



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire

## Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant Atomic Energy of Canada Limited

Subject Application by Atomic Energy of Canada Limited  
for a Waste Nuclear Substance Licence for the  
Port Granby Long-Term Low-Level Radioactive  
Waste Management Project

Public Hearing  
Date September 27, 2011

## RECORD OF PROCEEDINGS

Applicant: Atomic Energy of Canada Limited

Address/Location: Port Hope Area Initiative Management Office, 115 Toronto Road, Port Hope, Ontario, L1A 3S4

Purpose: Application by Atomic Energy of Canada Limited for a Waste Nuclear Substance Licence for the Port Granby Long-Term Low-Level Radioactive Waste Management Project

Application received: June 27, 2011

Date of public hearing: September 27, 2011

Location: Hope Fellowship Church, 1685 Bloor Street, Courtice, Ontario

Members present: M. Binder, Chair  
R. J. Barriault  
M. J. McDill

Secretary: K. McGee

Recording Secretary: D. Major

General Counsel: L. Thiele

<b>Applicant Represented By</b>		<b>Document Number</b>
<ul style="list-style-type: none"> <li>• J. Miller, Vice President and General Manager, Decommissioning and Waster Management</li> <li>• C. Fahey, Project Director, Port Hope Area Initiative</li> <li>• B. Taylor, Manager, Regulatory Affairs</li> <li>• G. Case, Manager, Project Engineering</li> <li>• L. Barzelatto, Environmental Specialist</li> <li>• D. Workman, Environmental Hydrogeologist</li> <li>• J. Harrod, Stakeholder Relations Officer</li> </ul>		CMD 11-H10.1 CMD 11-H10.1A CMD 11-H10.1B
<b>CNSC staff</b>		<b>Document Number</b>
<ul style="list-style-type: none"> <li>• P. Elder</li> <li>• D. Howard</li> <li>• M. Kostova</li> </ul>	<ul style="list-style-type: none"> <li>• P. Thompson</li> <li>• M. Rinker</li> <li>• K. Lange</li> </ul>	CMD 11-H10
<b>Other Representatives</b>		
<ul style="list-style-type: none"> <li>• Natural Resources Canada, represented by D. McCauley</li> <li>• Ministry of Environment, represented by A. Brown</li> <li>• Public Works Canada, represented by T. Palmeter</li> </ul>		
<b>Intervenors</b>		
See appendix A		

**Licence:** Issued

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## **Introduction**

1. Atomic Energy of Canada Limited (AECL) has applied to the Canadian Nuclear Safety Commission<sup>1</sup> (CNSC) for a Waste Nuclear Substance Licence (WNSL) for the Port Granby Long-Term Low-Level Radioactive Waste Management Project (Port Granby Project). AECL has applied for a 10-year licence.
2. The Port Granby Project, managed by the Port Hope Area Initiative (PHAI) Management Office, will remediate and provide long-term management of the low level radioactive waste currently stored within the Port Granby Waste Management Facility (WMF). The Project will be conducted in three distinct phases:
  - Phase I – transition phase: possession and management of the nuclear substances at the Port Granby WMF currently licensed to Cameco Corporation (Cameco);
  - Phase II – implementation phase: construction of the Long-Term Low-Level Radioactive Waste Facility (LTWMF), integration of the waste from the Port Granby WMF, and remediation of the Port Granby WMF;
  - Phase III – post-closure phase: long-term monitoring and maintenance of the LTWMF.
3. The Environmental Assessment (EA) for the Port Granby Project was completed in 2009. Following a hearing held on August 17, 2009, the Commission determined that the Port Granby Project, taking into account the mitigation measures identified in the EA Screening Report, would not likely cause significant adverse environmental effects.

## Issue

4. In considering the application, the Commission was required to decide, pursuant to subsection 24(4) of the *Nuclear Safety and Control Act*<sup>2</sup> (NSCA):
  - a) if AECL is qualified to carry on the activity that the licence would authorize; and
  - b) if, in carrying on that activity, AECL would make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.

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<sup>1</sup> The *Canadian Nuclear Safety Commission* is referred to as the “CNSC” when referring to the organization and its staff in general, and as the “Commission” when referring to the tribunal component.

<sup>2</sup> Statutes of Canada (S.C.) 1997, chapter (c.) 9.

### Public Hearing

5. The Commission, in making its decision, considered information presented for a public hearing held on September 27, 2011 in the Municipality of Clarington, Ontario. The public hearing was conducted in accordance with the *Canadian Nuclear Safety Commission Rules of Procedure*<sup>3</sup>. During the public hearing, the Commission considered written submissions and heard oral presentations from CNSC staff (CMD 11-H10) and AECL (CMD 11-H10.1, CMD 11-H10.1A and CMD 11-H10.1B). The Commission also considered oral and written submissions from 22 intervenors (see Appendix A for a detailed list of interventions).
6. Prior to the public hearing, the Commission denied the request made by Mr. Payne, on behalf of the Payne family, for the adjournment of the hearing to a later date to allow additional time to review all of AECL's documentation. The Commission considered information pertaining to this matter during the public hearing to determine if further information was needed, if a further hearing day was needed or if it was ready to proceed with the decision. The Commission is of the opinion that information presented during the public hearing and information that will be provided to the Payne family from undertakings by AECL and CNSC staff will be sufficient to satisfy the needs of the intervenor, and that there is no need to provide more time for additional submissions or an additional hearing day. The Commission suggests that the Payne family, the Municipality of Clarington and AECL meet to resolve the issues raised by the Payne family relating to the Port Granby Project.

### **Decision**

7. Based on its consideration of the matter, the Commission concludes that AECL is qualified to carry on the activity that the amended licence will authorize. The Commission is also satisfied that AECL, in carrying on that activity, will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed. Therefore,

the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, issues the Waste Nuclear Substance Licence WNSL-W1-2311.00/2021 to Atomic Energy of Canada Limited for the Port Granby Project. The licence is valid from the effective date of the land transfer of the Port Granby Waste Management Facility Property as set out in the "Agreement of Purchase and Sale" between "Her Majesty the Queen In Right Of Canada", "Cameco Corporation" and "Canada Eldor Inc.", and remains in effect until December 31, 2021 unless otherwise suspended, amended, revoked or replaced. If the land transfer is not concluded within one year from the date this licence is issued, the licence shall terminate.

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<sup>3</sup> Statutory Orders and Regulations (SOR)/2000-211.

8. The Commission includes in the licence the conditions as recommended by CNSC staff and set out in the draft licence attached to CMD 11-H10, with the following modification:
  - Licence condition 1.1 is modified such that the language of the condition is consistent with the Licence Condition Handbook and other licences issued under the NSCA.
9. With this decision, the Commission requests a report from CNSC staff on the commissioning of the water treatment plant.

### **Issues and Commission Findings**

10. In making its licensing decision, the Commission considered a number of issues relating to AECL's qualification to carry out the proposed activities and the adequacy of the proposed measures for protecting the environment, the health and safety of persons, national security and international obligations to which Canada has agreed.

### **Management Systems**

11. AECL reported that the PHAI Management Office is comprised of experienced resources from AECL, Public Works and Government Services Canada (PWGSC) and Natural Resources Canada (NRCan) to manage the strategic, technical, contractual and regulatory aspects of the Port Granby Project. Representatives from AECL further described the PHAI Management Office structure and how responsibilities are delegated through the PHAI Management Office.
12. Representatives from AECL also reported having submitted the document "*PHAI Quality Assurance Plan*" (PHAI QA Plan) to CNSC staff, which defines the quality assurance program applied to the execution of the Port Granby Project construction and remediation activities to assure compliance with the requirements imposed by the following:
  - the Legal Agreement between Canada and the Town of Port Hope, the Township of Hope and the Municipality of Clarington;
  - the anticipated Port Granby Waste Nuclear Substance Licence;
  - the EA Screening Report decision; and
  - Federal Project approvals.
13. Representatives from AECL explained that the processes and practices summarized in the PHAI QA Plan satisfy the requirements identified above and comply with the quality management system defined in CAN/CSA-ISO 9001:2008 Standard "Quality Management Systems – Requirements. CNSC staff reported having reviewed AECL's QA Plan against this Standard and found it acceptable.

14. CNSC staff added that they consider that quality assurance and control during construction, material specifications, and long-term maintenance and monitoring following the installation of the top cover will ensure the systems will continue to perform their design over the long-term.
15. Based on its consideration of the presented information, the Commission concludes that AECL has appropriate organization and management structures in place to adequately carry out the activities under the proposed licence.

### **Human Performance Management**

16. In terms of Human Performance Management, CNSC staff reported having reviewed AECL's submission "*PHAI Training Plan*" and found it to be consistent with AECL's corporate training policies and program. CNSC staff also reported that the training plan is acceptable and adequate to ensure that all staff are qualified to perform their duties safely.
17. The Canadian Nuclear Association stated in their intervention that AECL has extensive experience in removing and managing low-level radioactive waste. The Commission asked AECL how their experience in relocating low-level radioactive waste will be applied to the Port Granby Project. Representatives from AECL responded that the waste deposited on the Port Granby site is similar to the waste found on the Port Hope site, and that similar work conducted at other sites has allowed them to gain experience and develop techniques to safely clean up and properly manage the Port Granby site.
18. In response to a question from the Commission regarding the classification of workers and contractors associated with the Port Granby Project, representatives from AECL and PWGSC both stated that all workers, including contractors, will be classified as nuclear energy workers (NEWs) and will be required to have a dosimetry program that is acceptable to the CNSC.

### **Operating Performance**

#### *Project Activities*

19. In their submission, AECL provided a detailed description of activities related to all three phases of the project and an overview of their work schedule. AECL reported that activities will be conducted in three stages:
  - Stage 1 – AECL will operate and maintain the existing Port Granby WMF and will undertake civil works contracts to upgrade municipal roads to facilitate construction preparations.
  - Stage 2 – AECL will commence the construction of the new waste water treatment plant (WWTP), will perform site preparations, and will construct enabling infrastructure. Once the site preparations are complete and enabling infrastructure is in place, AECL will construct the new LTWMF, move the low-level radioactive waste, and remediate the excavated sites.

- Stage 3 – AECL will perform activities for the continued operation of the WWTP, the operation of the East Gorge Collection System, and the initiation of the mound monitoring and maintenance program.
20. CNSC staff reported that they accept the plan and associated documents submitted by AECL for the continued operation of the Port Granby WMF. CNSC staff stated that implementation of the Port Granby Project activities by AECL will ensure safe conduct of those activities and the protection of the environment.
  21. A number of intervenors expressed their concerns associated with the relocation of the low-level radioactive waste and suggested that the waste remain in its current location. The Commission inquired about the reason for moving the waste from its current location to an engineered mound. Representatives from AECL explained that it was determined through assessments that the shoreline on which the facility is currently located is eroding. This could eventually lead to the contamination of Lake Ontario. CNSC staff added that moving the waste will help prevent the waste from falling into Lake Ontario and will allow for a better monitoring program. Representatives from the MOE stated that moving the waste to a new engineered facility will address many potential environmental issues and this landfill reclamation and remediation site will meet current standards and requirements. Representatives from NRCan described the process used to develop and choose an option for the long-term management of the waste in Clarington. The Commission asked the Ganaraska Region Conservation Authority (GRCA) for their perspective on the option of not moving the waste and of reinforcing the current WMF, as some intervenors suggest. The GRCA explained that if the option of leaving the waste in place and reinforcing the current bluffs was chosen, erosion would, in time, destroy the bluffs.
  22. An intervenor requested that there be CNSC oversight during construction activities for the LTWMF. CNSC staff explained that there currently are site inspectors located at the Darlington office that would be providing oversight and that they are looking at the possibility of adding a dedicated Port Granby Project inspector at the Darlington office to provide routine oversight. CNSC staff added that as the project progresses into the construction phase, the CNSC oversight requirement will be defined.
  23. An intervenor expressed concerns with the new mound design not having the volume to accommodate all of the low-level radioactive waste currently stored at the existing Port Granby facility. Representatives from AECL explained that the required volume for the mound design was determined through extensive borehole testing and that a 15 percent contingency was added in the designed volume.
  24. An intervenor suggested consolidating the Port Hope and Port Granby facilities into one facility to reduce the cost of building and monitoring. The Commission asked NRCan to elaborate on the decision to build two separate facilities instead of consolidating the low-level radioactive waste at Port Hope and Port Granby into one facility. Representatives from NRCan stated that the decision to build two facilities instead of one was a community-based decision and that, while a cost analysis proved that this decision was more costly, the government chose the option supported by the community.

25. The Commission inquired about industry experience in encapsulating low-level radioactive waste. Representatives from AECL responded that a number of similar facilities exist in the United States and in France and that they are applying lessons learned from these other facilities to the Port Granby Project. The Commission also asked if any of the similar sites found globally have been released for public use. Representatives from AECL responded that some of the sites have been released for public use.
26. The Commission inquired about the length of time required for the remediation of the existing site. Representatives from AECL explained that after the waste contained within the Port Granby WMF is relocated to the new mound, the areas previously containing the waste will be backfilled using clean material and that this work should be completed during the 10-year timeline. Representatives from AECL added that they will continue to monitor groundwater in the remediated areas until such time as ground water no longer requires processing. CNSC staff reiterated AECL's response and stated that the uncertainty in the duration of remediation of the existing site depends on the duration of the required ground water processing after the waste has been relocated. In their intervention, representatives from the Municipal Peer Review Team explained that the activity of flushing the contaminants from groundwater will be both passive, through groundwater flow and rainfall, and active, through the collection and treatment of ground water. Representatives from the Municipal Peer Review Team also stated that the amount of time needed is difficult to predict and is shown as several decades on the current model.
27. The Commission asked how designers made their prediction that the structure that will be built for the Port Granby Project will last 500 years. Representatives from AECL explained that they do not expect significant deterioration of the structure over time since it will be built of both natural and synthetic materials and that long-term management of the facility is important to ensure the structure can reach its life expectancy. CNSC staff added that they conducted analyses to predict the consequences of specific component failures to ensure that problems could be identified early through a well-designed monitoring program. CNSC staff also explained tests that were conducted on materials to confirm AECL's prediction of the life span.
28. The Commission asked when the institutional transfer of the site for public use will occur. Representatives from AECL explained that the radiation levels at the top of the mound will be at background levels upon completion of construction and that they are collectively working with NRCAN and the municipality to determine an appropriate end-use concept for this facility. The Commission also asked how long ongoing monitoring and licensing will be required for the Port Granby site. CNSC staff explained that, to determine the length of required regulatory oversight, CNSC staff must be satisfied that the liquid effluents are reduced and the end-use objective for the facility must be determined. CNSC staff added that the site will still contain nuclear substances for many years and will therefore require some form of institutional control, whether it is CNSC regulatory oversight or another form of oversight or management of the site.

### *Clean-up Criteria*

29. AECL reported that during the EA the clean-up criteria for inorganic contaminants of potential concern in soils for the Port Granby Project were developed using protocols, guidance and regulations set by the CNSC, the Ontario Ministry of the Environment (MOE) and Environment Canada. AECL defined the clean-up criteria and explained how it was developed.
30. CNSC staff stated that international best practices were considered during the definition of the clean-up criteria and that AECL developed the criteria for the PHAI in consultation with public stakeholders, the Municipalities of Port Hope and Clarington, and provincial and federal authorities.
31. The Commission asked if the MOE agrees with the clean-up criteria established by the CNSC and AECL. Representatives from the MOE responded that they are aware of the criteria that are proposed for the site and are in agreement with the project.

### *Water Treatment*

32. CNSC staff stated that a new waste water treatment system will be commissioned before the initiation of the Port Granby WMF remediation. AECL explained the expected performance of the WWTP, as well as the activities required and scheduled for the construction of the WWTP. CNSC staff added that the WWTP will be located near the new LTWMF and will serve both for the remediation of the existing Port Granby WMF and the construction of the new LTWMF.

### *Conclusion on Operating Performance*

33. The Commission is of the opinion that, given the mitigation measures and safety programs that are in place or will be in place to control hazards, AECL will provide adequate protection to the health and safety of persons, the environment and national security throughout the project.

### **Safety Analysis**

34. CNSC staff reported that, unlike Class I facilities, there is no specific requirement for conducting a safety analysis for an application for a WNSL.
35. The Commission agrees that a safety analysis of the Port Granby Project is not required to consider this licence application.

## Physical Design

### *Long-Term Waste Management Facility*

36. In their submission, AECL described the details of the mound construction and waste remediation, which included a description of the materials chosen for the construction and the construction sequence. AECL explained that the mound will be constructed with a multi-component base liner system comprising a composite barrier system made of synthetic geomembrane and compacted clay layers, which will be designed to include a leachate drainage and collection system. AECL also explained that the mound will have a multi-component top cover system to reduce surface water infiltration through the waste, to provide protection of the mound from inadvertent intrusion into the waste, and to reduce levels of gamma radiation on the surface of the mound to background levels.
37. In addition, AECL provided the sequence of waste excavation and explained that a verification protocol will be employed to demonstrate that all of the contaminants of possible concern have been removed and that the PHAI cleanup criteria have been met.
38. CNSC staff reported having reviewed AECL's documents "*Port Granby Project – Detailed Design Description Report: Long-Term Waste Management Facility*" and "*Port Granby Project – Addendum to Detailed Design Description Report: Long-Term Waste Management Facility*" and found them acceptable. CNSC staff explained the suitability of the proposed surface facility and also provided an overview of the design. CNSC staff stated that the proposed landfill design will provide adequate long-term containment and isolation of the waste from the environment.
39. An intervenor questioned the integrity of the mound following earthquakes. The Commission asked if seismic qualification studies were conducted for the engineered mound. Representatives from AECL responded that site-specific seismic analyses were carried out at the Port Granby site. Representatives from AECL added that the water treatment plant has been designed and will be constructed to meet the *National Building Code of Canada* 2005 Edition for seismic requirements, and that the mound, for which there is no seismic code, will be constructed of fairly elastic materials to prevent damage that could result from seismic events.
40. The Commission inquired about the effects of frost on the mound cover. Representatives from AECL explained that the top layer of the mound was designed with a thickness of 2.75 metres to take into consideration the frost layer.
41. An intervenor stated that there is a history of liner ruptures in similar facilities in the United States. The Commission asked if AECL was aware of these liner ruptures and how AECL's design differs. Representatives from AECL stated that they are aware of liner rupture issues related to insufficient leachate removal and that the AECL design reflects a requirement for leachate extraction from the mound for precisely that

purpose. Representatives from AECL added that materials used in the construction of the new mound are sanctioned by the provinces throughout Canada for the management of hazardous waste materials. The Commission asked if contingency plans were in place in case of a liner rupture. Representatives from AECL explained that they do not expect a liner rupture since one of the key features in their design is the elasticity of the materials to allow materials to move slightly to prevent ruptures. Representatives from AECL added that the base layer of the mound will be at a depth of 3.5 metres below the existing surface of the ground, where a natural impermeable till layer is found providing another effective barrier to leaks.

42. The Commission inquired on the long term volumes of leachate expected from the mound requiring treatment. Representatives from AECL explained that they expect to be treating approximately 25,000 cubic metres of leachate per month initially, and that the volume should decrease to less than 100 cubic metres of leachate per month over time. Representatives from AECL added that this decrease in leachate volume over time has been observed at other facilities of similar design.
43. An intervenor suggested the use of crushed gypsum as a protective barrier in the liner to reduce the migration of radioactive contaminants into the soil. The Commission asked if the use of gypsum had been explored as a layer option. Representatives from AECL stated that they had not examined the use of crushed gypsum mixed in the lower layers as they believe the clay layers will provide an adequate diffusive barrier. The Commission also inquired about the choice of a single liner in the design as opposed to a double liner. CNSC staff responded that a single liner was deemed sufficient following reviews of the characteristics of the leachate and the quantity of leachate to be generated, as well as the geology and hydrology of the site.
44. Many intervenors claimed that there was no scientific theory supporting the design of the new mound. The Commission inquired about the scientific and/or engineering studies that were conducted. Representatives from AECL explained the various studies that were conducted and stated that the studies were peer-reviewed.

#### *Waste Water Treatment Plant*

45. For the WWTP, AECL described the water treatment process design, how the water treatment process design was developed, and explained pilot scale testing that was carried out on-site at the Port Granby WMF in order to confirm the performance of the treatment processes and determine the design requirements for the design of a full scale system. AECL also provided the results obtained from the testing.
46. Further, AECL reported the process components, process control, and the general water treatment process flow. AECL provided information on the commissioning of the new WWTP, which will include pre-commissioning, inactive WWTP process commissioning, and active WWTP process commissioning. Finally, AECL explained the decommissioning of the existing water treatment plant.

47. CNSC staff reported having reviewed AECL's document "*Water Treatment Definition*" and reported that they found, through their assessment of this document, that AECL has selected the best demonstrated available technology. CNSC staff stated that they are currently proposing design objectives for AECL's consideration during the finalization of the design for the WWTP.
48. With regards to the overall design of the LTWMF, the Municipal Peer Review Team presented to the Commission their comments and recommendations on this licence application. The Commission asked the Municipal Peer Review Team if they are confident in the design presented by AECL. The Municipal Peer Review Team responded that they found the overall landfill design to contain many parallel levels of redundancy to allow the design to last through its life expectancy. The MPRT also noted that the design allows opportunities for maintenance or upgrading as required. The MPRT stated they believe the design is suitable for the lifespan noted by AECL.
49. The Commission asked if AECL will revisit their design as new technology emerges over the next 10 years. Representatives from AECL explained that if changes were suggested as the project progresses the changes could be considered through a change process that has been developed in the PHAI management office.
50. In their intervention, the Ganaraska Region Conservation Authority (GRCA) stressed the importance of smart end use and mound landscape, specifically allowing the mound to fit in the geology of the area to create the visual effect of a natural system. The Commission asked AECL if they had explored the possibility of engineering the mound to fit in the geology of the area. Representatives from AECL explained that they support the End-Use Committee's recommendations and have changed the orientation of the mound to align with the natural contours of the topography. Representatives from AECL also stated that they recognized the desire for reforestation and will be landscaping accordingly.
51. On the basis of the information presented, the Commission concludes that the design of the LTWMF is adequate and is based on sufficient scientific and engineering studies for the operation period included in the proposed licence. The Commission is also satisfied with AECL's willingness to properly landscape the area.

### **Fitness for Service**

52. AECL described the existing Port Granby WMF currently owned by Cameco and stated that a Transitional Services Agreement (TSA) will be established with Cameco to address training, orientation and site services for the safe and orderly transfer of operational responsibility of the Port Granby WMF to AECL. AECL further reported that they will operate the facility in accordance with the current Facility Licence Manual and will apply the extensive safety and environmental programs set out in the PHAI and Port Granby compliance plans.

53. The Commission inquired about the process for the transfer of land from Cameco. Representatives from NRCan and AECL explained that the transfer of land from Cameco to the Government of Canada should occur 60 days after a licence is issued by the CNSC for the Port Granby Project and that a transition services agreement will be in place to assure Cameco continues to operate the existing facility while AECL performs job shadowing over a period of six months before assuming full operations of the facility. The Commission asked if CNSC staff is comfortable with a six-month job shadowing period. CNSC staff responded that a similar arrangement was followed during the transition of the Welcome facility in Port Hope from Cameco to the Government of Canada, which was successful and provided adequate time for the transition.
54. The Commission further inquired about the transfer of land from Cameco to the Government of Canada associated with the Welcome site in Port Hope. Representatives from NRCan explained that AECL is now operating the Welcome site following the transfer of land and the completion of the transition services agreement. Representatives from AECL described lessons learned from this transition of land, stating that they found that the time required to acquire the necessary skills and competence to run the Welcome Waste Management Facility was shorter than expected. CNSC staff stated that they monitored the transition of the Welcome site from Cameco to AECL and that they are satisfied with the transition. CNSC staff further added that they have not observed any problems during the transfer of the Welcome site.
55. CNSC staff reported that they accept the plan for the continued operation of the Port Granby WMF submitted by AECL.
56. Based on the information provided, the Commission concludes that the LTWMF will be properly maintained and, therefore, will be fit for its intended use.

### **Radiation Protection**

57. With regards to radiation protection (RP), AECL explained that their RP Plan describes the basis for protection from ionizing radiation and for measuring the dosage of ionizing radiation during the PHAI construction-related activities. AECL added that the RP Plan also defines a management framework and processes that are designed to ensure that radiation doses are kept as low as reasonably achievable (ALARA), economic and social factors taken into account. CNSC staff reported having reviewed AECL's submission "*PHAI Radiation Protection Plan*", and found that it is consistent with AECL's RP program defined in the Radiation Protection Requirements document and the documents comprising the Radiation Protection Manual.

58. AECL stated that contractors will be required to submit their own RP programs and procedures to AECL for acceptance prior to commencing work activities. AECL also stated that they will be conducting oversight of the contractors' RP program implementation during work execution.
59. With regards to radiation protection after completion of construction activities, Representatives from AECL stated that the mound, as it is designed, will provide a radiation barrier which will reduce the dose rate at the surface of the mound to the natural local background level.

#### *Worker Dose Control*

60. AECL reported that the estimated maximum annual radiation doses to workers would occur during the excavation of and emplacement of wastes in the new mound. AECL estimated the maximum dose levels between 2.1 and 7.1 millisievert per year. AECL stated that the dose estimates assume that the ALARA principle is not applied and that protective measures are not in place. CNSC staff explained that the dose estimates are well below the dose limit for Nuclear Energy Workers (NEW) of 50 millisieverts (mSv) for a one-year dosimetry period. AECL and CNSC staff both stated that actual worker doses are expected to be much lower than the estimated values once mitigation measures, such as personal protective equipment and clothing, are implemented.
61. A number of intervenors expressed concerns regarding radiation protection at the Port Granby site during project activities and during on-going monitoring of the site. One intervenor in particular asked what doses were being received by workers and how dust was being mitigated at other sites from similar work. Representatives from AECL responded that the total dose for all workers involved in the trial remediation project in Port Hope was 0.008 person-mSv<sup>4</sup>, which is well below the total annual dose limit for a NEW of 50 mSv. Representatives from AECL also responded that at the site of the trial remediation at Port Hope, measurements from airborne samplers yielded levels for long-lived alpha and total suspended particulates at below the background level.

#### *Doses to the Public*

62. AECL reported that the predicted doses to an adjacent child<sup>5</sup> (one year old) are 0.12 to 0.15 millisievert per year and stated that, while the doses are measurable, they remain low in comparison to the CNSC public dose limit of 1 mSv/year and represent 7.5% of the yearly dose due to normal natural background (2mSv/year).

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<sup>4</sup> Person-mSv: total amount of effective dose multiplied by the number of workers involved in the trial remediation.

<sup>5</sup> Adjacent child: one-year old child living immediately adjacent to the existing WMFs or remediation sites 365 days per year, 24 hours per day and who spends 80% of time indoors and undertakes some recreational activities in the area surrounding the existing WMFs for 12 hours per year.

63. CNSC staff reported that the PHAI RP Plan is commensurate with the risk level of the PHAI projects and that the PHAI RP Plan meets the requirements of Radiation Protection Regulations.
64. An intervenor raised concerns regarding increasing radioactivity of the waste on the site with time and the capability of future generations to handle this increased radioactivity. CNSC staff explained that an accumulation of decay products will occur with time but that heat will not be generated as a result, which will not require a change in the mound design. CNSC staff added that the material contained within the mound will dry up with time, reducing the water flow through the material and decreasing the loadings of water from the facility with time.

#### *Conclusion on Radiation Protection*

65. The Commission is of the opinion that, given the mitigation measures and safety programs that are in place or will be in place to control hazards, AECL will provide adequate protection to the health and safety of persons, the environment and national security.

#### **Conventional Health and Safety**

66. AECL described occupational health and safety (OHS) hazards as being physical hazards associated with the construction and transportation as well as dust and noise exposures. AECL explained that these hazards will be reduced through the use of personal protective equipment and clothing, access barriers, and dust suppressants at the site.
67. AECL reported having submitted their document “*PHAI Occupational Health and Safety Plan*” to CNSC staff, and explained that the purpose of this plan is to ensure the health and safety of employees at work is adequately protected, that legal requirements are met and that personal risk is controlled to as low as reasonably achievable.
68. AECL also stated that contractors will be required to produce their own OHS Plans and submit them to AECL for acceptance prior to commencing work activities. AECL also stated that they will be conducting oversight of the contractors’ OHS program implementation during work execution.
69. CNSC staff reported having reviewed AECL’s OSH Plan and found that the document is consistent with AECL’s corporate Health and Safety program which covers the company-wide procedures, training, oversight and reporting. CNSC staff also reported that the PHAI OSH Plan is acceptable and demonstrates that applicable code and requirements will be met.

70. The Commission asked AECL if any of the other waste sites they have managed required similar excavation as the Port Granby site, and if AECL has encountered any health or safety related issues at any of the other sites. Representatives from AECL stated that they have a range of experience in excavation, dust mitigation, and worker exposure. Representatives from AECL also stated that they have not encountered health and safety issues but have had to take into consideration a wide variety of health and safety factors which can be applied to the Port Granby Project.
71. Based on the information provided, the Commission concludes that adequate measures are and will be in place regarding the conventional health and safety of workers at the LTWMF.

### **Environmental Protection**

72. AECL reported that biophysical monitoring will be conducted throughout each phase of the Port Granby Project, which will include atmospheric, aquatic, groundwater, and terrestrial monitoring. AECL also explained their comprehensive Dust Management Plan, which has been completed to support the Environmental Protection Plan and to provide details for the management of dust during the Construction and Development Phase 2 of the project.
73. CNSC staff reported having reviewed the following four documents submitted by AECL of relevance to this safety and control area:
- Environmental Management and Protection Plan (EMPP) for On-Site Construction and Remediation Activities;
  - Environmental Monitoring Plan (EMP);
  - Environmental Protection Plan (EPP); and
  - Water Treatment Definition.
74. CNSC staff reported having found all four documents submitted by AECL, and referenced above, acceptable. CNSC staff stated that until the new waste water treatment plant (WWTP) is constructed, AECL will continue to use the existing water treatment and collection system. CNSC staff also proposed no changes to the current effluent discharge limit for radium and CNSC staff stated that they are establishing a compliance requirement for AECL to continue monthly toxicity testing.
75. CNSC staff reported having reviewed AECL's Water Treatment Definition and found that the proposed water treatment process will provide consistent and very significant reduction of final effluent contaminant concentrations.
76. CNSC staff also noted that effluent release limits cannot be established at this time because of the unavailability of real operational data from the new facility. CNSC staff stated that they will define the release limits following the commissioning and operation of the new WWTP for 12 months. CNSC staff also stated that AECL is currently required to propose action levels, which are to be periodically reviewed and revised, and that the action levels will be verified by CNSC staff as part of regulatory oversight.

*Groundwater and Soil Monitoring*

77. The Commission requested information on the depth of AECL's monitoring wells and asked if there was a good three-dimensional representation for ground water monitoring. Representatives from AECL explained that monitoring wells are installed at various locations and penetrate at different geological layers. CNSC staff stressed the importance of monitoring at different depths. In response to a question from the Commission asking if CNSC staff will be performing independent ground water monitoring, CNSC staff stated that they will assess AECL's monitoring through inspections and by taking samples for independent analysis. CNSC staff added that AECL will make environmental monitoring information available to the public through their public information program and in their annual report, which is also available on their website.
78. An intervenor requested independent monitoring of residential wells and requested that well monitoring results be communicated to local residents in a timely manner. This intervenor also requested that residential well monitoring continue for a period of no less than two years following the construction of the LTWMF. The Commission requested more information regarding AECL's well monitoring program. Representatives from AECL stated that they offer voluntary well monitoring for local residents interested in having their wells tested and that residential wells are sampled once per year. Representatives from AECL explained that well water analyses are performed by independent laboratories and it takes at least one month for results to be returned to AECL. Representatives from AECL stated that the well sample results are communicated directly to the resident that requested the specific monitoring.
79. The Commission asked why AECL was not performing soil gamma monitoring on site. Representatives from AECL clarified that soil gamma monitoring was performed on the entire Port Granby site, along with various locations Northeast, Northwest, Southeast and Southwest of the Port Granby site to prove that there was not any contamination prior to the start of the Port Granby Project and to help improve the confidence of local residents. An intervenor expressed its concerns regarding contamination of their land and requested a copy of AECL's baseline reports. Representatives from AECL responded that the results of their baseline monitoring will be made available to the public in the near future.

*Air Quality Monitoring*

80. Many intervenors expressed concerns regarding airborne contamination outside the Port Granby site boundary and regarding AECL's ability to quickly detect airborne contamination. Representatives from AECL explained how they will be monitoring the air on the site and at the perimeter of the site for long-lived alpha and total suspended particulates. Representatives from AECL also reported that their measurements for airborne contamination collected during the trial remediation yielded results that were at background radiation level.

81. The Commission asked Cameco if they performed air quality monitoring during the excavation of materials from the trench number 54 of the Port Granby WMF. Representatives from Cameco responded that they had a comprehensive monitoring plan in place during the excavation activities related to trench number 54 and that their high volume air sampler located in proximity of the excavation site measured uranium concentration at only slightly above background levels. Representatives from Cameco noted that uranium is the only radioactive substance of any significance at the Port Granby WMF. Representatives from Cameco also predict that the concentration of airborne contaminants will decrease as AECL excavates deeper since the waste will be more humid, thus reducing airborne contamination concerns. CNSC staff reported having overseen work conducted by Cameco related to trench number 54 and concurred with Cameco's assessment of the airborne contamination hazard on the Port Granby site.
82. In response to a question from the Commission regarding the direction of prevailing winds at the Port Granby site, representatives from AECL explained that there would be little circulation of contaminants onto residential land since the wind direction is normally from the Northeast to the Southwest, or towards the lake, during the period of time construction activities are scheduled to occur. Representatives from AECL explained that there is air quality monitoring on site and along the perimeter of the site capable of providing real time results, and that local residents will be notified if the wind reaches a certain threshold in the direction of neighbouring residents. Representatives from AECL noted that excavation activities will be halted if the wind reaches a velocity of 36 kilometres per hour. Representatives from AECL also explained their dust management plan, how air monitoring will be conducted and how workers are to mitigate dust during work activities.
83. The Commission is of the opinion that, given the mitigation measures and safety programs that are in place or will be in place to control environmental hazards, AECL will provide adequate protection to the health and safety of persons and the environment. The Commission recognizes that AECL has been conducting ground water well monitoring for local residents and will make baseline monitoring data available to the public.

### **Emergency Management and Fire Protection**

84. AECL reported having an emergency plan in place, as described in the "*PHAI Emergency Plan*". AECL explained that their Emergency Plan describes the planning and operational requirements for the response to an emergency directly or indirectly affecting the PHAI projects.
85. AECL stated that contractors working on PHAI construction operations will be required to produce their own emergency plans and procedures for work under their supervision, and submit them to AECL for acceptance. AECL also stated that they will be conducting oversight of the contractors' emergency plan implementation during work execution, including witnessing regular emergency exercises and drills, as required under the PHAI Emergency Plan.

86. CNSC staff reported having reviewed AECL's PHAI Emergency Plan and found that it includes mitigation measures and response to fire incidents. CNSC staff also reported that they consider that the Emergency Plan meets emergency management guidelines of the CNSC guidance document G-225 and is commensurate with the level of risk of the Port Granby Project.
87. Based on the information provided, the Commission is of the opinion that AECL has adequate measures in place regarding emergency management and fire protection at the facility.

### **Security**

88. AECL reported that security arrangements required for the PHAI projects are established in their document *PHAI Security Plan*. AECL explained that the PHAI Security Plan addresses the division of responsibilities, linkages with local law enforcement, functions, and elements of the security plan such as training, drills, exercises and various physical security components. CNSC staff reported having reviewed and accepted AECL's Security Plan and found that it is consistent with the AECL Corporate Security Policy and Program. CNSC staff also noted that AECL's Security Plan is commensurate with the level of risk of the PHAI projects and meets the requirements of the *General Nuclear Safety and Control Regulations* (GNSCR).
89. The Commission concludes that AECL has made adequate provisions for ensuring the physical security of the facility, and is of the opinion that AECL will continue to make adequate provisions during the proposed licence period.

### **Safeguards**

90. The CNSC's regulatory mandate includes ensuring conformity with measures required to implement Canada's international obligations under the Treaty on the Non-Proliferation of Nuclear Weapons. Pursuant to the Treaty, Canada has entered into safeguards agreements with the International Atomic Energy Agency (IAEA). The objective of these agreements is for the IAEA to provide credible assurance on an annual basis to Canada and to the international community that all declared nuclear material is in peaceful, non-explosive uses and that there is no undeclared nuclear material or activities in this country.
91. CNSC staff reported that the safeguards safety and control area is not relevant to this licence application since material that will be handled as part of the Port Granby Project is not subject to the Safeguards Agreement between Canada and the International Atomic Energy Agency.

92. Based on this information, the Commission considers that AECL has made, and will continue to make, adequate provisions in the areas of safeguards and non-proliferation to ensure the maintenance of national security and the implementation of the national obligations to which Canada has agreed.

### **Packaging and Transport**

93. AECL reported that radioactive material transportation measures are defined in their document “*PHAI Radioactive Material Transportation Plan*” to promote the safe transportation of low-level radioactive wastes and to establish a system to recognize, prevent, evaluate and control transportation hazards in order to protect persons, property and the environment from the effects of radiation during the transport of radioactive material. AECL added that the Radioactive Material (RAM) Transportation Plan also addresses responses to emergency situations involving dangerous goods.
94. In their submission, AECL explained their process for transporting low-level radioactive wastes from the Port Granby WMF to the new LTWMF. AECL stated that transportation of low-level radioactive wastes will not occur on public roads, that truck load size will be restricted to prevent spillage, and that waste loads will be entirely covered and secured to mitigate dust generation. AECL also stated that vehicles used to transfer RAM will be dedicated to the transport operation until they are decontaminated and confirmed acceptable for release from the site.
95. CNSC staff reported having reviewed AECL’s RAM Transportation Plan and found that it was consistent with AECL’s corporate program for RAM transportation and references AECL’s RAM Program Requirements and RAM Overview document. CNSC staff stated that they found AECL’s RAM Transportation Plan acceptable.
96. The Commission concludes that AECL has made adequate provision for ensuring it meets the regulations for packaging and transport, and is of the opinion that AECL will continue to make adequate provision during the proposed licence period.

### **Aboriginal Consultation**

97. AECL stated that consultation with First Nations and Aboriginal Groups has been ongoing for many years and will continue on a regular basis in Phase 2 of the Project. AECL noted that some representatives from First Nations and Aboriginal Groups participated in workshops and open houses throughout the Port Granby Project EA process and provided input on possible alternatives for completing the project.

98. CNSC staff reported that 10 Aboriginal groups were identified as potentially having an interest in the project and were given information about the project and its potential impacts on the environment. CNSC staff stated that, in 2010, letters of notification were sent to the identified groups to inform them of the status of the Port Granby Project and the licensing process for the project, and that no request for additional information was received. CNSC staff added that letters of notification were sent to the Aboriginal groups advising them of the upcoming Public Commission Hearing for this project and encouraging the groups to participate, but that no interventions were submitted by any Aboriginal Groups.
99. CNSC staff also reported that they are not aware of any adverse impacts this proposed project may have on any potential or established Aboriginal or treaty rights.
100. Based on the above information, the Commission acknowledges the efforts made by AECL regarding Aboriginal consultation. The Commission also acknowledges the efforts made in relation to the CNSC's obligations regarding Aboriginal consultation and the Legal Duty to Consult.

### **Public Information Program**

101. AECL reported that the PHAI Management Office is working closely with federal, municipal and other stakeholders to ensure a high level of community awareness and public participation throughout Phase 2 of the Port Granby Project. AECL explained their outreach activities to inform and interact with the public and other key stakeholders in the community. AECL stated that it informs the public through:
  - regular updates to the Municipality of Clarington;
  - displays and staffed information booths at trade shows, malls and fairs in the community;
  - extensive project information at the PHAI Project Information Exchange;
  - presentations to elected and appointed officials at all levels of government, community groups, members of educational and scientific/technical communities, First Nations and visiting dignitaries;
  - open houses, Town Hall and neighbourhood meetings;
  - publications, advertising and promotion; and
  - online communications.
102. AECL also reported that the PHAI Management Office has a communications officer dedicated to increasing awareness of the Property Value Protection (PVP) program, which is a PHAI program dedicated to owners within a specified zone from the project-related loss at the time of property sale.
103. Based on public comments and concerns, AECL has created a dust management plan as well as dust mitigation measures, and has designed upgrades to rehabilitate roads, shoulders and other features to improve safety along the route.

104. CNSC staff explained that the information requirement in support of an application for a WNSL under Section 3 of the GNSCR does not include a specific requirement for a public information program. CNSC staff reported that AECL has incorporated public information and community involvement as a key element of the Port Granby Project since the project was initiated in 2001 and that AECL carried out communication and consultation activities during the EA. CNSC staff added that AECL will continue communication activities throughout the project. CNSC staff reported that they are satisfied with communications and community involvement for the PG project.
105. The Commission requested more information about AECL's public consultation process. Representatives from AECL explained that they have had extensive community consultations, public meetings, discussion groups, one-on-one meetings with property owners and numerous publications since the EA process began. A number of intervenors stated that their concerns have been ignored by AECL and that some of their questions have not been answered. The Commission asked why questions were not answered, and AECL responded that it was due to an oversight on their part.
106. The Municipalities of Clarington and Port Hope both stated that they were key stakeholders in the project and have retained the services of the Municipal Peer Review Team to help assess the project and the EA. The Municipality of Clarington stated that it will continue to maintain an active interest in the project as it progresses. Both municipalities stated that they fully support the project based on the Municipal Peer Review Team's findings and their review of the application. The Commission asked the Municipality of Clarington what feedback it has been receiving from its residents with regards to the Port Hope Project. The Municipality of Clarington responded that the feedback has been generally positive from the meetings they have attended. In response to a question from the Commission asking if the peer review conducted by the municipalities was opened to public participation, the Municipality of Clarington stated that it was a public process.
107. Further to the presentations made by the Municipalities of Clarington and Port Hope, the Commission asked what monitoring role the Municipality of Clarington has in the Port Granby Project. The Municipality of Clarington responded that they will monitor the project for public perception and public acceptance, and will intervene with AECL if public concerns are brought forward.
108. An intervenor requested an ombudsman to help mediate concerns raised by the residents throughout the project. Representatives from NRCan explained that the legal agreement includes a provision for a complaints process, which has been established. Representatives from NRCan stated that there are currently no plans for an ombudsman since other opportunities for communication can currently address that need.
109. Based on this information, the Commission is of the view that there was sufficient opportunity for the public to be informed and express its views on the project.

### **Cost Recovery**

110. With regards to cost recovery, CNSC staff reported that the PHAI project is exempt from CNSC's *Cost Recovery Fees Regulations* under Section 2(e) because AECL, as an Agency of the Federal Government, is applying for a licence from the Commission in respect of a contaminated site where the contamination did not result from the activities of the applicant.

### **Financial Guarantees**

111. The Commission requires that an adequate financial guarantee for realization of the planned activities is put in place and maintained in a form acceptable to the Commission throughout the licence period.
112. A representative from the Ministry of Natural Resources Canada (NRCan) explained that the financial guarantee requirements under the *General Nuclear Safety and Control Regulations*<sup>6</sup> are addressed in a letter of commitment from the Honourable Lisa Raitt (P.C., M.P.), formerly Minister of Natural Resources Canada (NRCan) to Dr. Michael Binder, President and Chief Executive Officer, CNSC. CNSC staff reported that the letter meets the guidance set out in the regulatory guide G-206: *Financial Guarantees for the Decommissioning of Licensed Activities* and is an acceptable form of financial guarantee.
113. Based on this information, the Commission considers that the financial guarantee is acceptable for the purpose of the current licence application.

### **Application of the *Canadian Environmental Assessment Act***

114. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the *Canadian Environmental Assessment Act*<sup>7</sup> (CEAA) have been fulfilled.
115. CNSC staff noted that the EA for the project was initiated in 2004 and that both the CNSC and NRCan determined that a screening level EA was required. CNSC staff reported that it was determined at a Commission Hearing on the EA Screening Report in August 2009 that the Port Granby Project, taking into account the mitigation measures identified in the EA Screening Report, would not likely cause significant adverse environmental effects.

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<sup>6</sup> SOR/2000-202

<sup>7</sup> S.C. 1992, c. 37

116. CNSC staff reported that the CNSC and NRCan determined that an EA follow-up program was required for the Port Granby Project. CNSC staff assessed AECL's EA follow-up on biophysical effects monitoring plan and found it acceptable. NRCan assessed the EA follow-up socio-economic effects monitoring plan and found it acceptable. CNSC and NRCan concluded that the EA follow-up plan submitted by AECL meets the requirements for monitoring the effects on biophysical and socio-economic components identified by the EA screening report.
117. Based upon the above assessment, the Commission is satisfied that the requirements for an environmental assessment under the CEAA for AECL's application for a licence have been met.

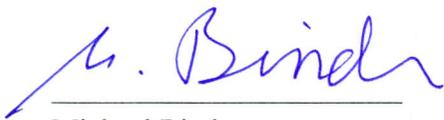
### **Licence Length and Conditions**

118. Based on the above information and considerations, the Commission is satisfied that a 10-year licence is appropriate. The Commission accepts the licence conditions as recommended by CNSC staff. The Commission also accepts CNSC staff's recommendation regarding the delegation of authority, and notes that it can bring any matter to the Commission as applicable.
119. The Commission also expects that CNSC staff will have a compliance program in place and be providing routine oversight at the Port Granby Project site during construction activities.

### **Conclusion**

120. The Commission has considered the information and submissions of CNSC staff, the applicant and all participants as set out in the material available for reference on the record, as well as the oral and written submissions provided or made by the participants at the hearing.
121. The Commission is satisfied that the requirements of the *Canadian Environmental Assessment Act* (CEAA) for the environmental assessment of the proposed Long-Term Low-Level Radioactive Waste Management Project have been fulfilled.
122. The Commission considers that the applicant meets the requirements of subsection 24(4) of the *Nuclear Safety and Control Act*. That is, the Commission is of the opinion that the applicant is qualified to carry on the activity that the proposed licence will authorize and that the applicant will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.

123. Therefore, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, issues the Waste Nuclear Substance Licence WNSL-W1-2311.00/2021 to Atomic Energy of Canada Limited for the Port Granby Project. The licence is valid from the effective date of the land transfer of the Port Granby Waste Management Facility Property as set out in the "Agreement of Purchase and Sale" between "Her Majesty the Queen In Right Of Canada", "Cameco Corporation" and "Canada Eldor Inc.", and remains in effect until December 31, 2021 unless otherwise suspended, amended, revoked or replaced. If the land transfer is not concluded within one year from the date this licence is issued, the licence shall terminate.
124. The Commission includes in the licence the conditions as recommended by CNSC staff and set out in the draft licence attached to CMD 11-H10, with the following modification:
- Licence condition 1.1 is modified such that the language of the condition is consistent with the Licence Condition Handbook and other licences issued under the NSCA.
125. With this decision, the Commission requests CNSC staff to inform the Commission of the commissioning of the water treatment plant.
126. The Commission recognizes the authority of the Designated Officer, as this is a nuclear substance facility, to render decisions regarding future licence amendments and Phase III of the Port Granby Project.
127. The Commission also expects that CNSC staff will have a compliance program in place and be providing routine oversight at the Port Granby Project site during construction activities.



Michael Binder  
President,  
Canadian Nuclear Safety Commission

NOV 29 2011

Date

## Appendix A – Intervenors

Intervenors	Document Number
Municipality of Port Hope represented by L. Thompson and M-L. Ellis	CMD 11-H10.2
Jill DeCoste	CMD 11-H10.3
John Stephenson	CMD 11-H10.4 CMD 11-H10.4A
Municipality of Clarington represented by A. Foster, W. Woo, F. Wu, J. Szwarcz, D. Hardy, F. Langmaid, R. Albright, E. Tuson, P. Bowen and T. Van Der Vooren	CMD 11-H10.5 CMD 11-H10.5A
Sarwan Sahota	CMD 11-H10.6
Dan Rudka	CMD 11-H10.7
Ganaraska Region Conservation Authority represented by M. Peacock	CMD 11-H10.8
Patricia Lawson	CMD 11-H10.9
The Payne Family, represented by G. Payne and S. Renaud (Payne)	CMD 11-H10.10 CMD 11-H10.10A CMD 11-H10.10B CMD 11-H10.10C
Gerry Mahoney	CMD 11-H10.11
Frances Brooks	CMD 11-H10.12
Cameco Corporation represented by T. Smith and D. Ingalls	CMD 11-H10.13 CMD 11-H10.13A
Charlie Trim	CMD 11-H10.14
Municipality Peer Review Team of the Municipality of Clarington represented by D. Hardy, T. Van Der Vooren, E. Tuson and P. Bowen	CMD 11-H10.15 CMD 11-H10.15A
Canadian Nuclear Association represented by H. Kleb and K. Olson	CMD 11-H10.16
Lou Rinaldi, M.P.P., Northumberland – Quinte West	CMD 11-H10.17
Donald R. Wiles	CMD 11-H10.18
Port Hope and District Chamber of Commerce	CMD 11-H10.19
John R. O’Toole, M.P.P., Durham	CMD 11-H10.20
Brian M. Ikeda	CMD 11-H10.21
Clarington Board of Trade and Office of Economic Development	CMD 11-H10.22
Durham Nuclear Health Committee	CMD 11-H10.23