February 18, 2010

Minutes of the Canadian Nuclear Safety Commission (CNSC) Meeting held Thursday, February 18, 2010 beginning at 9:00 a.m. at the CNSC Headquarters, 14th floor, 280 Slater Street, Ottawa, Ontario. The meeting closed at 3:00 p.m.

Present:
M. Binder, President
R.J. Barriault
A. Graham
A. Harvey
M. J. McDill
D.D. Tolgyesi

M. Leblanc, Secretary
J. Lavoie, Senior General Counsel
P. Reinhardt, Recording Secretary

CNSC staff advisors were: R. Jammal, K. Lafrenière, C. Purvis, P. Thompson, B. Ecroyd, A. Régimbald, S. Faille, K. Glenn, G. Frappier, D. Newland, M. de Vos, P. Fundarek, K. Mayer, B. Brûlotte.

Other contributors were:

- Bruce Power Inc.: F. Saunders, M. McQueen, N. Sawyer

Adoption of the Agenda

1. The revised agenda, CMD 10-M11.A, was adopted as published.

Chair and Secretary

2. The President chaired the meeting of the Commission, assisted by M. Leblanc, Secretary and P. Reinhardt, Recording Secretary.

Constitution

3. With the notice of meeting, CMD 10-M10, having been properly given and a quorum of Commission Members being present, the meeting was declared to be properly constituted.

4. Since the meeting of the Commission held on November 5, 2009, Commission Member Documents CMD 10-M10 to CMD 10-M17 as well as CMD 09-M100 were distributed to Members. These documents are further detailed in Annex A of these minutes.

Minutes of the CNSC Meeting Held on January 13, 2010

5. The Commission Members approved the minutes of the January 13, 2010 Commission Meeting as presented in CMD 10-M12.

STATUS REPORTS

Early Notification Reports

Bruce Power Inc.: Alpha Contamination Event in Bruce A Unit 1

6. With reference to CMD 10-M13, Bruce Power Inc. (Bruce) presented information regarding the Early Notification Report cited above. Bruce described the reasons for the presence of long-lived alpha particulates in the air in the Bruce A Unit 1, and the actions taken to resolve the problem and to protect the workers.

7. In its presentation, Bruce reported how alpha contamination in the vault of Bruce A Unit 1 was discovered. Bruce reported that elevated beta levels were identified in a first air sample on November 26, 2009 and in a second sample on November 28, 2009 which prompted the installation of a tent in the vault and further investigation. The presence of alpha contamination was confirmed on December 21, 2009 when the results from the analysis became available. Bruce insisted that, during this event, at no time the fundamentals safety values it adheres to were compromised and that high radiation protection standards were always applied.

8. Bruce noted that, unlike during work done on Unit 2, beta activity was discovered early in air samples during the work on Unit 1, indicating the presence of airborne particulate material. Bruce added that, when this happened, a sealed area was immediately installed to separate the work area from the general vault area.

9. Bruce noted that the analysis capacity to do large numbers of alpha bioassay samples in Canada is very limited and that this explains the delays experienced in providing dose results. Bruce added that getting results from this type of bioassay requires an average of four weeks. Bruce confirmed that, while it does not have the capacity to test the workers for alpha exposure, arrangements with Atomic Energy of Canada Inc. (AECL) have been made. Bruce added that AECL had made adjustments to process ten samples.

10. Bruce noted that several interactive sessions have been held to communicate with its employees about the event and that more are planned to keep them aware of the status of the situation. Bruce added that the final dose results will be discussed with each individual. In addition to communicating with employees and union leaders, Bruce Power noted that it had posted on its website the S99[1] report that provides a preliminary description of the event. Bruce added that the neighbourhood community has also been briefed on the event.

11. Bruce confirmed that, taking into account the limited data available from the event, the dose results received to date reflect the predicted dose estimates. Bruce added that, based on the current results and analyses, no employee is expected to exceed the one or five-year regulatory limits, which are 50 milliSieverts (mSv)/year and 100 mSv/5years, including doses accumulated prior to the event. Bruce also added that, based on the As Low As Reasonably Achievable (ALARA) principle, some employees have been reassigned to non-radioactive work until the bioassay samples are finalized, and that CNSC staff will be informed of the results when they are available.

12. Bruce noted that it was in a process to redesign its radiation protection program, which will include a new infrastructure to enhance its alpha measurement capacity to meet world-class standards. Bruce added that alpha-sensitive personnel monitors have already been installed and that it has increased its complement of alpha-sensitive contamination monitors and counters. Bruce stated that it expects all doses to be below the regulatory limit.

13. CNSC staff confirmed that an inspection was conducted on January 22, 2010 to confirm that all regulations, licence conditions, standard and licensee procedures were followed, and to verify that the ALARA principle was enforced to ensure that the health and safety of the workers on the project was adequately protected. CNSC staff concluded that there are no immediate health concerns for the workers who were most likely exposed to the contamination, and that all regulatory requirements were met. CNSC staff also noted that there is no indication that the contamination has spread outside Unit 1 vault, and that, therefore, there is no risk for the public or the environment. CNSC staff added that it will continue to monitor the situation.

14. The Commission asked Bruce to explain the role of the feeder pipes in a CANDU reactor. Bruce responded that the feeder pipes carry the heat transport fluid from the primary system through the fuel channels and that they form a circulatory loop that gets heated up to produce the steam that drives the turbines.

[1] Reporting Requirements for Operating Nuclear Power Plants, http://www.nuclearsafety.gc.ca/pubs_catalogue/uploads/S99en.pdf

15. The Commission asked Bruce about the source of the particles that generated the alpha radiation. Bruce responded that the radioisotopes involved are those related to the irradiated fuel and have accumulated over the years in the reactor.

16. The Commission asked CNSC staff if some alpha radiation has been observed elsewhere during refurbishment work. CNSC staff responded that similar incidents have been observed at other plants, but that it was new to observe such a ratio of beta particles to alpha particles. CNSC staff added that this has happened at Point Lepreau Nuclear Generating Station (Point Lepreau) during the refurbishment work but noted that New Brunswick Power Nuclear was taking continuous air samples including alpha measurement and that it used alpha spectrometry instruments and monitoring devices to prevent contamination.

17. The Commission further asked why Bruce did not rely on Point Lepreau's experience during its refurbishment work. Bruce responded that, in radiation protection, it is a common practice to measure beta radiation and to rely on the ratio of beta to alpha radiations, which is usually very large, in order to adopt the type of protection required; this means that, if protection against beta is available, it is also usually sufficient to protect against alpha. Bruce added that, in this case, the ratio is at a much lower level than it would normally have been which has caused some misinterpretation with regards to the measures to be taken for radiation protection.

18. CNSC staff confirmed that it is part of normal radiation protection practice to protect against beta radiation. CNSC staff added that all the workers were wearing adequate protective clothing and that they had been issued proper work permits. CNSC staff added that the work was also performed in a controlled environment.

19. In response to a question from the Commission on the number of workers involved in the event, Bruce explained that 80 workers were directly involved doing the work and that 563 workers had entered the vault during that period.

20. Bruce confirmed that the sample results confirming the presence of alpha particles came back from the off-site laboratory on December 21, 2009, and that it was decided on that date that bioassays would be performed on the potentially exposed workers. Bruce added that it ceased the work in the vault on the same day and that the work has not resumed yet.

21. The Commission further asked details about the results of the 14 samples that came back in early February 2010. Bruce responded that these results were from the workers who have potentially been the most exposed at this time. Bruce added that, from these results, it has evaluated the rest of the workers exposure times to determine if they needed a bioassay. Bruce added that it was working down sequentially through the rest of the potentially exposed workers.

22. The Commission asked Bruce how long it will take to be certain that the level of exposure of all the potentially exposed workers was below the *Radiation Protection Regulations*[2] limits for a nuclear energy worker. Bruce responded that, at the current rate, it expects that all the results will be received in 18 weeks.

23. The Commission asked if there were other facilities capable to performing the test. Bruce responded that only AECL has this capability in Canada. Bruce added that some facilities in the United States (U.S.) accredited according to U.S. standards have also this capability, but that they are not accredited in Canada. Bruce noted that it was working with CNSC staff to get the approval to have some of the tests performed in the U.S.

24. CNSC staff confirmed that if Bruce selects an accredited bioassay sampler in the U.S. capable to detect the same minimum detectable levels as required in Canada, it is ready to rapidly approve Bruce's request.

25. The Commission asked Bruce when its staff was informed on the event. Bruce responded that its staff was informed on the event on January 5, 2010, after the holiday vacations. The Commission further asked CNSC staff when it was first informed of the event. CNSC staff responded that the CNSC site inspector responsible for the oversight of the refurbishment activity became aware of the issue on the day the unusual sample showed up, i.e. on November 28, 2009. CNSC staff added that it had discussed with Bruce on December 21, 2009 when the result confirmed the presence of an unusual alpha contamination. CNSC staff reported that it was formally notified of the event on January 5, 2010 through the filing of an Early Notification Report by Bruce and that a preliminary written report, in compliance with the regulatory requirements, was submitted on January 7, 2010.

26. The Commission asked Bruce when the event was communicated to the public. Bruce responded that it placed the report on its Web site on January 20, 2010 and that a presentation to the Impact Advisory Committee was made during the same period.

27. The Commission asked why the alpha contamination was not retained in the negative pressure controlled area. Bruce responded that the contamination was a very fine dust and that the measures taken did not contain the activity as anticipated. Bruce added that the contamination was 20 times more important inside the tent compared to the outside.

[2] Statutory Orders and Regulations, S.O.R./2000-203

28. The Commission asked Bruce to expose the planning in place before any new work is initiated. Bruce explained that, before new work is conducted, an ALARA plan is made taking into account all the risks and hazards associated with the work to be performed. Bruce added that, following the approval of this ALARA plan, a radiation exposure permit is emitted that details the control measures workers have to use on the job, including personal protective equipment and monitoring. The Commission asked Bruce if this plan includes tests for alpha particles as well as for beta particles. Bruce responded that it had limited capacity to test for alpha particles and that it relied on the beta testing results as an indicator for alpha contamination. Bruce noted that, from now on, it will measure both alpha and beta radiation levels before any work is initiated.

29. The Commission asked for more information on the measures taken for the protection of the workers around the enclosure. Bruce explained that the contamination outside the tent is due to the release of the radioactivity in the air from the enclosure, and that this small amount could have led to additional potential exposure. Bruce stated that the potentially exposed workers have been well identified because the access to this area is very well controlled. Bruce insisted that it is the regular monitoring that led to the discovery of the alpha contamination.

30. The Commission asked CNSC staff if Bruce has followed the protocol in place. CNSC staff responded that Bruce did follow the protocol, but that the lessons learned from this event will be shared within Bruce and across the rest of the industry once the root cause analysis is done.

31. The Commission asked CNSC staff when was Bruce's report on the event due. CNSC staff responded that the formal report, including a corrective action plan and a formal review, is due in late February 2010. CNSC staff added that it will review the report to determine corrective and follow-up actions where necessary.

32. The Commission asked why Bruce had not experienced the same problem in Unit 2. Bruce explained that Unit 1 was laid up wet, allowing layers to corrode and to dissolve within the feeder pipes. Bruce added that the removal of water from Unit 1 has left more loose radioactive contamination on the surface than in Unit 2, which was laid up dry. Bruce added that, because of this difference, it has to determine other ways to do the job in Unit 1.

33. The Commission asked CNSC staff to elaborate on the potential health effects of alpha radiation. CNSC staff responded that alpha radiation is a type of radiation that does not penetrate the skin, and that to have any effects on the health, alpha radiation has to be inhaled or absorbed inside the body. CNSC staff confirmed that wearing special protective clothing and respirators and working in a controlled area should protect workers from inhaling alpha radiation.

34. The Commission asked how many workers would be tested. Bruce responded that 192 people who received an estimated dose greater than 1 mSv would be tested. Bruce added that three additional people that are part of the group that had the initial whole body count would be added to these 192. Bruce added that approximately 25% of these individuals are Bruce Power employees, but that the rest are contractors from various companies.

35. The commission asked more information about the level of exposure. CNSC staff responded that no doses raised concerns or were above regulatory limits, but that these doses were above administrative limits indicating that the licensee has to use control measures. CNSC staff added that Bruce has responded promptly to the issue raised. CNSC staff added that information on these doses is filed in the National Dose Registry, and is personal and protected information.

36. The Commission further asked if anything similar was observed while grinding tubes in the Bruce Unit 2. Bruce responded that nothing of this sort happened during the grinding of the 960 tubes of Unit 2. Bruce added that when it started the grinding in Unit 1, on November 24, 2009, only two days later, on November 26, it was discovered that the air samples were unusual. Further sample results over the following few days led to the cessation of the work and the erection of a tent. CNSC staff confirmed Bruce's actions.

37. The Commission asked Bruce what are the additional precautions to be taken when work will resume in Unit 1. Bruce responded that a personal alpha radiation monitor has been installed near the exit. Bruce added that it will also use additional air particle monitors and hand-held monitors to take samples and analyse them more rapidly. CNSC staff added that it has started to review the Radiation Protection Programs for the licensees involved into refurbishment work to ensure that they are taking adequate measures for the protection of the workers. CNSC staff also added that it will revise its enforcement activity to ensure compliance on site.

38. Bruce listed some of the corrective measures that will be considered: removal of source material, re-engineering the tools if necessary, and re-evaluating the ventilation.

39. Bruce also added that it was trying to inform its employees on the status of the event analysis to reassure them on potential exposures. Bruce stated that, when the results are available, each employee will be interviewed individually to explain the dose it has been exposed to. Bruce added that it is also seeking independent review to ensure the reliability of the doses calculations.

40. The Commission enquired about the publication of results on the Bruce's Web site. Bruce stated that information will be published on its site with names removed to ensure confidentiality. CNSC reported that, on January 5, 2010, Bruce had also posted on its intranet the result of the potential contamination in order to inform all employees. CNSC staff concluded that it will be as transparent as possible to keep the public informed on the event.

41. The Commission is expecting the Root Cause Analysis report. CNSC staff confirmed that it will transmit it to the Commission when available. **ACTION** (May 31, 2010)

Bruce Power Inc.: Bruce A Unit 4 Unanticipated SDS2 Trip

42. With reference to CMD 10-M15, the information on the cause of the unanticipated SDS2 trip and poison injection at Bruce A Unit 4 was presented in the Early Notification Report.

43. CNSC staff added that this trip happened during a routine operational event and that the safety systems worked as per design. CNSC staff added that the Bruce operating crew took appropriate actions and that Bruce was conducting a follow-up on the event.

44. Bruce provided orally more details on the event and noted that all systems behaved exactly as expected when the trip occurred and that the reactor shut down as predicted.

45. The Commission asked Bruce to explain the failsafe system that made the reactor trip. Bruce responded that, when one channel is on the safe mode, only one more channel closing is required to trip the reactor. Bruce added that this is part of a safe approach. CNSC staff noted that this trip concerns one of two special shutdown systems. CNSC staff added that both systems include three channels. CNSC staff added that routine tests are performed on all these channels several thousand times per year. CNSC staff explained that, due to one channel being out of service for maintenance, once the spurious signal was received it caused the reactor to trip as per design.

46. The Commission asked Bruce how long it usually takes to restart the reactor. Bruce responded that it takes approximately three days to restart the reactor because of the build-up of xenon in the core. Bruce added that sometimes it takes advantage of the situation to do some maintenance work while the reactor is shut down. CNSC staff added that Bruce needed to comply with S99[3] reporting requirements for any transient from power, such as this one, but that in this case, CNSC's authorization is not required to restart the reactor. CNSC staff added that, as per regulation, a root cause analysis will be submitted within the 45 days following the initial report.

47. In response to a question from the Commission on the public disclosure, Bruce explained that all the S99 reports are published on its Web site and that it routinely meets with the Input Advisory Committee to discuss these events.

[3] Reporting Requirements for Operating Nuclear Power Plants, http://www.nuclearsafety.gc.ca/pubs_catalogue/uploads/S99en.pdf

Status Report on Power Reactors

48. With reference to CMD 10-M15, which includes the Status Report on Power Reactors, CNSC staff presented updates on the following:

    - Darlington Nuclear Power Station Unit 1 is currently returning to power after a small outage to repair a problem in the starter cooling system.

    There has been no change to the other Nuclear Generating Power Stations status.

49. The Commission asked why Bruce B Unit 8 was only running at 90 %. Bruce responded that Unit 8 is the last unit the fuel order will be changed and that afterwards, it will apply for a power increase. CNSC staff concurred with Bruce.

50. The Commission asked how many calandria tubes were installed until now at Point Lepreau. CNSC staff responded that, up to now, 103 tubes have been installed. CNSC staff added that New Brunswick Power Nuclear should come before the Commission to seek authorization for the restart of Point Lepreau in the fall of 2010.

Decision Items – Regulatory Documents

Proposed Regulations Amending the Packaging and Transport of Nuclear Substances Regulations

51. With reference to CMD 10-M16, CNSC staff presented its project to amend the *Packaging and Transport of Nuclear Substances Regulations*[4]. CNSC staff stated that its goal was to update the existing reference to a 1996 edition of an international standard to the recently published 2009 edition. CNSC staff added that it was anticipating minimal impact to stakeholders. CNSC staff reported that, if this project is approved, the next steps will include a brief pre-consultation period with stakeholders followed by the drafting of the amendments and the working with the Department of Justice and with Treasury Board. CNSC staff revealed that it was anticipating publishing the amendments in the Canada Gazette Part I later this year.

52. The Commission stated its opinion that the amendments requested are not major and that the process should be streamlined to include the pre-consultation, the collecting of feedback, and the drafting in order to have the amended regulations ready to be submitted for publication in Canada Gazette Part I as soon as possible.

[4] Statutory Orders and Regulations, S.O.R./2000-208

53. CNSC staff agreed with the Commission and noted that it was trying to find ways to expedite the process. CNSC staff further reported that the 2009 edition of the standard the amended regulations will refer to will only be in application at the international level on January 1st, 2011.

54. The Commission asked if the proposed amendments represent some expenses for the stakeholders. CNSC staff responded that, based on the preliminary information available, they should not have a major impact on the licensee, but only a small impact on training requirements on the amended regulation.

55. The Commission asked for a possible link between the proposed amendment and the proposed exemptions detailed below. CNSC staff responded that additional modifications will also be brought to the regulations on matters that concern transportation of nuclear substances within Canada. CNSC staff confirmed that those amendments will include the exemptions proposed in the item below. CNSC staff noted that, until the regulations are in force, CNSC staff recommends that the gap from now until the promulgation of the amended regulations be bridged by proposing the temporary exemptions outlined in CMD 09-M100.

56. The Commission approves the proposal and directs CNSC staff to proceed as soon as possible with the necessary amendments to the *Packaging and Transport of Nuclear Substances Regulations.* The Commission is confident that the proposed amendments are ready to be submitted for publication in Canada Gazette Part I by the end of the year 2010. **DECISION**

Proposed Exemptions to the Packaging and Transport of Nuclear Substances Regulations

57. With reference to CMD 09-M100, CNSC staff presented the proposed exemptions to the *Packaging and Transport of Nuclear Substances Regulations.*

58. CNSC staff reported that two interim exemptions to the *Packaging and Transport of Nuclear Substances Regulations* are being proposed to address the transport of check sources and radiation devices containing low activity sources. CNSC staff added that these exemptions are presented in order to apply regulatory consistency, specifically with the *Nuclear Substances and Radiation Devices (*NSRD) *Regulations*[5] and are commensurate with the level of risk associated with the nuclear substances for which the exemptions are sought. Finally, CNSC staff added that it is also proposing amendments to the *Packaging and Transport of Nuclear Substances* (PTNS) *Regulations*, as discussed in paragraph 60 above. CNSC staff recommended that these exemptions be granted for a period of four years.

[5] Statutory Orders and Regulations, S.O.R./2000-207

59. CNSC staff explained that these exemptions are requested because the check sources and the radiation devices containing less than 10 times the exemption quantity of a nuclear substance are already exempted from licensing requirements under the NSRD Regulations following their sale to the end user. CNSC staff added that the licensing exemptions under the NSRD Regulations allow the user to possess, transfer, import, export, store, use or abandon the exempted sources and devices without a licence from the CNSC.

60. CNSC staff noted that the proposed exemption, as under the NSRD Regulations, would only be applicable following the sale to the end user; manufacturers and distributors would not be exempted from compliance with the transport regulations. CNSC staff added that the quantity of radioactive nuclear substance contained in check sources and in the radiation devices in question is very small and poses no danger to the public or the environment.

61. The Commission questioned why CNSC staff recommends that the exemptions be granted for a period of four years. CNSC staff explained that the period proposed is based on the average time needed to amend regulations.

62. The Commission asked why two exemptions were requested, one for the check sources and one for radiation devices and why the same criteria could not be used for both requested exemptions. CNSC staff responded that the radiation devices were evaluated individually while the check sources were evaluated according to general criteria based on standards and established regulations.

63. The Commission asked how many devices were touched by these exemptions. CNSC staff responded that the exemptions apply to approximately 300 devices, mainly used in airport security.

64. The Commission further asked if there was a restriction for an end user who would accumulate these sources. CNSC staff responded that there was no restriction with regards to the number of sources an individual can possess. The Commission asked if some restrictions applied to the number of sources a user can possess in United States. CNSC staff responded that it would follow-up on this item.

ACTION
(May 31, 2010)

65. The Commission decides to exempt the transport of check sources and radiation devices containing low activity sources from the *Packaging and Transport of Nuclear Substances Regulations* until the *Packaging and Transport of Nuclear Substances Regulations* are amended to incorporate these exemptions and are promulgated as amended regulations.

DECISION

Information Items

CNSC Staff pre-project vendor design reviews

66. With reference to CMD 10-M14, CNSC staff presented how it conducts its pre-project vendor design reviews. CNSC staff reported that pre-project reviews offer a practical means by which vendors can gain confidence that a design will meet Canadian requirements and expectations. CNSC staff added that increasing its knowledge of the different reactors will also enable more efficient reviews at the time of licensing.

67. The Commission asked CNSC staff if the different reactor designs reviewed could use water cooling towers. CNSC staff indicated that all cooling options are available for all reactor designs.

68. CNSC staff noted that the pre-project review looks only at the technology at the request of each vendor and that this assessment remains independent of any procurement.

69. The Commission asked if it would be possible, during that pre-project assessment, to discover potential design problems which would prevent further evolving problems as it has happened in England recently. CNSC staff responded that it is only at the second phase of the assessment that it would have the ability to identify potential problems.

70. The Commission asked for an estimation of the efforts requested by CNSC staff to perform such assessments. CNSC staff responded that the first phase requires approximately one Full Time Equivalent (FTE) for a period of six months. CNSC staff added that the second phase requires 5 FTEs for a period of one year, but that it could vary substantially, and that finally the requirements for the third phase depends on the extent of the study each vendor requests from CNSC staff. CNSC staff indicated that the Assessment Integration Division was recently created, and that, amongst its responsibilities, it will coordinate the technical assessment associated with these pre-project design reviews.

71. On response to a question from the Commission on the possibility that a reactor, once constructed, does not perform properly, CNSC staff noted that the pre-project design review of a new reactor allows CNSC staff to ensure that the design of the reactor meets Canadian regulatory and safety requirements but does not look at its future performance.

72. The Commission asked CNSC staff if the pre-project design review will reduce the time needed for a vendor to obtain approval for a project. CNSC staff responded that it was confident that the licensing safety review will be done more efficiently and will be done in a much quicker timeline. CNSC staff indicated that if it is familiar with the technology and if the applicant has submitted a complete set of information, the technical assessment would likely be done in 2-3 years.

73. The Commission asked for more information about guarantees given with the approval of the licence. CNSC staff explained that the applicant has to demonstrate he is qualified and that he has made adequate provision for health, safety, security and the environment under Section 24(4) of the Nuclear Safety and Control Act[6]. CNSC staff added that it also expects that the applicant demonstrates that he has independently assessed the overall safety case of the design proposed by the vendor and that he has also assessed its interactions with the environment. CNSC staff noted that anything learned from the pre-project and design review could be applied in the licensing process.

74. The Commission commented that this design review could be perceived as approval of the project. CNSC staff responded that the pre-project vendor design review allows CNSC staff, when encountering novel concepts in a new design, to develop regulatory opinions outside the licensing process. CNSC staff added that it is important to understand that in Canada there is no certification or approval for a given design, which means that the only information a vendor gets is whether CNSC staff has found any fundamental barriers to licensing in Canada.

75. The Commission asked CNSC staff to explain the certification process that exists in the United States (U.S.). CNSC staff responded that, in the U.S., U.S. Nuclear Regulatory Commission's (NRC) experts evaluate the design of a reactor and give a certification to the vendor that its design is legal in the U.S. CNSC staff added that the vendor still has to go through a licensing process to determine the site to be chosen for the power plant and to get permission to actually construct the design, but the intent is that, by the time those decisions are made, an extensive design review is not needed based on the fact the design has already been certified.

76. The Commission asked about justified non-conformances and non-compliances. CNSC staff responded that, in Canada, the design proposed by a vendor has to meet system-specific criteria or design requirements as outlined in CNSC Regulatory Document RD-337[7]. CNSC staff added that, in order not to impede innovation, a vendor that presents a design including systems that

[6] Statutes of Canada, S.C. 1997, c. 9
[7] Design of New Power Plants:
http://www.nuclearsafety.gc.ca/eng/lawsregs/regulatorydocuments/published/rd337/

do not meet one of these criteria could demonstrate that the level of safety of its new design is equivalent. CNSC staff added that this opportunity permits an applicant or a vendor to propose an alternative approach to meeting a very specific requirement that would be acceptable to CNSC staff.

77. The Commission asked CNSC staff how a design can meet the ALARA principle. CNSC staff responded that the design would have to meet the current standards of the industry which are that the next generation of nuclear reactors should result in a lower exposure than the current generation. CNSC staff added that, if the ALARA principle has not been not taking into account in a design, it would be a fundamental barrier to licensing and that it is something that would be assessed during the pre-project review.

Technical briefing on the licensing process used by Directorate of Nuclear Substance Regulation (DNSR)

78. With reference to CMD 10-M17, CNSC staff presented information on the licensing process used by DNSR.

79. CNSC staff reported that there are three licensing divisions within DNSR, the Class II Nuclear Facilities and Equipment Division, the Nuclear Substances and Radiation Devices Licensing Division, and the Transport Licensing and Strategic Support Division. CNSC staff noted that DNSR currently has the responsibility of 2,700 active licences and 238 transport certificates.

80. CNSC staff presented a map of the licensing process which is attached to CMD 10-M17. CNSC staff noted that the applicant has to demonstrate that he is qualified to obtain a licence. CNSC staff, however, confirmed that the licensing assessment officer will let the applicant know which of the expectations have not been met and will guide him to provide the required information. CNSC staff added that the requirements are documented in the application form and guide.

81. CNSC staff noted that, in DNSR, the authorization to issue, renew, amend, revoke or replace a licence, and to certify and decertify persons and equipment, has been delegated by the Commission to designated officers as defined in CMD 08-M10. CNSC staff also noted that the designated officers are the Directors Generals of DNSR and the directors of each of the three licensing divisions.

82. Finally, CNSC staff reported that DNSR issues the majority of the licenses within an 80 days business standard. CNSC staff noted that most delays are caused by the failure of applicants to respond. CNSC staff also noted that most licence requests related to patients care is processed within 24 hours.

89. The Commission asked what was the average length of a licence and if it had to be amended often. CNSC staff responded that the standard licence period is five years and added that amendments were frequent because, during that five-year period, there were often a lot of changes requested from the applicant.

90. The Commission asked CNSC staff if it will survey the concerned stakeholders to find out if they are satisfied or if they have any suggestions to improve the process. CNSC staff responded that it has already contacted the industry through the radiography working group in order to include some questions on CNSC licensing process in its survey.

91. The meeting closed at 3:00 p.m.

Recording Secretary — Date: 2010/04/12

Secretary — Date: 12/4/10

83. CNSC staff concluded that the licensing process in DNSR is based on risk-informed principles and is an effective integrated system, an information management system, and the life cycle retention of information on licensees. CNSC staff added that the licensing and compliance verification processes complement each other and that DNSR responds appropriately to licensing action requests. CNSC staff also noted that the regulatory obligations are clear and consistent and that the system is open and transparent and provides information to the public, licensees and other stakeholders.

84. The Commission asked CNSC staff how it proceeds to revoke a licence. CNSC staff responded that, most of the time licences are revoked following the request of a licensee who does not need a licence anymore because the business has ceased or has changed its orientation. CNSC staff noted that before revoking a licence, it has to check if there are any non-compliance issues and if arrangements have been made to transfer any remaining radioactive substances to an authorized licensee. CNSC staff added that it cannot revoke a license on its own motion; it has to get the Commission's approval to do so.

85. The Commission asked CNSC staff how it would be sure that a licensee protects health of the public and the environment when operating. CNSC staff responded that many safety and control areas, such as the training and radiation protection programs, are evaluated when issuing a licence and during the operation of the installation.

86. The Commission asked if the 80 days requested for the issuance of a licence was comparable to international standards. CNSC staff responded that this was comparable to standards in other countries. The Commission further asked why there were delays to issue licences in 15 % of the requests. CNSC staff responded that it was due to delays from the requester in answering CNSC's requirement for information.

87. The Commission asked if there was a manner to speed up the process, for example by filing an application electronically. CNSC staff responded that, at this time, there is no mechanism for online e-submission. CNSC staff noted that there was a proposal in place to evaluate this possibility as part of the information management project.

88. The Commission asked how the requests for licences were treated with regards to isotopes used in medicine. CNSC staff responded that any request that comes in from hospitals is treated with high priority and that it is processed within 24 hours and likely in the same day.

APPENDIX A

CMD DATE File No

10-M10 2010-01-18 (6.02.01)
Notice of Meeting of February 18, 2010

10-M11 2010-02-03 (6.02.02)
Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on Thursday, February 18, 2010 in the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario

09-M11.A 2010-02-11 (6.02.02)
Updated Agenda of the meeting of the Canadian Nuclear Safety Commission to be held on Thursday, February 18, 2010 in the Public Hearing Room, 14th floor, 280 Slater Street, Ottawa, Ontario

10-M12 2010-02-12 (6.02.04)
Approval of Minutes of Commission Meeting held January 13, 2010

10-M13 2010-01-26 (6.02.04)
Early Notification Reports:
- **Bruce Power:** Alpha Contamination Event in Bruce A Unit 1
- **Bruce Power:** Bruce A Unit 4 Unanticipated SDS2 Trip

10-M14 2010-02-10 (2.15.00)
CNSC Staff pre-project vendor design reviews – Oral presentation by CNSC staff

10-M15 2010-02-10 (6.02.04)
Status Report on Power Reactors Units as of February 10, 2010

10-M16 2010-02-01 (1.01.02)
Proposed Regulations Amending the *Packaging and Transport of Nuclear Substances Regulations* – Oral presentation by CNSC staff

09-M100 2009-12-23 (6.02.04)
Proposed Exemptions to the *Packaging and Transport of Nuclear Substances Regulations* – Oral presentation by CNSC staff

10-M17 2010-02-11 (7.14)
Technical Briefing on the licensing process used by the Directorate of Nuclear Substance Regulation – Oral presentation by CNSC staff