Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held on December 9 to 11, 2013

Canada

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Monday, Tuesday and Wednesday, December 9, 10 and 11, 2013 beginning at 18:33 in the York Halls, Holiday Inn Toronto Yorkdale, 3450 Dufferin Street, Toronto, Ontario.

Present:

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

M. A. Leblanc, Secretary
L. Thiele, General Counsel
D. Carrière and S. Dimitrijevic, Recording Secretaries

CNSC staff advisors were:

G. Rzentkowski, B. Poulet, R. Jammal, A. Régimbald, K. Murthy, M. Rickard, I. Tremblay, C. Purvis, H. Rabski, P. Fundarek, S. Faille, P. Denhartog, J. LeClair, P. Elder, P. Thompson, M. Rinker, R. Buhr, A. Rupert, H. Mulye, S. Jovanovic and R. Lane

Other contributors were:

OPG

- S. Ramjist, Director of Operations and Maintenance, Darlington Nuclear Generating Station
- V. Bevacqua, Senior Manager, Fuel Handling, Pickering Nuclear Generating Station

CancerCare Manitoba

- I. A. J. Fife, Head, Radiation Protection and imaging Physics Division of Medical Physics

AREVA Resources

- T. Van Lambalgen, Vice President, Regulatory Affairs and General Counsel
- D. Huffman, Vice President, Safety, Health, Environment and Quality

Cameco

- L. Mooney, Vice President of Safety, Health, Environment Quality (SHEQ) and Regulatory Relations
- K. Nagy, Director, SHEQ, Compliance and Licensing
- D. Workman, Director, Compliance and Licensing

NB Power

- P. Thompson, Manager, Regulatory Affairs and Performance Improvement, Point Lepreau Generating Station

Ontario Ministry of Environment

- C. Charron, Supervisor, Terrestrial Assessment Unit, Environmental Monitoring and Reporting Branch

Shield Source Inc

- B. Lynch, President

SRBT

- S. Lévesque, President

Nordion

- R. Beekmans, Director, Environmental Health and Safety
- R. DeCaire, Senior Radiation Safety Officer

GE Hitachi Nuclear Energy Canada Inc.

- P. Mason, Chief Executive Officer
- Paul Desiri, Manager, Environmental Health and Safety programs and Nuclear Regulatory Officer
- Mark Ward, Manager, Fuel Operations

Toronto Public Health

- B. Lachapelle, Environmental Response Team, Healthy Environments
- R. Ayre, Manager, Healthy Environments
- K. Young-Hoon, Acting Associate, Medical Officer of Health

Constitution

1. With the notice of meeting, CMD 13-M47.A, 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 August 21 and 22, 2013, Commission Member Documents CMD 13-M47 to CMD 13-M55 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-M48.A, was adopted as presented.

Chair and Secretary

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

Minutes of the CNSC Meeting Held August 21 and 22, 2013

5. The Commission Members approved the minutes of the August 21 and 22, 2013 Commission Meeting as presented in CMD 13-M49.

STATUS REPORTS

Status Report on Power Reactors

6. With reference to CMD 13-M50, which includes the Status Report on Power Reactors, CNSC staff presented updates on the following:

   - Darlington Nuclear Generating Station (NGS) Unit 2: the unit is expected to be synchronized to the grid on December 10, 2013; and
   - Pickering NGS B Units 4 and 8: Fuelling is restored for both units and reactor power will be increased as the fuel deficit is reduced.

7. The Commission enquired about the elevated concentration of Iodine-131 in Units 1 and 2 of the Bruce NGS A. CNSC staff stated that, while the reported concentration of Iodine-131 is significantly lower than what is allowed during normal operation, it was still higher than usual. Bruce Power is conducting investigations to locate the fuel channel containing the damaged fuel which is causing increased Iodine-131 levels. CNSC staff reported that, once the channel is located, Bruce Power will replace fuel contained within that channel with new fuel. CNSC staff explained the two possible reasons for this event and further stated that Bruce Power will report the findings of their root cause analysis and a plan of the corrective measures to the CNSC.

8. The Commission requested additional information on the seal oil releases from the Darlington NGS Unit 1 and Pickering NGS Unit 5 generator heat exchangers. A representative from OPG explained that the seal oil leaks were discovered during routine sampling and that the Ministry of the Environment was notified of the events. He stated that OPG verified, through follow-up sampling, that the releases of seal oil did not have significant effects on fish or the environment. Furthermore, the representative from OPG reported that both events were not connected since the two stations have different heat exchanger designs. The representative from OPG confirmed that the issue was rectified and that sampling frequency was increased for all the units at both stations.

9. The Commission enquired about the sensitivity and applicability of the trout toxicity test which was used to determine that the seal oil releases did not result in violations of the *Fisheries Act*[1]. CNSC staff explained the Trout Acute Toxicity Test and stated that, based on its results, there was no consequence to fish from the seal oil releases.

10. With regards to the accidental releases of chemically treated water from the heating system of an auxiliary building on the site of the Gentilly-2 NGS, the Commission enquired about the event, and about the volume and chemical concentration of a heating system water release that would require reporting according to the regulatory standard S-99[2]. CNSC staff responded that the releases of approximately 100 litres each of heating water containing low concentrations of a commercial chemical called "Coreshield" occurred at two separate locations within the heating system in an office building on the site. CNSC staff explained that reporting under the requirements of S-99 does not only depend on the release volume and concentration, but also on the type of chemical and location of the release into the environment. CNSC staff also explained that the CNSC determines if a release requires to be reported under S-99. CNSC staff stated that Hydro-Quebec was not required to report this event under the requirements of S-99 because the release did not have a significant effect on the environment.

11. The Commission enquired about the status of Hydro-Québec's plan for the permanent shutdown of the Gentilly-2 NGS and asked if Hydro-Québec had met all of the CNSC requirements for the permanent shutdown of the station. CNSC staff responded that a lot of work had been completed to date, but that the timeline and permanent shutdown plan were not yet completed. CNSC staff explained the current status of Hydro-Québec's operations at the Gentilly-2 NGS and stated that they continue to have strict oversight over all activities at the Gentilly-2 NGS.

Event Initial Report (EIR)

New Brunswick Power Corporation: Release of Light Water Containing Hydrazine from the Point Lepreau Generating Station

12. With reference to CMD 13-M53, CNSC staff presented information regarding the release of light water containing hydrazine from the Point Lepreau Generating Station. CNSC staff reported that there was no environmental risk resulting from this release and that New Brunswick Power Corporation (NB Power) is

[1] Revised Statutes of Canada (R.S.C.), 1985, chapter (c.) F-14
[2] CNSC Regulatory Standard S-99: Reporting Requirements for Operating Nuclear Power Plants, March 2003

conducting a review of this event to identify and correct the cause(s). CNSC staff also reported that it is satisfied with NB Power's investigations and corrective actions to date to stop the leak and prevent future releases to the environment. Representatives from NB Power agreed with CNSC staff's description of the event.

13. CNSC staff noted missing text in the EIR and added the following correction to the section *Impact of the Event on People*:

    "Hydrazine can be harmful to human health when exposure occurs via inhalation or ingestion. There were no hydrazine exposures to workers or the public as a result of this release because the hydrazine dissipates quickly when exposed to air".

14. The Commission asked when the hydrazine release was first observed. A representative from NB Power responded that they discovered the release through their daily sampling on November 3, 2013.

15. A representative from NB Power provided the Commission with an explanation of the event through the simplified system diagram presented in the EIR.

16. The Commission asked why the pumps in sumps #6 and #7 failed to operate during the event. The representative from NB Power responded that they did not perform preventative maintenance on the sump pumps prior to the event and that maintenance orders were given low priority relative to other plant equipment. The pumps were waiting to be serviced. The representative from NB Power stated that they now recognize the importance of the sump pumps. In response to a question from the Commission regarding CNSC inspection requirements for these pumps, CNSC staff stated that the system is a conventional system and that their focus, at the time of the event, was on the oversight of nuclear systems as NB Power was returning the reactor to service following a maintenance outage.

17. The Commission asked if this type of event had occurred in the past. The representative from NB Power stated that this had never occurred in the past. The representative from NB Power reported that they are currently completing their final investigation and have completed a number of actions to prevent recurrence.

18. The Commission requested a follow-up of the event once the root cause analysis is complete. ACTION by February 2014

Cancer Care Manitoba: Exposure Above Regulatory Limit of a Non-Nuclear Energy Worker at Cancer Care Manitoba

19. With reference to CMD 13-M54, CNSC staff presented information regarding the exposure above the regulatory limit of a non-nuclear energy worker (non-NEW) at Cancer Care Manitoba. CNSC staff stated that the licensee's investigation was unable to identify with certainty any specific incident or event that could have resulted in the dose reading of 1.26 millisievert (mSv), which is above the annual dose limit of 1 mSv per year for workers not meeting the definition of nuclear energy workers or members of the public. CNSC staff stated that the investigation and actions already taken and/or proposed by the licensee were deemed to be appropriate and sufficient. CNSC staff also stated that it is likely that the dose of 1.26 mSv was non-personal. The worker had reported that her dosimeter had fallen off during patient treatment.

20. The Commission enquired about the method used to affix dosimeters onto employees at Cancer Care Manitoba. A representative from Cancer Care Manitoba described the three methods currently used. The representative stated that other employees are still allowed to wear their dosimeter using any of the three methods. He stated that Cancer Care Manitoba continues to review other fixing mechanisms supplied by its dosimetry provider.

21. The Commission enquired about the delay between the exposure period and the incident reporting, and questioned whether that time lag is appropriate. The representative from Cancer Care Manitoba responded that they have quarterly monitoring periods and that it takes a few weeks before they receive monitoring results after the dosimeters are submitted to the dosimetry provider to be read. CNSC staff added that the amount of time it takes to receive the reports depends on the arrangement between the licensee and its dosimetry provider. CNSC staff explained the regulatory requirements and noted that dosimeters for workers at Cancer Care Manitoba are read only quarterly because there is a low potential for exposure at this facility. If there is suspicion of dose to an employee, the licensee can request an urgent reading of the dosimeters.

22. The Commission asked why employees at Cancer Care Manitoba are not classified as Nuclear Energy Workers (NEWs). The representative from Cancer Care Manitoba stated that they have chosen to not classify their employees as NEWs because there is a very low probability of receiving a dose above the public dose limit due to the nature of the work. CNSC staff added that Cancer Care Manitoba chose to use a licensed dosimetry service to ascertain worker doses, although not required under the regulations. CNSC staff stated that a NEW designation is not required for workers of

Cancer Care Manitoba based on the design of its facility and the expected doses to workers. CNSC staff explained that the NEW designation is given to workers with a reasonable probability of meeting or exceeding the 1 mSv/year public dose limit and stated that doses read by licensed dosimetry services are automatically registered in the National Dose Registry (NDR).

23. The Commission asked if the licensee will monitor this worker any differently than its other workers. The representative from Cancer Care Manitoba stated that they have not implemented a different monitoring strategy for the affected employee other than submitting her dosimeter for analysis for the monitoring period immediately following the monitoring period that resulted in an elevated dose. The employee returned to her normal duties following the investigation into the event.

24. The Commission asked if the affected employee worked in brachytherapy during the period in question. The representative from Cancer Care Manitoba stated that the employee worked in a linear accelerator area and was removed from being scheduled to work in the brachytherapy area when this event occurred. CNSC staff explained that the dose records in the NDR do not distinguish between doses received from linear accelerators and brachytherapy. CNSC staff stated that they expect non-zero doses for workers in brachytherapy due to the nature of the work.

INFORMATION ITEMS

Nuclear Substances in Canada: A Safety Performance Report for 2012

25. With reference to CMD 13-M52, CNSC staff presented its annual report for 2012 on the safety performance of licensees using nuclear substances in Canada. The report provides information on four CNSC-regulated sectors (medical, industrial, academic and research, and commercial) that include 2,513 licences and an estimated 40,000 nuclear energy workers. The presentation also provided an overview of the core processes applied in regulating the use of nuclear substances in Canada.

26. With regards to radiation dose limits set by the CNSC, the Commission asked if CNSC staff will revise dose limits to encourage better performance by the industry in the radiation protection safety and control area. CNSC staff responded that radiation dose limits are chosen based on radiological risk and operational limits and stated that the current dose limits ensure the safety of the public and of workers. CNSC staff explained that it consults international organizations expert in this matter and continually reviews new science that may suggest lowering or

increasing the dose limits. CNSC staff emphasized that various levels of control are set out in licences, such as administrative limits and action levels, which are constantly reassessed to ensure doses to the public and to workers are ALARA[3].

27. The Commission asked if any nuclear energy worker had approached the five-year radiation dose limit of 100 millisievert (mSv). CNSC staff responded that no one had exceeded the 100 mSv dose limit but that one person had received 75 mSv, which is believed to be non-personal but remains on the individual's dose record. CNSC staff stated that it evaluates each case individually using the regulations and that doses are only removed from an individual's dose record if there is very strong evidence that the dose was to the dosimeter only and not to the person.

28. The Commission asked if this annual report is shared with other nuclear regulators and if there are opportunities for benchmarking. CNSC staff responded that the report is published on the CNSC website but that it is only provided to interested parties upon request. CNSC staff explained that the United States of America is the only other country to provide regulatory control over the same types of sectors as presented in this report, but that it does not publish as comprehensive a report as the CNSC. Therefore, benchmarking is not possible, with the USA for example, because the two regulators do not publish the same type of information.

29. In response to a question from the Commission regarding public consultation for the annual report, CNSC staff stated that, due to the large number of licensees, meaningful consultation within the current publication timeframe would be difficult. CNSC staff also stated that it had received comments and suggestions for improvement of past annual reports. CNSC staff stated that it will consider public consultation for future reports.

30. The Commission enquired about nuclear substances that are stolen because the transport containers are mistakenly thought to contain expensive construction tools. CNSC staff described the events, as well as security and labelling requirements. CNSC staff stated that the target is most often the truck or the transportation case itself and that the sources are normally discarded by the thieves once they are discovered as being radioactive. The Commission requested that the CNSC provide the number of lost and stolen substances or devices, along with how many were recovered, over the last five years.

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[3] ALARA: As low as reasonably achievable, social and economic factors being taken into account.

31. With regards to the commercial sector, the Commission enquired about the performance of the servicing subsector and asked how the CNSC plans to improve it. CNSC staff attributed the drop in performance of the servicing subsector to the type of inspections performed by the CNSC that has changed from desktop reviews to field inspections. CNSC staff described some of the non-compliances they had found, which were mostly administrative in nature and did not pose a safety risk to people or the environment. CNSC staff reported that licensees in the servicing subsector need to improve supervision of workers to ensure they follow procedures and work safely. CNSC staff stated that it is being more aggressive with licensees' responses to non-compliances by considering issuing administrative monetary penalties (AMPs) for poor licensee response to non-compliance issues.

32. In response to a question from the Commission regarding unacceptable operating performance in the medical sector, CNSC staff gave examples of two scenarios: one considered as unacceptable and the other considered as being below requirements. CNSC staff stated that licensees would be required to correct non-compliances in both examples, regardless of their safety significance; an unacceptable rating is only given to events with higher safety significance. CNSC staff stated that they will review the performance rating system used for reporting the safety performance of licensees using nuclear substances in Canada in order to remove ambiguities that may arise from the use of the term in the nuclear power reactor sector. The Commission stressed that the number of unacceptable ratings is of concern, particularly in the medical sector where members of the public are most at risk. CNSC staff noted that follow-up was done with some hospitals to discuss actions to be taken to correct non-compliances and improve programs. CNSC staff also noted that several non-compliances are administrative in nature.

33. The Commission commented that the report does not differentiate doses received in the medical sector by the type of work. The Commission suggests that data in this sector be grouped differently to better expose trends. CNSC staff acknowledged the Commission's observation and stated that it will consider the suggestions in future annual reports.

34. The Commission enquired about the classification of radiation workers. CNSC staff explained why some licensees choose to identify their employees as Nuclear Energy Workers when it is not required. The CNSC does provide guidance to licensees with respect to how they record the dose and classify their workers. In addition CNSC staff stated that it has specialists to review licensees' radiation protection programs in order to ensure that the measures in place are appropriate and necessary.

35. The Commission enquired about event reporting and asked why the number of events in each sector has increased over the years. CNSC staff responded that its outreach activities are raising awareness with respect to reporting and that licensees have a better understanding of their obligation to report events. CNSC staff stated that the nature of event reports is a clear indication that licensees are reporting as per requirements. CNSC staff added that it often receives information from other licensees or the public regarding events; therefore licensees are not only being monitored by the CNSC, but also by the industry and the public.

36. The Commission asked if reported events are characterized by their potential risk. CNSC staff stated that it publishes information regarding the significance of the risk associated with reported events of lost and stolen sealed sources on the CNSC website, and that it will consider adding this information in future annual reports for all events.

37. The Commission enquired about the role of Natural Resources Canada (NRCan) in the certification of exposure device operators. CNSC staff responded that the designated officers certify exposure device operators and control the criteria for becoming certified by the CNSC. CNSC staff stated that NRCan is strictly the administrator of the examinations, which are developed by the CNSC, and that all results are reviewed by the CNSC to decide on certification. CNSC staff provided additional information regarding the certified exposure device operator certification program.

38. The Commission expressed its satisfaction with the thoroughness of the 2012 report and looks forward to the 2013 report.

<u>CNSC Staff Report on the Performance of Uranium Fuel Cycle and Processing Facilities: 2012</u>

39. With reference to CMD 13-M51, CNSC staff presented its annual report on the performance of uranium fuel cycle and processing facilities in 2012 (the Report). The Report contained four parts that included the following:

    - Part I: Uranium Mines and Mills;
    - Part II: Uranium Processing Facilities;
    - Part III: Nuclear Substances and Processing Facilities; and
    - Part IV: Nordion (Canada) Inc.

40. CNSC staff provided a separate presentation on the performance of the General Electric Hitachi Nuclear Energy Canada (GEH-C) operations, Fuel Bundle Facility in Peterborough and Pellet Facility in Toronto, in response to the observed public interest.

41. In the Commission's *Notice of Participation at a Commission Meeting*, published on October 22, 2013, the public was invited to submit in writing their comments on this meeting item. To allow more expansive public participation regarding the GE Hitachi facilities, members of the public who have submitted written comments were able, upon request, to make oral presentations.

42. The Commission made a number of editorial comments on the Report, including recommendations for inclusions of some further information.

Uranium Mines and Mills

43. CNSC staff informed the Commission about the site status and the performance of the following uranium mines and mills:

    - Cigar Lake Project (mine);
    - McArthur River Operation (mine);
    - Rabbit Lake Operation (mine and mill);
    - Key Lake Operation (mill); (all of them operated by Cameco Corporation (Cameco)), and
    - McClean Lake Operation (mill), operated by AREVA Resources Canada (AREVA).

    CNSC staff noted that all operating mines and mills had been the subject of detailed licensing and compliance reviews during the period October 2012 – October 2013.

44. Cameco representatives commented on the Report and stated that it reflects the information presented during the relicensing processes for these facilities in 2013.

45. AREVA representatives stated that they support the findings presented in the Report.

46. The Commission enquired about the compliance and performance of uranium mines and mills compared to other mining sectors. CNSC staff responded that the CNSC, Environment Canada and Natural Resources Canada had studied the environmental performance of all the mining sectors in Canada. The obtained results indicate that the sectors that are regulated fairly stringently, namely uranium and gold mining sectors, have very stringent regulations and are better performers than other sectors of the mining industry.

47. The Commission enquired about categorization of environmental spills. CNSC staff responded that both Cameco and AREVA have rating systems to categorize different environmental incidents and noted that CNSC staff works with these companies on establishing a common system so that such categorization could be introduced into the next annual report.

48. The Commission further asked about reportable spills that had occurred at McClean Lake and sought more precision in their ratings. CNSC staff noted that the spills did not result in significant impacts to the environment and that the industry uses a rating system to categorize the events. CNSC staff added that they will start using a similar rating system in the upcoming year.

49. The Commission asked about measures taken by the industry to reduce these kinds of events. The Cameco and AREVA representatives responded that they have similar procedures and that their corrective action process is critical in identifying safety issues and reducing the number of incidents. CNSC staff noted that the corrective action process is based on the existence of a database that would identify the event and then record the implemented corrective actions. CNSC staff reviews that database and inspects the events to asses the effectiveness of corrective actions.

50. The Commission asked about large variations in reported concentrations of different contaminants in effluents released to the environment, although all values were well below the licensed discharge limits. The representative from Cameco and CNSC staff explained that such variations could be expected when the measured values are very small and fall below detection limits.

51. The Commission enquired about sampling density and the methodology of averaging and reporting the results of environmental monitoring. The Cameco representative responded that they report on their effluent performance on an individual site-basis, based on the Environmental Effects Monitoring program requirements established by Environment Canada and their own environmental monitoring programs that are reviewed and accepted by the CNSC. CNSC staff explained that the monitoring requirements for each of the different points of discharge had been established on the basis of the characterization of the effluent and the stability of that effluent.

52. The Commission sought more information regarding action levels calculation and setting for molybdenum (Mo) and selenium (Se). CNSC staff responded that the CNSC has introduced controls by using action level as a point of reference and by requiring that licensees put enhanced controls for molybdenum and further reduce its concentrations in effluents. These measures had resulted in a significant reduction of amounts of these elements released into the environment.

53. The Commission asked about radiation exposure of workers and doses received. CNSC staff stated that all action level exceedances had been reported and that they had verified the reported doses received by the workers.

54. The Commission further asked about radon concentrations in northern Saskatchewan. CNSC staff responded that the document *Radon in Health*, posted on the CNSC's web site, provides information on radon levels in the mines, within the mine sites and at a distance from the mine sites. This document also includes radon levels in underground mines, as well as radon levels in homes, taken from Health Canada reports.

Uranium Processing Facilities

55. CNSC staff informed the Commission about the performance of the following uranium processing facilities operated by Cameco:

    - Blind River Refinery (BRR);
    - Port Hope Conversion Facility (PHCF); and
    - Fuel Manufacturing Inc. (CFM).

    The details of CNSC staff's report on performance of GE Hitachi Canada's (GEH-C) fuel fabrication facilities in Peterborough and Toronto were provided in a separate presentation, while general performance information was provided here for comparison with other uranium processing facilities.

56. CNSC staff presented the 2012 performance ratings based on the results and observations from inspections, compliance activities and licensing activities. All of the uranium processing facilities received at least a satisfactory rating in all safety and control areas, including conventional health and safety, radiation protection, and environmental protection.

57. The Cameco representative informed the Commission about their communication with the neighbouring communities and stated that, according to their public opinion research conducted in May 2013, the majority of Blind River area and Port Hope are supportive of their uranium processing operations in these communities. The Cameco representative added that their Blind River Refinery had achieved seven years without a lost time incident, while Cameco Fuel Manufacturing reached two years, and the Conversion Facility reached over a year without a lost time incident.

58. In its intervention (CMD 13-M51.17), Northwatch commented on parts of the Report related to the Blind River Refinery. Northwatch noted disparities between the data on reportable action level incidents presented in the Report and those from the Cameco's 2012 Annual Performance Report. Northwatch expressed concerns regarding radiation effects on workers and on the environment, reporting on soil sampling and related monitoring results, as well as lack of details regarding waste management.

59. The Commission sought more information about action level exceedences and exposure to workers and enquired about potential impact of these events on public confidence in dosimetry programs. The Commission also enquired about methods applied for dose calculation. CNSC staff provided details about dosimetry programs and explained that, after a period when the principal effort was to ensure that all licensees have appropriate protection programs and procedures implemented and embedded in their management systems, the CNSC actions are currently focused at inspections and outputs of these programs.

60. CNSC staff reiterated that none of the events had resulted in workers' exposures above regulatory limits and provided details regarding their oversight and described the actions they had taken to address each of these reportable events.

61. The Commission asked about differences between licensed and non-licensed dosimetry. CNSC staff provided details on legal requirements for licensed dosimetry service providers and the regulatory oversight. CNSC staff explained that, according to a requirement in the *Radiation Protection Regulations*[4], if a worker may exceed 5 mSv/y, a licensee should use a licensed dosimetry service provider. If doses to workers were expected to be lower than 5 mSv/y, the radiation protection program does allow for dose calculations to be done within this program and not as part of a licensed dosimetry service.

62. The Commission sought more information regarding the average individual internal dose at the Blind River Refinery showing a five-year maximum during 2012, which had not been adequately discussed in the Report as noted by the intervenor Northwatch. CNSC staff responded that the facility had been inspected six times in 2012, and that the observed doses were within the range of normal fluctuations for that facility.

63. The Commission sought more information on releases to the environment and asked about soil sampling and monitoring results around the Blind River facility. CNSC staff responded that CNSC collected samples in September 2013, that the collected data were analyzed and that the results will be published upon completion of the report.

64. CNSC staff added that the Ontario Ministry of Environment (MoE) had collected samples in 2012, and that their report was not yet completed.A representative from the Ontario MoE confirmed that they had collected soil samples in the vicinity of the Blind River facility in 2012 and stated that a draft report was in the process of being finalized.

[4] S.O.R./2000-203

65. The Commission enquired about a radioactive leak under the building at the Port Hope Conversion Facility. CNSC staff responded that the leak from the building had been eliminated; however, after that remediation was completed, some contaminated soil still remained as potential source of contamination. In order to prevent further releases to the environment from that source, Cameco had installed groundwater capture wells as a temporary solution. CNSC staff added that they were collaborating with the MOE, Environment Canada and Cameco and that further remediation measures would be focused on eliminating the source of contamination by removing this contaminated soil.

66. Cameco representatives added that a site-wide risk assessment had been completed and updated after the leak incident, and it had been determined that there was no risk posed to the public. Results of monitoring samples from over 100 monitoring wells, located throughout the facility, show that there were no additional leaks from the buildings at the site.

67. The Commission enquired about waste management at the Blind River facility, and Cameco's intention to add combustible wastes from its Cameco Fuel Manufacturing (CMF) facility to those already being incinerated in Blind River, which had not been mentioned in the Report. Northwatch, in its intervention, suggested that such operation change warrants a licence amendment. CNSC staff responded that the facility has an incinerator that, besides incineration of waste produced at the facility, receives combustible waste from the Port Hope conversion facility. CNSC staff added that Cameco's intention to also add wastes from the CMF has not been realized until this date because the necessary regulatory reviews were not completed. Consequently, this issue was not included in the Report for the year 2012. A licence amendment would be required if the incineration process involves substantial changes, or if the volume of combustible wastes exceeds the limits established by the current licence.

Nuclear Substance Processing Facilities

68. CNSC staff informed the Commission about the performance of the tritium processing facilities SRB Technologies (Canada) Inc. (SRBT) and Shield Source Inc. (SSI).

69. The Commission asked whether CNSC staff had performed a root cause analysis of its regulatory actions regarding SSI and underreporting of its emissions. CNSC staff responded that lessons learned analysis was initiated but not completed, due to the decision by SSI to discontinue operation and commence clean-up activities. Under these circumstances, CNSC had shifted its focus to ensure that the facility is cleaned up appropriately. CNSC staff stated that they intend to complete this analysis and report back to the Commission.

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70. The Commission asked SSI to comment on the adequacy of their financial guarantee, and sought more information about contaminated waste and its removal from the site. SSI representatives responded that the decontamination was not yet completed, but they were well within the funds put aside into an escrow fund. They added that unused tritium from the site had been transferred to another facility, and other contaminated wastes had been packaged according to regulations and sent to Chalk River for long term storage and disposal. CNSC staff intends to publish the results of contamination measurements that show the status of the building.

71. The Commission enquired about different models for public dose calculations and comparability of applied models. CNSC staff explained the origin of a different approach applied by SSI and noted that there is the CSA standard for the calculation of public dose that is used throughout the industry. Due to some monitoring results that were higher than estimated by the model, SSI had switched to use direct environmental monitoring results instead of model predictions.

72. The Commission noted that SRBT had significantly improved its performance and sought more details on CNSC staff's verification of SRBT test results. CNSC staff explained that there are several levels of verification, starting with quarterly and annual reports, and followed by routine inspections and monitoring around the facility, performed by both CNSC staff and a third party. The SRBT representative provided details on the monthly environmental measurements performed by AECL around the facility.

Nordion (Canada) Inc.

73. CNSC staff informed the Commission that there were no regulatory concerns regarding Nordion (Canada) Inc. (Nordion) since relicensing in 2005, and that enhanced security measures at the site had resulted in improved performance.

74. A representative of Nordion expressed the company's satisfaction with CNSC staff's presentation and supported the Report.

75. The Commission commended Nordion on its performance and enquired about radiation doses monitoring and tasks leading to the largest possible exposure. Nordion representatives responded that the shipment of cobalt-60 is the task associated with the highest exposure at the facility, and stated that the group of workers responsible for this activity were under the closest watch for the purpose of dose management in accordance with the ALARA principle. The Nordion representative also described the monitoring in place to assess internal doses to workers. CNSC staff added that the same area was also under their highest scrutiny.

76. The Commission sought more information about releases to the environment and asked Nordion to comment on reported slight increase in releases during 2012. Nordion representatives attributed changes in their releases mainly to variations related to concentration of iodine-131. Nordion representatives noted that the releases had improved with the introduction of a new processing facility.

77. The Commission asked about limits for releases to municipal sewers. CNSC staff explained procedures for establishing these limits, and Nordion representatives stated that waters coming out of the processing facilities are held in delay tanks and measured before being released to municipal sewers. Results of these measurements, as well as monthly reports, are regularly sent to the City of Ottawa.

78. The Commission enquired about the security of shipment of radioactive material to Nordion's customers. The Nordion representative responded that all shipments of radioactive isotopes, such as cobalt, are made in accordance with all security requirements as defined by the CNSC and the regulators of the destination country. CNSC staff added that its regulatory role is to confirm that a recipient country has the capacity to manage all aspects of international transport of such material. CNSC staff noted that all radioactive sources manufactured around the world are included in the database of the International Atomic Energy Agency (IAEA). IAEA can provide necessary support to a national authority, which holds responsibility for the safety of radioactive sources transferred through its jurisdiction.

General Electric Hitachi Nuclear Energy Canada

79. CNSC staff presented its report on the performance of General Electric Hitachi Nuclear Energy Canada (GEH-C) operations in Peterborough, Fuel Bundle Facility, and in Toronto, Pellet Facility. This report included a performance review of these two facilities in 2012.

80. GEH-C presented a company and site overview, and informed the Commission about their environmental and safety performance, results of their soil sampling, emergency preparedness, transportation safety and public information program.

81. The Commission considered 87 oral and written public interventions related to the safety of GEH-C operations, most of which were dealing with potential impact of the Toronto facility. In the great majority of interventions the public expressed concerns regarding health risks related to potential air pollution and soil contamination either by regular releases or by accident. The

intervenors expressed concern regarding the location of the facility, which is situated in a densely populated area, and with associated risk caused by transporting radioactive material through this area. Several intervenors suggested relocation of the facility.

82. Many intervenors asked for additional information concerning specific issues such as public information, release limits and health impact to workers and members of the surrounding community; identification of third parties who had conducted independent verification of emissions from the facility; and details about insurance against severe accidents within the facility, including the name of the insurer and amounts of coverage. The intervenors also asked about the amount of radioactive waste produced at the facility.

Public Information

83. A number of intervenors complained about GEH-C's ineffective public information program and lack of informed public participation during the previous licensing procedures. They suggested relicensing of the facility through a procedure that would include more effective public participation.

84. The Commission extensively enquired about the adequacy of GEH-C's public information program, its implementation and about efforts GEH-C is making to ensure that the neighbouring community is adequately informed on safety aspects of the facility's operation. CNSC staff informed the Commission that, at the beginning of the relicensing process in 2010, CNSC staff had not been satisfied with the existing public information program, and had requested that GEH-C improve the program to meet the CNSC requirements. During the relicensing process, GEH-C submitted its modified program, which was reviewed by CNSC staff and found to be satisfactory. The Commission had been satisfied that the program meets all regulatory requirements. CNSC staff had committed to monitoring the implementation of the program and to annual reporting to the Commission. Findings of CNSC staff were included in this 2012 Report.

85. CNSC staff added that, in order to monitor the implementation of the program, they had requested that GEH-C provide quarterly reports on program implementation and realisation of activities encompassed by this program.

86. The GEH-C representative provided more details regarding their engagement with the community. They stated that, during the last year, GEH-C had organised 14 public meetings and tours with residents and meetings with elected officials. They pointed out the important role of the Community Liaison Committee and said that

there were three community liaison meetings. In addition, GEH-C participated in three external meetings on the subject of their facility, held two open houses and organized a facility tour for the media. GEH-C representatives added that they had direct communications with local residents via mail-out of a community postcard, a newsletter, and through the company's toll-free information line, e-mail and website.

87. The Commission enquired about GEH-C's assessment of the effectiveness of their public information activities and asked if GEH-C contemplates a public opinion survey in the future. GEH-C representatives responded that they would consider such a survey. **ACTION by December 2014**

Location of the facility and its impact on the surrounding communities

88. The Commission sought more information regarding the Toronto facility's location and zone boundaries in the surrounding community. CNSC staff responded that such a facility must demonstrate that it meets all the safety requirements at the fence line and that it is in compliance with the municipal regulations, including being appropriately zoned for specific industrial use. GEH-C representatives stated that the Toronto facility had been operating for more than 50 years at the same location that was initially a fully industrial zone. GEH-C representatives explained that the facility has currently three zonings; the zoning of the plant itself is industrial, the railway is commercial and all areas around it are zoned residential.

89. Representatives from Toronto Public Health noted that the problem of industrial facilities situated in densely populated neighbourhoods, and associated risks, have become frequent with the ongoing land-use changes and growth of residential areas around existing industrial facilities.

90. The Commission enquired about the safety impact of the plant operation on the surrounding community and potential risks to public health. Representatives from Toronto Public Health responded that all facilities report to them which substances are in use and what their emissions are. They stated that they have been aware of this facility for a number of years, and that they receive annual reports and environmental monitoring reports from GEH-C. The review of these reports did not indicate that there were health risks to the community.

91. Representatives from Toronto Public Health added that they are monitoring the air quality and use a ChemTRACK program to track chemical contaminants present in Toronto's air. The program tracks "priority substances" prioritized by their toxicity and prevalence in Toronto's air. They noted that uranium was not

included in the priority substances because its documented concentration in air is not at the level that would be considered a concern.

92. Some intervenors expressed concerns regarding health impacts of, and monitoring for, alpha radiation. The Commission asked for more information on this topic and on the methods for measurements of alpha radiation emissions. The Toronto Public Health representative explained that the main health hazard effect from uranium is from the chemical toxicity on kidneys, and not from radiation effects. CNSC staff added that some of the uranium is deposited on the soil, and confirmed that ingesting uranium does not result in radiation hazard but has a potential effect on the kidneys. CNSC staff noted that the uranium used in this facility has been purified from other alpha emitters such as radium and polonium. The GEH-C representative explained the methods used for monitoring alpha radiation in the air and on surfaces in the facility and noted that the monitoring results are posted on the company's website.

Air emissions and soil contamination

93. CNSC staff identified McMaster University as a third party who had conducted the independent verifications of air emissions from the GEH-C facility. GEH-C representatives added that they have also a commercial arrangement with another company for independent verification of their measurements.

94. The Commission sought more details regarding public availability of the results of conducted measurements, and asked about fluctuations and reporting on extreme values together with average ones. The GEH-C representative stated that the results of all third-party verifications are publicly available, and committed to continue to make publicly available the results of their measurements, including average and maximum values, as well as the results of third party measurements.

95. The Commission sought additional clarification regarding measurements related to soil contamination raised by some intervenors. In a supplementary submission received after the closure of the meeting, the intervenor from SENES Consultants provided more details regarding possibility and effects of spatial variation in readings, correlation between uranium concentration in soil and alpha-particles contamination in air, and health risks associated with airborne uranium. The Commission further enquired about consistency between the CCME/MOE standards for uranium in air and uranium in soil and other international standards. The intervenor responded that there are only a limited number of soil standards available in the international community

and that the CCME/MOE standards are consistent with the reported values that are not more restrictive. The intervenor also stated that, after consulting studies by various government agencies and reviewing most of the published peer reviewed literature on epidemiology and toxicology associated with uranium, the methods and data used by the agencies to determine the impact of uranium on the residents of the surrounding community, were appropriate.

96. Representatives from the Canadian Nuclear Association noted that recent measurements of soil samples at the plant and adjacent properties, done by CNSC staff and MoE, had shown that uranium concentrations were consistently close to the level observed naturally in soil throughout Ontario. With respect to a well defined, narrowly localized site within the commercial zone that is known to show contamination close to the upper limit of the commercial property guideline, GEH-C representatives stressed that the contamination was still low and does not require immediate action. However, GEH-C monitors closely the level of contamination and will take as an action item to clean-up this area. Since this area is located at the facility's fence, the owner of the neighbouring property needs to be involved in the process.

ACTION by December 2014

97. GEH-C described their actions to protect public health and minimize the impact of their operations to the surrounding community. GEH-C representatives explained that their environmental and public health protection was based on multi-layered protective measures that include several limits such as regulatory, discharge, action and control limits. Actual performance is always kept lower than the conservative control limit and other limits that progressively trigger specific protective actions. All these limits are much lower than regulatory limits prescribed by CNSC and defined in the facility's operation licence.

98. The Commission sought more information about limits established for air emissions, effluents, soil contamination and radiation exposure. CNSC staff explained that limits have been established through a long process and after extensive, world-wide studies of effects of radiation exposure, including cumulative effects, on the health of living organisms. The results of these studies have been used to establish regulatory limits that were set well below radiation levels that had been documented to cause observable health effects. These limits are set for releases, contamination, and doses to workers and members of the public. These limits were established encompassing all radiation sources, external and internal, including alpha, beta and gamma emitters. All other action and control levels have been set much lower for internal, preventive alerts, each one at a fraction of the regulatory limit.

Transportation of radioactive material

99. The Commission enquired about regulatory oversight regarding transportation and packaging of uranium-containing shipments to and from the facility. CNSC staff explained that the oversight is based on CNSC's *Packaging and Transport of Nuclear Substances Regulations*[5], and the *Transportation of Dangerous Goods Regulations*[6] from Transport Canada. In addition to that, each province has its own regulations that make reference to the *Transportation of Dangerous Goods Regulations*. CNSC staff added that licensees are required to have an emergency response assistance plan developed for those shipments. GEH-C has a plan that has been approved by Transport Canada to deal with those shipments if there was an accident.

Emergency planning, liability and insurance

100. The Commission asked about emergency planning regarding risks associated with uranium shipments. CNSC staff stated that GEH-C has a risk assessment of the facility, and has in place the emergency response plan that includes a number of probable scenarios with defined equipment, requests for first responders and other needs for mitigation of potential events. The GEH-C representative added that their emergency response plan is available to the public and is posted online; however, their action plan is not posted on line but is filed with Transport Canada. The GEH-C representative stated that the information regarding their emergency plans, excluding those parts that are protected according to CNSC regulations for security reasons, could be posted on the company's website.

101. The Commission directs GEH-C to post the emergency response plan on its website (excluding the protected sections), and to consider other means to inform the local community about this plan. The Commission also directs CNSC staff to report on the status of this action item during the 2013 DNCFR annual report, planned to be presented in approximately December 2014.

ACTION by December 2014

102. One intervenor expressed concerns regarding emergency management for the facility. After the closure of the Meeting, the Commission sought additional information about other aspects of emergency planning, such as regulatory requirements, integration with Emergency Management Ontario (EMO), and communication of GEH-C's emergency plans to the community. CNSC staff responded in writing that GEH-C must maintain and implement a program for emergency preparedness to address on-site and off-site events that could affect the facility. GE-Hitachi meets these

[5] SOR/ 2000-203
[6] SOR/ 2001-286

requirements, has the emergency response plans and the necessary resources, trained staff, facilities, and mutual aid arrangements with off-site response organizations (e.g., the Toronto Fire Department). The GE-Hitachi Emergency Preparedness and Fire Prevention Plan is an all-hazards response plan that addresses all emergency categories identified for the GE-Hitachi facility, including events involving fire and radiological/nuclear material, as well as other postulated emergencies at the facility and external events (such as a train derailment).

103. CNSC staff added that GEH-C emergency plans are well aligned with the Ontario *Provincial Nuclear Emergency Response Plan* (PNERP) – Master Plan 2009, and the *Implementing Plan for Other Radiological Emergencies* – May 2011. The EMO and GE-Hitachi emergency plans relate one to the other, and clearly describe the roles and responsibilities of each organization with respect to emergency preparedness and response. GEH-C emergency plans are communicated to the City of Toronto and the Toronto Fire Department and Emergency Medical Services, which participate regularly in GE-Hitachi facility drills and exercises. Also, the City of Toronto has a public alerting system in place to inform the residents of the appropriate protective actions that they must take in response to any given emergency situation.

104. With respect to intervenors' questions regarding GEH-C's liability and details about their insurance, CNSC staff stated that, in the case of accidents, a licensee is responsible for cleaning and remediation, as well as liabilities associated with an accident, regardless of its insurance. Such clean-up must be done in accordance with CNSC requirements, and the CNSC has the powers of issuing orders to anybody to clean up at their own expense. GEH-C representatives noted that the nature of their arrangement with an insurance company prevents them from disclosing commercial details of that arrangement without obtaining an explicit permission.

105. Some of intervenors requested that the Commission suspend GEH-C's operating licence until the company provides information regarding the specifics of their insurance arrangement, insurance provider and the amount of the insurance, as well as specifics of GEH-C's transportation emergency response. The Commission declared that it would not suspend the GEH-C's operating licence.

106. In order to address the issues raised by the intervenors and the Commission's enquiries, GEH-C committed to undertake the following:

- attempt to obtain permission from the insurance company to disclose more specifics regarding the insurance arrangement, including specifics on the type of accidents covered, name of the insurance company and amount of the insurance. GEH-C will inform the Commission accordingly[7];
- work together with CNSC staff to consider and evaluate potential consequences of a worst-case scenario, and a possibility to post this information on the company's website; and
- attempt to obtain permission from the third party that conducts independent verification of their measurements to release its name to the public.

ACTION by December 2014

107. GEH-C representatives stated that they would consider the following actions:
    - attempt to provide better information to the interested communities regarding transportation of uranium dioxide and fuel pellets; and
    - put the information regarding transportation emergency drills into the public domain.

ACTION by December 2014

Decommissioning and waste management

108. The Commission enquired about the decommissioning plan and financial guarantee. CNSC staff responded that GEH-C has a financial guarantee to cover the cost of decommissioning. As required, the decommissioning plan is reviewed every five years by a third party expert. The GEH-C representative added that the last evaluation of the decommissioning plan had been done in 2012, and that the estimated value was about $ 33 million.

109. The Commission asked about waste management and the amount of radioactive waste produced at this plant. GEH-C representatives responded that they produce low-level solid waste, and that almost all the material coming into the facility is either used for production or recycled. The amount of this waste is usually few tens of kilograms per year, which represents about 0.01 % of all radioactive material entered into the facility.

[7] Within 24 hours of this commitment, GEH-C submitted to the Commission a letter regarding the insurance matters. In this letter, GEH-C stated that, with respect to public liability, the company is appropriately insured in accordance with law, regulations and prudent practice by A-rated insurance companies licensed to do business in Canada. GEH-C is prepared to engage in confidential discussions with the CNSC regarding these policies, since the relevant specific details are proprietary and confidential.

Safeguards

110. Referring to concern expressed by some intervenors regarding nuclear proliferation, the Commission enquired about a possibility that fuel pellets are used for production of nuclear weapons. CNSC staff responded that Canada is a signatory of the Nuclear Non-Proliferation Treaty and that the export of radioactive material is strictly controlled and prevented from being used in a nuclear weapons program. Pellets produced in this facility are delivered either in Canada or in the USA. The pellets as such could not be used in nuclear weapons. GEH-C is obliged to comply with Canadian and the International Atomic Energy Agency (IAEA) regulations. A country that intends to import nuclear material from Canada must have a declaration that the material would not be used for nuclear weapons, and must provide for a mechanism to allow that to be verified. The independent verification regarding all end use of Canadian nuclear material is conducted by the IAEA.

Closure of the Public Part of the Meeting

111. In light of the disruptive behaviour on the part of some intervenors, who refused to respect the Commission process, the President of the Commission regretfully closed the public portion of the meeting at 4:10 p.m. One of fundamental goals of the Commission's proceedings is to address all issues brought in front of the Commission in a fair, rational, peaceful and efficient manner. In order to fulfil this goal, the Commission expects that all participants respect the process, members of the Commission and other participants. Members of the public are expected to abstain from making inappropriate personal remarks, interruption or any kind of offensive behaviour.

112. It is unfortunate that three intervenors who wished to make oral presentations to the Commission were prevented from doing so by the disruptive conduct. Their submissions had been provided to the members of the Commission in writing. The Commission considered their interventions and requested additional information from CNSC staff and two of these intervenors after the closure of the Meeting. The questions asked by the Commission and received responses are part of the record of this Meeting.

113. As reflected in the meeting transcript and these minutes, GEH-C made several commitments regarding, among other elements, further improving its public information program, disclosing more information on emergency planning, cleaning up a specific area. In this regard, the Commission directs CNSC staff to report on the status of these commitments in the 2013 CNSC Staff Report on the Performance of Uranium Fuel Cycle and Processing Facilities, to be presented in late fall 2014.

ACTION by December 2014

114. The Commission also encourages GEH-C to continue to work with its Community Liaison Committee and to disseminate objective information to community residents. In this regard, the Commission is also of the view that GEH-C should strive to build relations with the local representatives of the municipal, provincial and federal governments.

Atomic Energy of Canada Limited: Update on AECL Restructuring

115. This portion of the meeting has been held in camera and was not open to the public. With reference to CMD 13-M55, representatives from Atomic Energy of Canada Limited (AECL) and Natural Resources Canada (NRCan) presented an update on the restructuring of AECL's Nuclear Laboratories, which included regulatory considerations. The representatives from AECL and NRCan informed the Commission about the restructuring process currently underway, and the role of a Site Operating Company (SOC) to be formed. The representatives from AECL and NRCan stated that the new, Government-owned contractor-operated business model is to benefit Canada and that safety will remain a priority during the restructuring. Representatives from AECL and NRCan added that they continue to engage stakeholders and the general public, and to communicate with employees.

116. CNSC staff noted that it continues with its usual day-to-day regulatory compliance activities for all of AECL's licences. CNSC staff also reported that it is considering how it may need to adjust these compliance activities in the future and after the transfer of the licences to the newly established SOC. CNSC staff further noted that it will be evaluating the extent of organisational change in the SOC, how rapidly it is being implemented and how effectively it is being managed. CNSC staff also outlined its role in the procurement process. First, CNSC staff is providing to NRCan, advice related to the CNSC's regulatory mandate and the Commission's licensing process. Also, since a change in ownership structure is anticipated for the SOC during the restructuring and transition period, CNSC staff stated that it intends to meet with potential bidders to provide them with information on the regulatory framework and requirements.

117. The Commission enquired as to which assets will remain with AECL and which assets will be transferred to the SOC. An NRCan representative responded that the Government of Canada will retain ownership of all the assets and intellectual property and that the SOC will have full access to these. CNSC staff stated that, after the licence transfer, the SOC would hold all licence-related responsibilities and all regulators will interact with the SOC.

118. The Commission enquired about AECL's role after the transfer of the licences. CNSC staff stated that, during the transition period, AECL would continue to sit on the board of directors of the newly formed SOC; however, after the contract is awarded, AECL would no longer have a seat. NRCan representatives added that AECL would become a much smaller federal Crown organisation and its primary role would be to oversee the contractual obligations of the SOC and the contractor.

119. The Commission enquired on the CNSC's role in approving the contractor. CNSC staff stated that they do not have a role in approving the contractor. The role of CNSC staff would be to ensure that the future licensee is qualified, and that safety and compliance, and organizational change controls are maintained and executed as per CNSC requirements and regulations. CNSC staff stated that they would make the Commission aware of any issues that may arise during the transition.

120. The Commission enquired on the future of the NRU reactor and how it pertains to future licensing decisions. A representative from AECL responded that AECL's current plan assumes that NRU would operate until 2021. The Government of Canada will consider NRU's role beyond 2016 as part of a decision on a nuclear innovation agenda.

121. The Commission further enquired about the production of medical isotopes beyond 2016 and projected discontinuation of production in NRU. Representatives from AECL and NRCan responded that the government was carefully following the situation and new market policies, and explained that the market has adapted to current production and that new capacities are coming on line.

122. The Commission asked if the restructuring will result in a reduction of the workforce and if employees are concerned about the restructuring process, and whether this could compromise safety and security as a result. A representative from AECL stated that a distracted workforce is a concern and that AECL places a high priority on communicating and being open with its employees. AECL will continue to communicate changes to its employees and will manage change in accordance with its licence to ensure that nuclear safety is maintained. A representative from AECL further explained that AECL has a plan to retrain and redeploy the workforce once Mo-99 production is terminated. AECL has succession plans for key positions and is ensuring that it maintains qualified staff.

123. The Commission asked if CNSC staff would maintain the same degree of oversight of the facility. CNSC staff responded that the same level of inspections, monitoring, verification and regulatory oversight will continue in the future.

124. The Commission asked how the existing competency in research would be maintained and if 100% cost recovery is possible. A representative from NRCan explained that essential services and personnel required to fulfil Government responsibilities will be paid for by the government and that other services would be charged at full cost recovery.

125. The Commission enquired about the potential impact of the ownership transfer on the status of financial guarantees for decommissioning activities. The representative from NRCan responded that the required amount is secured by the federal Government as the owner of the liability and set aside for this purpose.

126. The Commission requested, as the procurement process proceeds, to be timely informed about the formalized agreement and contract between AECL, the SOC and the contractor. The Commission requested additional information on the liability regime, once this becomes available. AECL should present these in one of the future proceedings of the Commission.

ACTION by December 2014

Closure of the Meeting

127. The meeting closed at 18:25.

Recording Secretary — 2014-02-10 — Date

Recording Secretary — 2014-02-10 — Date

Secretary — 10/2/2014 — Date

APPENDIX A

CMD DATE File No

13-M47 2013-11-12 Edocs # 4231196
Notice of Meeting of December 9 to 11, 2013

13-M48 2013-11-26 Edocs #4237514
Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on Monday, Tuesday andWednesday, December 9, 10 and11, 2013, in the York Halls, Holiday Inn Toronto Yorkdale, 3450 Dufferin Street, Toronto, Ontario.

13-M48.A 2013-12-04 Edocs # 4244334
Revised Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on Monday, Tuesday andWednesday, December 9, 10 and11, 2013, in the York Halls, Holiday Inn Toronto Yorkdale, 3450 Dufferin Street, Toronto, Ontario.

13-M50 2013-12-06 Edocs # 4245556
Status Report on Operating Reactors

13-M51 2013-10-22 Edocs # 4213565
CNSC Staff Report on the Performance of Canadian Uranium Fuel Cycle and Processing Facilities: 2012

13-M51 2013-12-04 Edocs # 4244250
CNSC Staff Presentation - CNSC Staff Report on the Performance of Uranium Fuel Cycle and Processing Facilities: 2012

13-M51 2013-12-04 Edocs # 4244177
CNSC Staff Presentation -GE Hitachi Nuclear Energy Canada

13-M52 2013-10-24 Edocs #4221942
CNSC Staff on Nuclear Substances in Canada: A Safety Performance Report for 2012.

13-M52 2013-12-09 Edocs #4243164
CNSC Staff Presentation on Nuclear Substances in Canada: A Safety Performance Report for 2012.

13-M53 2013-11-18 Edocs #4238191
Event Initial Report - New Brunswick Power - Point Lepreau Generating Station

13-M54 2013-11-21 Edocs #4238558
Event Initial Report - Cancer Care Manitoba

13-M55 2013-11-25 Edocs #4239970
Written submission from AECL and NRCan on AECL's Restructuring

13-M55.A 2013-12-03 Edocs #4244077
Presentation from AECL and NRCan on AECL's Restructuring

Appendix B – Intervenors

Intervenors	Document Number
Sheila Muir	13-M51.2
Judy Adler	13-M51.3
Belinda Cole	13-M51.4 13-M51.4A
James Applegath	13-M51.5
Neil Clifford	13-M51.6
Birthe Jorgensen	13-M51.7
Martin Smith	13-M51.8
Elizabeth Cinello	13-M51.9
James Ker	13-M51.10
Families Against Radiation Exposures (FARE), represented by D. Kelly	13-M51.11
Dan Rudka	13-M51.12
Ana Alsheuskaya	13-M51.13
Inga Breede	13-M51.14
Catherine Slavik	13-M51.15
Dawn Withers	13-M51.16
Northwatch	13-M51.17
Jill Lennox	13-M51.18
Dan Graeber	13-M51.19
Sappho Mullins	13-M51.20
Ken Collins	13-M51.21
David Swan	13-M51.22
Elisabeth Caruso	13-M51.23
Peggy Lampotang	13-M51.24
Brian Holmes	13-M51.25
Sat Kartar Singh Khalsa	13-M51.26
Canadian Nuclear Association, represented by J. Barrett and P. Poruks	13-M51.27
Melissa Lee	13-M51.28
Sarah Newton	13-M51.29
Mark Taha	13-M51.30
Kate Chung	13-M51.31
Canadian Nuclear Workers' Council, represented by D. Shier and D. Swan	13-M51.32
Jonah Schein, MPP, Davenport	13-M51.33
Andrew Fiori	13-M51.34
Roy Brady	13-M51.35
Ontario Clean Air Alliance, represented by A. Bischoff	13-M51.36
Elizabeth Minto Marcilio	13-M51.37
Carrianne Leung	13-M51.38
Reg McQuaid	13-M51.39
Carolyn Armstrong	13-M51.40
Carlo Marcoccia	13-M51.41

Canadian Voice of Women for Peace, represented by L. Adamson	13-M51.42
Peter Harris	13-M51.43 13-M51.43A
McMaster University	13-M51.44
Darius Mirshahi	13-M51.45
Janet McNeill	13-M51.46
Andrew Cash, MP, Davenport	13-M51.47
Diane Boskovic	13-M51.48
Zach Ruiter	13-M51.49
Tim Seitz	13-M51.50
Brian De Matos	13-M51.51
Mauricio Moz-Cedillos-Rodas	13-M51.52
Carrie Lester	13-M51.53
Marnie Bjornson	13-M51.54 13-M51.54A
Judith Deutsch	13-M51.55 13-M51.55A
James Deutsch	13-M51.56
Canadian Coalition for Nuclear Responsibility, represented by G. Edwards	13-M51.57
Michael Cooke	13-M51.58
International Institute of Concern for Public Health, represented by A. Tilman and G. Albright	13-M51.59 13-M51.59A
William Sotnikow	13-M51.60
Nancy White	13-M51.61
Sakura Saunders	13-M51.62
Miguel Avila	13-M51.63
Jodi Weber	13-M51.64
Parkcrest Tenants' Association, represented by S. Gawtrey	13-M51.65 13-M51.65A
Dorothy Goldin Rosenberg	13-M51.66
Rocco D'Amico	13-M51.67
Alvaro Gonzalez	13-M51.68
Jessica Rowland	13-M51.69
Janet Csontos	13-M51.70
Linda Genova	13-M51.71
Carmen Dobie	13-M51.72
Farzana Doctor	13-M51.73
Xavier Ramirez	13-M51.74
Alex Greenwood	13-M51.75
Ron Schroeder	13-M51.76
Tiffany Encina	13-M51.77
Catherine Araujo	13-M51.78
Curtis Nixon	13-M51.79
Steve Hon-Cheung Kam	13-M51.80
Kirstin Scansen	13-M51.81

Doug Chambers	13-M51.82 13-M51.82A 13-M51.82B
John Quarterly	13-M51.83
Shu Cheng	13-M51.84
Anthony Rovito	13-M51.85
Matt Everson	13-M51.86
Nicky Young	13-M51.87
Nancy Greyeyes	13-M51.88
Dianne Knight and Curtis Bennett	13-M51.89