includes the provision for a dispute resolution process, and that they had worked with the municipality to reduce the list of outstanding issues and to obtain agreement on a number of issues that the municipality had raised with CNL.

72. The Commission asked about the established liaison committee where participants would meet regularly to discuss outstanding issues, including the clean-up criteria. The CNL representative responded that there is a formal, structured process that has been in place since the legal agreement was signed, and that there is an agreement monitoring group by which Natural Resources Canada (NRCan), CNL and the municipality meet on a quarterly basis. In addition to that, there is a community liaison group which provides a forum for communication between the project and the community. Through the activities of these forums, the list of concerns expressed by the municipality has been significantly reduced. The clean-up criteria are still under dispute, with issues stemming from the application of criteria rather than the criteria themselves. CNSC staff stated that the clean-up criteria for remediation and land use classifications are clearly listed in the project licence. CNSC staff added that the re-survey of the Port Hope project was under way and that CNSC staff will be monitoring that activity as it is carried out.

73. Asked if the municipality was satisfied with the presented approach to address the outstanding issues, CNSC staff stated that, during the meeting in November, requirements had been again presented to the municipality and that the indicators, including the key indicators for the clean-up criteria, had been discussed. CNSC staff also drew attention to the existing friction between CNL and the municipality with respect to contractual elements, and stated that the CNSC tries to emphasize the fact that the licence was issued based on the safety case and that the CNSC will conduct its compliance activities in accordance with the licence.

74. The Commission asked if the ongoing discussion on the outstanding issues could delay the project. The CNL representative responded that, to initiate the contract for the long-term waste

management facility at Port Hope, these issues need to be resolved because they do define the scope of work that would be undertaken. The CNL representative added that the resolution of these issues was progressing through the formal process defined in the legal agreement, and that all parties, the municipality included, were committed to resolving these as expeditiously as possible.

75. The Commission expressed the view that the clean-up criteria for industrial areas are clear and it expects NRCan and the municipality to ensure that negotiations do not delay the project. The Commission reiterated its continued interest in the remediation of residential areas and expects that CNSC staff keep the Commission informed on the progress of the project on an annual basis, at a minimum.

ACTION by December 2015

Legacy sites

76. The Commission asked about nuclear legacy liabilities and the decommissioning schedule for those facilities, including Whiteshell Laboratories. CNSC staff responded that CNL intends to accelerate the decommissioning of the Whiteshell Laboratories and Nuclear Power Development facility, and start these activities during the next few years. Douglas Point and Gentilly-1 are to follow later, most likely around 2030. The CNL representative informed the Commission about their decommissioning plan that was comprehensively updated in 2012-2013 and that is refreshed yearly. CNL representatives noted that, for Douglas Point and Gentilly-1, they were planning to advance any decommissioning and demolition of non-contaminated buildings that are not needed to support the decommissioning activities. The demolition of the reactors is not planned until about 2035 to coincide with the availability of a Long-Term Waste Management Facility.

77. The Commission asked how the Port Hope project resurveys compare to the original surveys. The CNL representative responded that they were surveying or resurveying all of the properties in the various wards in the community and then determining or confirming those properties that will require cleanup under the project-approved cleanup criteria. The surveys conducted in the late 1970s and early 1980s were not as detailed as the current resurvey.

78. The Commission asked about the status of the waste storage buildings at Whiteshell and the availability of space for the waste accumulated and produced during the ongoing and future decommissioning activities. CNSC staff responded that a shielded modular above-ground storage (SMAGS) building had been completed to accommodate the existing waste. Depending on the acceleration of the decommissioning, CNSC staff would have to

re-examine the availability of the infrastructure for waste management at Whiteshell. The CNL representative noted that CNL has an extensive waste characterization program to separate contaminated waste from the waste that has been determined to be clean and would not require storage in CNL waste management area. CNL will build another SMAGS building to accommodate larger volumes of waste if needed.

Lost-Time Injuries

79. The Commission asked about the actions that CNL was taking to ensure there are a sufficient number of certified health physicists. The CNL representative responded that CNL has a full complement of three certified health physicists, with a fourth one to be certified early in 2015. CNL also has a comprehensive program for succession planning for their certified health physicists.

80. The Commission sought clarification regarding the frequency and severity of lost-time injuries at the Whiteshell site. The CNL representative explained that they were improving their return to work program and that the effects of these improvements became visible in the last months of 2014. The CNL representative explained a number of other improvements. The Commission asked CNSC staff to comment on CNL's performance regarding the lost-time injuries. CNSC staff confirmed that they had observed positive trends regarding the CNL's return to work program.

81. The Commission asked if contractors are included in the statistics of reported injuries. The CNL representative responded that they track contractor injuries and provide supervisory oversight, but these are not included in the reported statistical data. CNSC staff added that they monitor the performance of a licensee in their oversight of contractors. The licence holders are obligated to ensure that the safety of the contractors onsite is maintained at all times and that they are responsible for the control of licensed activities.

Fitness for Service

82. The Commission asked about improvements to fitness for service at CRL and the expectations regarding the rating in this safety and control area progressing from below expectations to satisfactory. The CNL representative responded that CNL has a five-year improvement program through the Integrated Implementation Plan (IIP) to enhance its performance. The program is in its third year and physical improvements and their results in reliability of operations are visible. CNSC staff noted that they recognize the work done through the IIP and investment in this area over the past

three years, and that CNL was integrating those systems and modernizing them to measure themselves against best industry practice.

83. The Commission sought clarification on CNL's statement about its improving trend regarding the open elective backlog for the NRU reactor maintenance, which was not evident from the presented graphs. The CNL representative responded that graphs in the report present the status until May 2014, while a 30% improvement had been recorded since May. This information will be presented in the next annual report.

84. The Commission sought more information regarding the reported failure and degradation of heating and steam production system at the CRL site. CNSC staff provided information on the status of the systems and described the needs for these systems taking into account the current activities at the site. CNSC staff noted that CNL has a long-term plan to approach this problem, which is dependent on the future of the laboratories. The CNL representative added they have a decade-long integrated site master plan for the orderly replacement of those systems and that CNL conducts proactive maintenance, making sure that the systems are properly maintained.

85. The Commission enquired about CNSC staff's finding that some governing program documents and elements of the program regarding structural integrity do not meet CNSC standards. CNSC staff provided clarification and stated that it was more of a programmatic issue when it comes to the implementation of the periodic inspection programs for the different systems at the NRU facility. CNSC staff said that there are targets for the updates to these different periodic inspection program documents and indicated to the Commission that these issues were rather a procedural concern and did not represent a safety concern to the CNSC, since all the systems were within safe operating limits.

86. The Commission further enquired about the state of the NRU vessel and corrosion progress. CNL confirmed that there had not been any detectable change in wall thickness through the NRU vessel, and that there was no detectable change in corrosion.

Monitoring of Emissions

87. The Commission sought clarification regarding CNSC staff's statement on bluffs seepage. CNSC staff responded that the bluffs seepage mentioned in the report had been identified as an untreated liquid stream source and has been monitored since 2010, as per licence requirements. Although the concentration of contaminants was above provincial water quality objectives in the bluffs seeps,

the enhanced monitoring of the receiving environment has shown that the concentration of contaminants remained below the conservative provincial water quality objectives and within background levels. CNSC staff added that this bluffs seepage will be eliminated with the movement of the waste.

88. The Commission sought more details regarding the number of reported action level exceedances and the way these were presented in the report. CNSC staff provided these details including an explanation for the large number of iodine-131 action level exceedances. The Commission requested that CNSC staff provide more detailed explanation of this and similar issues in the current reporting revised and in reports to come.

89. The Commission sought an explanation for a significant increase in noble gas emissions. CNSC staff explained that the increase was related to increased production of molybdenum-99 and that a comparison with previous annual reports is not realistic since the data presented in the 2013 Annual Report are calculated using a different method. CNL representatives concurred with the explanation of calculation methods provided by CNSC staff. The Commission suggested adding more details in the Annual Report.

90. The Commission enquired about groundwater monitoring and asked about provision of drinking water at the CRL site. The CNL representative responded that the previous sources of drinking water on site do not meet environmental standards and that there is a potable water project underway that will provide drinking water from the Town of Deep River. In the meantime, drinking water is imported to the site. The CNL representatives added that groundwater monitoring concentrations are not part of monthly updates for a number of performance parameters related to environmental releases provided on CNL's website. However, CNL provides an annual report to the CNSC regarding the groundwater monitoring program, and the trends show that the quality of the water does not change significantly. The CNL representatives added that the significant project of removal of the rod bay water had resulted in lower concentration of tritium measured in ground water.

Other

91. The Commission asked about the completion time for the transport package certification of the highly enriched uranium (HEU) packaging. CNSC staff responded that they had completed the technical assessment and were working on the public input on the assessment, which was scheduled to last 30 days. CNSC staff informed the Commission that the exterior shell of the package is a Type B package that has been in use internationally in a very safe

manner for transporting nuclear fuel in a solid form. CNSC staff added that the USA, as the country of origin, has to provide its approval before Canada can endorse or issue a certificate.

92. The Commission asked about the scientific aspect of CNL operations during the transition period. The CNL representative responded that CNL was going forward with three missions: decommissioning, waste management, and science and technology missions for the federal government and commercial sectors. The scientific mission is associated with reinvestment and recapitalization, particularly at the Chalk River site. Since the NRU has a significant place in scientific research at the CNL and will be shut down in 2021 or earlier, discussions will have to take place and CNL will help the government to make a decision regarding future plans and alternatives. CNL expects to receive government direction regarding this issue in the near future.

93. The Commission sought more information regarding the follow-up on the Fukushima event. CNSC staff responded that CNL has completed the development of the severe accident management structure, the analysis and development of procedures, and was implementing training programs. The program is progressing as planned and is expected to be implemented by September 2015.

94. The Commission questioned ratings for the Radiation Protection SCA, particularly in light of two events that had occurred during the reporting period: the lack of transmission of the reports to the National Dose Registry and the lost tritium data for workers. CNSC staff noted that it was important to emphasize that the doses to the individuals had been investigated and kept on record at Chalk River. The local radiation protection program has been aware of doses to those individuals, and any outstanding or abnormal values would have been addressed. Reporting to the National Dose Registry is done through a separate dosimetry service licence, which is separate from the Chalk River site licence and is subject to another reporting process. Thus, the rating of the acceptability of the Radiation Protection Program was not affected by this event. CNSC staff added that there is continuing follow-up going on for the separate dosimetry services licence, with an inspection planned for March 2015. CNSC staff committed to make reference to both licences in the next annual report.

95. The Commission enquired about the benefits to CNL of periodic reviews and self-assessments. CNL representatives responded that comprehensive self-assessments are performed as part of their annual plans to obtain benchmarking information and to help identify needed improvements. The findings of those self-assessments are reviewed holistically and used for comprehensive action plans to address any systematic gaps. CNSC staff noted that

as per regulatory requirements, the licensee must conduct self-assessments, and noted that there is room for improvement in this area.

96. The Commission asked how many of the AECL staff had moved to CNL. The CNL representative responded that, on November 3, 2014, when the CNL had been operationalized as a wholly-owned subsidiary, almost all former AECL staff moved from AECL to CNL. Approximately 10 to 20 people remained within AECL. The Commission sought more information regarding the staffing of AECL. The CNL representative responded that the process was underway and that the staffing had been done with the objective to have the new AECL able to function in its oversight mode by the time of the completion of the procurement contract and the transfer of the shares to the new owner.

97. The Commission enquired about internal security and monitoring of CNL staff and contractors at the CNL sites and projects. The CNL representative described the screening mechanisms in place. The CNL representative added that CNL has a robust nuclear response force that keep CNL sites safe, several programs that support CNL site security roles, and several initiatives that are designed to increase awareness around matters of security.

Waste Management – Role of CNSC in Adaptive Phased Management (APM)

98. With reference to CMD 14-M85 the Commission decided to reschedule this agenda item. This item will be presented at the February 4, 2015 Commission public meeting.

Update on Isologic Innovative Radiopharmaceuticals Ltd.

99. With reference to CMD 14-M84, CNSC staff presented an update on the event involving the delivery of contaminated packages from Isologic Innovative Radiopharmaceuticals Ltd. (Isologic). The event was first reported to the Commission during its November 5, 2014 Meeting[2]. CNSC staff summarized the event and its potential causes, provided its assessment of the actions taken by Isologic, and informed the Commission about the actions taken by CNSC staff.

100. With reference to CMD 14-M84.1, Isologic presented their rendering of the event and provided an extensive description of their organisation, company profile, technology and product range, production flow, ordering and delivery processes, as well as regulatory work frame, quality assurance program, documented

[2] CMD 14-M74

procedures, radiation safety program and incident reporting.

101. The Commission asked about types of contamination tests applied to the packages before their delivery. A representative from Isologic responded that all packages are verified by several position wipe tests and by using a Geiger counter.

102. The Commission enquired about the sequence of events during the delivery of the packages and asked if the driver was contacted and checked immediately after the hospital staff informed Isologic that the delivered packages were contaminated. The Isologic representative responded that, typically, drivers do not have access to the production area with radioactive material. They receive packages that are verified and not contaminated. At the time Isologic received the information, the driver had already returned from the delivery. His hands had not been checked for contamination since, at that time, the manager knew of only one contaminated package. Drivers now have to pass a wipe test to make sure that they are not sources of contamination. The representative from Isologic added that they were still working on different scenarios that would logically describe why only some of the delivered packages became contaminated.

103. The Commission asked whether the CNSC had been promptly notified of all contaminated packages. CNSC staff responded that the contamination discovered the first day had been reported to Isologic, while for two subsequent days the contamination was reported directly to the driver. The representative from Isologic added that they were concerned about the number of contaminated packages, and pointed out that they had realized after the second and third event that the staff from the hospitals might have improperly calculated the level of contamination. Accordingly, one could speculate that the number of contaminated boxes was smaller than reported.

104. The Commission expressed concern about the absence of a description of the possible chain of events in the report, as well as an attempt to identify the most probable scenario, and asked for a step-by-step description of isotope production, packaging and delivery at Isologic. The Isologic representative described in detail the daily routine at the facility and pointed out the most likely step during which package contamination could occur. The Isologic representative stated that the practice they were applying in daily operations has been in place for eight years without incident or complaint, and pointed out that, on the day of the first event, about 70 other containers were delivered without any contamination. The representative from Isologic further added that, in this case, their verification of potential contamination of the driver’s hands, steering wheel, and ten other spots had not been conducted

properly, which contributed to the number of potential scenarios and speculation around them.

105. CNSC staff underlined that it has been very difficult to date, with the existing information, to draw any conclusions and to determine the exact source of and scenario surrounding the contamination. CNSC staff stated that they were still following up with McGill University Health Centre to review their procedures and their radiation safety operations, since it is possible that there could have been cross-contamination from the activities conducted at the hospital.

106. The Commission asked about contamination incidents reported since November 2014. CNSC staff responded that they had been notified of contamination at least three times by hospitals receiving packages from different suppliers. CNSC staff had verified these sites and determined that the packages had some contamination, but that the contamination was below reportable levels. Discussing potential sources of this low-level contamination, CNSC staff noted that the packages are delivered and tested in nuclear medicine laboratories where nuclear substances are already present and low-level contamination is possible. Only if a package is tested immediately at the reception, as in the case of the Royal Victoria Hospital, it could be said with more certainty that the received package was contaminated before the delivery.

107. The Commission enquired about practices at hospital laboratories and sought more information regarding potential cross-contamination of the packages. CNSC staff responded that low levels of contamination exist in the hospital laboratories, that technologists in these laboratories have difficulty calculating levels of contamination precisely and further stated that they were following up with those licensees to make sure that they do the calculations correctly.

108. The Commission asked how often this hospital had positive laboratory tests in their routine testing. CNSC staff responded that, according to procedures, laboratories are checked once per week and packages daily. It happens, on rare occasions, that working areas test positive for contamination and have to be decontaminated.

109. The Commission asked about irregularities discovered during inspection of the hospitals and improvements recommended by CNSC staff. CNSC staff responded that they have recommended that radiation safety officers (RSO) be more involved in the management of the radiation protection programs at departmental levels. CNSC staff added that the existing three departments of nuclear medicine involved in this event have three separate

procedures, operate with different instrumentation and have different responses to the events. CNSC staff have requested unification and improvement of calculation methods and their verification.

110. The Commission asked about triggers for a root cause analysis. CNSC staff responded that triggers for such analyses are linked with severity of events. In this case of contamination, a single event may not require a root cause analysis; however, the repetition of events or a higher level of contamination would be a trigger. In general, an exceedance of any regulatory limit, such as a dose rate or surface contamination, would trigger such an analysis.

111. The Commission sought more information regarding multiplication of functions and crossed lines of responsibility at some of Isologic sites, and how it might affect safety of operation. The representative from Isologic provided more details regarding Isologic's organizational structure and noted that the safety of operation is not affected since a RSO at each site has the authority to stop production if a problem arises.

112. The Commission enquired about the governance model at the McGill University Health Centre. CNSC staff responded that one licensee, McGill University Health Centre, holds the licence for the three hospitals: the Royal Victoria, the Montreal Children's and the Montreal General. Besides the site RSOs who have the full authority at each location to implement the Radiation Protection Program as necessary, there is a corporate RSO who provides overall control, ensures consistency between the sites and functions as a liaison between the organization and the CNSC. The same model is successfully applied for other licensees.

113. The Commission requests that CNSC staff provide, in the next report *Nuclear Substances in Canada: A Safety Performance Report for 2014*, the summary of inspection findings conducted during the year on the transport and handling of medical isotopes. ACTION by Fall 2015

Closure of the Public Meeting

114. The meeting closed at 15:20.

Recording Secretary — Date: FEB 1 0 2015

Recording Secretary — Date: FEB 1 0 2015

Secretary — Date: FEB 1 0 2015

APPENDIX A

CMD DATE File No

14-M75 2014-11-17 e-Doc 4578805
Notice of Meeting of December 17 and 18, 2014

14-M76 2014-12-04 e-Doc 4582007
Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on December 17 and 18, 2014, in the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario

14-M76.A 2014-12-11 e-Doc 4593930
Updated Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on December 17 and 18, 2014, in the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario

14-M76.B 2014-12-16 e-Doc 4596438
Updated Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on December 17 and 18, 2014, in the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario

14-M82 2014-12-16 e-Doc 4594440
Approval of Minutes of Commission Meeting held November 5, 2014

14-M77 2014-12-15 e-Doc 4592586
Status of power reactor units as of December 15, 2014

14-M80 2014-12-10 e-Doc 4593124
Event Initial Report – Ontario Power Generation Inc. – Leak of heavy water within containment at Unit 7 of Pickering Nuclear Generating Station on November 21, 2014 - Presentation by CNSC staff

14-M80.1 2014-12-15 e-Doc 4595973
Event Initial Report – Ontario Power Generation Inc. (OPG) – Leak of heavy water within containment at Unit 7 of Pickering Nuclear Generating Station on November 21, 2014 - Presentation by OPG

14-M83 2014-12-10 e-Doc 4593183
Event Initial Report – Cameco Corporation – Release of anhydrous hydrogen fluoride within its Port Hope Uranium Conversion Facility on November 27, 2014 - Presentation by CNSC Staff

14-M83.1 2014-12-15 e-Doc 4596003
Event Initial Report – Cameco Corporation – Release of anhydrous hydrogen fluoride within its Port Hope Uranium Conversion Facility on November 27, 2014 - Presentation by Cameco Corporation

14-M78 2014-12-10 e-Doc 4593623
Update on the activities related to the closure of the Gentilly-2 Nuclear Power Plant – Presentation by Hydro-Québec

14-M78.A 2014-12-16 e-Doc 4596400
Update on the activities related to the closure of the Gentilly-2 Nuclear Power Plant – Revised presentation by Hydro-Québec

14-M79 2014-10-10 e-Doc 4528291
Annual Performance Report, CNL's (formerly AECL) Nuclear Sites and Projects: 2013 – Written submission from CNSC Staff

14-M79.A 2014-12-11 e-Doc 4593747
Annual Performance Report, CNL's (formerly AECL) Nuclear Sites and Projects: 2013 – Presentation from CNSC Staff

14-M79.1 2014-10-23 e-Doc 4580014
Annual Performance Report, CNL's (formerly AECL) Nuclear Sites and Projects: 2013 – Written submission from the Municipality of Port Hope

14-M79.1A 2014-11-19 e-Doc 4580806
Annual Performance Report, CNL's (formerly AECL) Nuclear Sites and Projects: 2013 – Supplementary written submission from the Municipality of Port Hope

14-M79.2 2014-10-29 e-Doc 4580022
Annual Performance Report, CNL's (formerly AECL) Nuclear Sites and Projects: 2013 – Written submission from William A. Tuer

14-M79.3 2014-11-17 e-Doc 4580026
Annual Performance Report, CNL's (formerly AECL) Nuclear Sites and Projects: 2013 – Written submission from Best Theratronics

14-M79.4 2014-12-11 e-Doc 4594572
Annual Performance Report, CNL's (formerly AECL) Nuclear Sites and Projects: 2013 – Presentation by the Canadian Nuclear Laboratories

14-M86 2014-12-10 e-Doc 4593760
Event Initial Report – Canadian Nuclear Laboratories: Worker injured on B350 Construction Site – Presentation by CNSC staff

14-M84 2014-12-10 e-Doc 4593808
Event Initial Report – Isologic Innovative Pharmaceuticals Ltd. – Update concerning the event involving the delivery of contaminated packages - Written submission by CNSC staff

14-M84.A 2014-12-18 e-Doc 4592451
Event Initial Report – Isologic Innovative Pharmaceuticals Ltd. – Update concerning the event involving the delivery of contaminated packages - Presentation by CNSC staff

14-M84.1 2014-12-10 e-Doc 4593848
Event Initial Report – Isologic Innovative Pharmaceuticals Ltd. – Update concerning the event involving the delivery of contaminated packages - Presentation by Isologic Innovative Pharmaceuticals Ltd.

14-M85 2014-12-10 e-Doc 4593553
CNSC's Early Role in an Initiative for a Deep Geological Repository for the Long-term Management of Canada's Used Nuclear Fuel – This presentation was postponed to the February 4, 2015 Commission Meeting