

Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant Atomic Energy of Canada Limited

Subject Application to Renew the Nuclear Research and
Test Establishment Decommissioning Licence
for the Whiteshell Laboratories

Hearing
Date November 5, 2008

RECORD OF PROCEEDINGS

Applicant: Atomic Energy of Canada Limited

Address/Location: Atomic Energy of Canada Limited, Chalk River Laboratories
Chalk River, Ontario K0J 1J0

Purpose: Application to Renew the Nuclear Research and Test
Establishment Decommissioning Licence for the Whiteshell
Laboratories

Application received: April 18, 2008

Date of hearing: November 5, 2008

Location: Canadian Nuclear Safety Commission (CNSC) Public Hearing
Room, 280 Slater St., 14th. Floor, Ottawa, Ontario

Members present: M. Binder, Chair
A.R. Graham R. J. Barriault
D.D. Tolgyesi M. J. McDill
C.R. Barnes A. Harvey

Secretary: M.A. Leblanc
Recording Secretary: M. Young
Senior General Counsel: J. Lavoie

Applicant Represented By	Document Number
<ul style="list-style-type: none">• J. Miller, Vice-President and General Manager of Decommissioning and Waste Management• G. Koroll, Director of the Whiteshell Decommissioning Project• R. McCamis, Facility Authority for the Whiteshell Laboratories• J. Osborne, Senior Director of Nuclear Programs and Services	CMD 08-H24.1 CMD 08-H24.1A
CNSC staff	Document Number
<ul style="list-style-type: none">• P. Elder• S. Oue• D. Howard	CMD 08-H24 CMD 08-H24.A CMD 08-H24.B
Intervenors	Document Number
No Intervenors	

Licence: Renewed

Table of Contents

Introduction	1
Decision	2
Issues and Commission Findings	3
Radiation Protection	3
<i>Protection of Workers from Radiation</i>	3
<i>Protection of the Public from Radiation</i>	4
<i>Conclusion on Radiation Protection</i>	4
Decommissioning Performance	4
Conventional Health and Safety	5
Environmental Protection	5
<i>Effluent Monitoring</i>	6
<i>Waste Management</i>	7
<i>Environmental Monitoring</i>	7
<i>Conclusion on Environmental Protection</i>	7
Emergency Preparedness and Response	8
Fire Protection	8
Quality Assurance	9
Public Information Program	10
Nuclear Criticality Safety	11
Security	11
Non-Proliferation and Safeguards	11
Decommissioning Plan and Financial Guarantee	12
Cost Recovery	14
Application of the <i>Canadian Environmental Assessment Act</i>	14
Licence Length and Interim Reporting	15
Conclusion	16

Introduction

1. Atomic Energy of Canada Limited (AECL) has applied to the Canadian Nuclear Safety Commission¹ (CNSC) for the renewal of the Nuclear Research and Test Establishment Decommissioning Licence for its Whiteshell Laboratories located approximately 100 km northeast of Winnipeg, Manitoba. The current licence, NRTEDL-02.02/2008, expires on December 31, 2008. AECL has applied for the renewal of this licence for a period of ten years.
2. The Whiteshell Laboratories facility is comprised of a number of non-nuclear facilities and nuclear facilities including the Whiteshell Research Reactor (WR-1), the Shielded Facilities, various research laboratories, and the liquid and solid radioactive waste management facilities. The facility operated for approximately 40 years as a nuclear operating and test establishment and AECL applied for a licence to decommission the facility in 2002.
3. The CNSC issued² the decommissioning licence, NRTEDL-02.00/2008, following a two-day public hearing held on September 12 and November 14, 2002. During the public hearing, AECL presented a three-phase decommissioning plan to the Commission. The decommissioning licence was issued for a period of six years in order for AECL to complete the first phase of the three-phase plan.
4. AECL requested that the licence be renewed for a period of ten years in order to continue with phase two of the decommissioning and residual operations at Whiteshell Laboratories and construct and operate two new storage buildings for low-level waste (LLW) resulting from the decommissioning operations.

Issue

5. In considering the application, the Commission was required to decide, pursuant to subsection 24(4) of the *Nuclear Safety and Control Act*³:
 - 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.

¹ 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.

² Refer to the *Record of Proceedings* on “Application for a licence to decommission Whiteshell Laboratories”, hearing dates September 12, 2002 and November 14, 2002

³ S.C. 1997, c. 9.

Public Hearing

6. The Commission, in making its decision, considered information presented for a public hearing held on November 5, 2008 in Ottawa, Ontario. The public hearing was conducted in accordance with the *Canadian Nuclear Safety Commission Rules of Procedure*⁴. During the public hearing, the Commission received written submissions and heard oral presentations from CNSC staff (CMD 08-H24) and AECL (CMD 08-H24.1).

Decision

7. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Proceedings*, the Commission concludes that AECL is qualified to carry on the activity that the licence will authorize. The Commission is also of the opinion 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*, renews the Nuclear Research and Test Establishment Decommissioning Licence issued to Atomic Energy of Canada Limited for its Whiteshell Laboratories. The licence, NRTEDL-08.00/2018, is valid from January 1, 2009 to December 31, 2018.

8. The Commission includes in the licence the conditions as recommended by CNSC staff in the draft licence attached to CMD 08-H24.B, with the following clarifications:
 - In Appendix A, item 6 will refer to Revision 7 of the Site Security Report, EPS-14000-RPT-18, as indicated in CMD 08-H24.A;
 - In Appendix E, Building 304, formerly the Gas Dynamics Research Laboratories, will be referenced as the Waste Clearance Facility.
9. The Commission also modifies Section 9 - Reporting in the draft licence attached to CMD 08-H24.B, wherein all reporting shall be submitted to the Commission *or a person authorized by the Commission*.

⁴ S.O.R./2000-211.

10. With this decision, the Commission requests that AECL prepare a status report on the decommissioning performance at its facility following the three-year and seven-year points of the ten-year licence term. CNSC staff shall also prepare a report on the results of compliance activities carried out during the licence term and on the licensee's performance during that period. AECL and CNSC staff shall present their reports at a public proceeding of the Commission in early 2012 and 2016.
11. The Commission expects that a more detailed decommissioning schedule, including deliverables and milestones, will be provided with the status reports, as well as a list of the buildings that have been decommissioned and those yet to be decommissioned.
12. The Commission further requests an update on the status of the Quality Assurance program and implementation following CNSC staff's review in 2009.

Issues and Commission Findings

13. In making its licensing decision under section 24 of the NSCA, the Commission considered a number of matters relating to AECL's qualifications 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. The Commission's findings on these issues are summarized in the following sections.

Radiation Protection

Protection of Workers from Radiation

14. AECL stated that it implements a company-wide radiation protection program, which includes a company-wide dosimetry database and dose reporting system. AECL stated that no worker received an effective dose in excess of the regulatory limits of 50 millisieverts in one year (mSv/y) and 100 mSv over a five-year period.
15. CNSC staff stated that, over the licence period, AECL's radiation protection program and the implementation of the program met requirements. CNSC staff stated that it is satisfied with the corrective actions taken by AECL as a result of inspections during the licence period and noted that the events over licence period had no impact on radiation safety. CNSC staff further stated that it is satisfied with AECL's reporting of events. CNSC staff noted that it is currently reviewing proposed action levels which should be resolved by 2009 and included in the Radiation Protection program documentation.

Protection of the Public from Radiation

16. AECL stated that radiological emissions are consistently below action levels and derived release limits (DRLs). CNSC staff stated that the effective dose to most exposed members of the public due to air releases is less than 0.002% of the public dose limit of 1 mSv/y. CNSC staff further stated that the maximum dose over licence period from liquid effluent was 0.0016 mSv/y. CNSC staff noted that the primary exposure pathways for the total effective dose to the public are liquid effluent pathways, which include ingestion of water, vegetables and fish.

Conclusion on Radiation Protection

17. The Commission concludes that the decommissioning activities performed during the licence term have not posed an unreasonable radiation risk to workers or the public. The Commission is of the opinion that the continued decommissioning of the Whiteshell Laboratories will not pose an unreasonable radiation risk to the health and safety of persons.

Decommissioning Performance

18. AECL stated that in order to improve human performance, it established a group to focus on Performance Improvement and Nuclear Operations (PINO), which includes an Operating Experience (OPEX) program. AECL explained that the OPEX program provides the processes for the identification and investigation of unplanned events, determination of corrective actions, internal notification to stakeholders and trending and information sharing.
19. AECL stated that the Improvement and Action (ImpAct) process was initiated to improve non-conformance and unplanned event processes. AECL noted that the introduction of the ImpAct process has resulted in an improvement to the reporting culture at Whiteshell Laboratories. AECL explained that the increased reporting of lower significance events, which has resulted in an increase in the number of reportable events, allows for early recognition of trends so early action can be taken to prevent more significant events. AECL further stated that the ImpAct process has resulted in improvements to Root Cause Analysis and Apparent Cause Assessment. CNSC staff stated that it is satisfied with AECL's reporting of events.
20. In addition, AECL provided information regarding the Systematic Approach to Training it implements at Whiteshell Laboratories, its Event Free Tools, which are used to minimize human performance errors, and the lessons learned reports, which are a part of the OPEX program.

21. CNSC staff stated that AECL's decommissioning performance, which includes the establishment and implementation of programs and controls on the equipment and activities that take place at the facility to ensure no unreasonable risk to the health and safety of workers, met requirements over the licence period.
22. CNSC staff provided an overview of the Phase 1 decommissioning work that AECL completed over the licence period. CNSC staff stated that this included shutting down operations in order to place the remaining nuclear facilities in a secure state of storage-with-surveillance, storing waste on-site at the waste management area (WMA) and planning remediation projects at the WMA to enable the interim storage of waste during subsequent decommissioning phases. CNSC staff stated that AECL is on schedule with the current decommissioning plan.
23. CNSC staff stated that AECL has performed its decommissioning work safely during the current licence period.
24. Based on the above information, the Commission is satisfied that AECL has carried out its decommissioning activities in compliance with CNSC regulatory requirements.

Conventional Health and Safety

25. AECL stated that it has a fully integrated occupational health and safety program. AECL stated that an accident involving an all-terrain vehicle resulted in a fatality in May 2008. AECL stated that it reported the event to CNSC staff, Human Resources and Social Development Canada (HRSDC) and the Royal Canadian Mounted Police, and issued a company-wide restriction on the use of four-wheeled ATV-type vehicles by all Whiteshell Laboratories staff. CNSC staff noted that it reported the event to the Commission in a Significant Development Report⁵. CNSC staff stated that AECL has completed an internal investigation of the event and a submitted root-cause analysis. CNSC staff stated that it is satisfied with AECL's reporting of the event.
26. The Commission sought further information regarding the oversight of the occupational health and safety program. CNSC staff stated that HRSDC is responsible for assessing the Occupational Health and Safety program. AECL stated that it reports annually to HRSDC.

Environmental Protection

27. AECL stated that it implements an environmental protection program that has controls in place to provide reasonable protection to the environment from radiological and non-radiological emissions. AECL noted that it prepares an annual Environmental Performance Report for all AECL sites within Canada.

⁵ Refer to the Minutes of the CNSC public meeting held May 14, 2008.

28. CNSC staff stated that, over the licence period, AECL's environmental protection program and the implementation of the program met requirements. CNSC staff stated that AECL is required to control and limit radiological releases to the environment by air and water to a small fraction of the DRL for the licensed site and control releases of hazardous substances to the environment.

Effluent Monitoring

Air Emissions

29. AECL stated that off-site monitoring of potential atmospheric effluent exposure pathways has not indicated any significant dose contributions from Whiteshell Laboratories in excess of natural background levels. AECL noted that the ambient-gamma radiation found in public areas within a 16 kilometre radius of the site and on-site are comparable to background levels.
30. AECL provided a summary of the annual airborne effluent from Whiteshell Laboratories as a percentage of the DRL from 2002 to 2007. AECL reported that the maximum value was less than 0.002% of the DRL of 1 mSv/y.
31. Regarding non-radiological air emissions, AECL stated that the production of airborne contaminants from fuel combustion trended downwards over the licence period.

Water Emissions

32. AECL provided a summary of the annual liquid effluent from Whiteshell Laboratories as a percentage of the DRL from 2002 to 2007. AECL reported that the maximum value was less than 0.02% of the DRL of 1 mSv/y.
33. AECL stated that potential liquid exposure pathways in Winnipeg River, which include water, fish and sediments, contain low-levels of Cesium-137 (Cs-137) and Strontium-90 (Sr-90). AECL provided a summary of the Cs-137 and Sr-90 levels taken downstream from Whiteshell Laboratories from 2002 to 2007 and noted that these radioactive contaminants are a fraction of the Maximum Acceptable Concentrations as specified in the *Guidelines for Canadian Drinking Water Quality*⁶.
34. AECL provided information regarding the non-radiological liquid effluent monitoring program. AECL stated that the concentrations for several contaminants are monitored and analyzed. AECL noted that, in general, the concentrations have shown a decreasing trend and any increases are addressed through investigations and improvements.

⁶ *Guidelines for Canadian Drinking Water Quality*, published by Health Canada, May 2008

Waste Management

35. AECL stated that it has a waste management program to ensure compliance with regulatory requirements. AECL stated that the waste management program includes radioactive waste stored in the waste management area (WMA) and provisions for non-radioactive waste.
36. AECL stated that its radioactive waste includes low-level and intermediate level waste that is stored in storage bunkers in the WMA, and high level waste which is stored in concrete canisters and tile holes. AECL noted that some fuel waste from before 1975 is stored in standpipes in the WMA. AECL further stated that potentially active liquids are stored in separate holding tanks, where the low-level waste is discharged at a controlled rate and intermediate level waste is concentrated and solidified for WMA storage.
37. AECL stated that it maintains recycling programs and ships non-radioactive waste off site in accordance with Provincial regulations.
38. The Commission asked if asbestos is present in any of the buildings to be demolished. AECL responded that some of the buildings contain asbestos and appropriate measures are in place in order to address that issue. CNSC staff stated that it is satisfied with the measures AECL has in order to dispose of asbestos.

Environmental Monitoring

39. AECL stated that it continues to carry out the environmental assessment follow-up monitoring program. AECL noted that progress reports are prepared annually and submitted to CNSC staff.
40. CNSC staff stated that off-site monitoring has not indicated significant dose in excess of background levels. CNSC staff further stated that non-radiological releases are all within the allowable limits or guidelines

Conclusion on Environmental Protection

41. Based on the above information, the Commission is satisfied that facility operations are effectively controlled with the environmental protection program and mitigation measures in place, and that they do not pose an unreasonable risk to the health and safety of persons or the environment.

Emergency Preparedness and Response

42. AECL stated that it has a fully integrated emergency preparedness program. AECL stated that it has procedures in place in order to ensure a planned, orderly and timely response to a building or site-wide emergency. AECL noted that these procedures are reviewed annually and updated as necessary. AECL further stated that it conducts emergency preparedness drills annually, which are used to improve the emergency preparedness program.
43. AECL stated that it has a “24 hours a day, 7 days a week” emergency response capability through on-site firefighters and security, and on-call Radiological Assessment and Environmental Field teams.
44. CNSC staff stated that AECL’s emergency preparedness program and implementation at Whiteshell Laboratories meet requirements. CNSC staff noted that an emergency exercise evaluation was conducted by CNSC staff in 2005 and all follow-up activities on the minor remedial actions from this evaluation were completed in 2006.
45. Based on the above information, the Commission is satisfied that the continued operation of the facility with the emergency preparedness program in place will not pose an unreasonable risk to the health and safety of persons, national security or the environment.

Fire Protection

46. AECL stated that its Emergency & Protective Services provides services in fire prevention, investigation, fire-safety inspection, fire advisory, fire suppression, emergency rescue, hazardous material response and medical first aid. AECL stated that it meets the requirements of the *National Building Code of Canada (2005)*⁷ and the *National Fire Code of Canada (2005)*⁸.
47. CNSC staff stated that AECL’s fire protection program and implementation at Whiteshell Laboratories meet requirements. CNSC staff stated that, over the licence period, it reviewed the Emergency & Protective Services annual reports and fire protection program, and conducted a compliance inspection in 2008. CNSC staff noted that the issues it identified during the inspection did not pose an unreasonable risk to persons and the environment and would be addressed by AECL in the near future.
48. Based on the above information, the Commission is satisfied that facility operations with the fire protection measures in place will not pose an unreasonable risk to the health and safety of persons or the environment.

⁷ National Building Code of Canada 2005, published by the National Research Council of Canada

⁸ National Fire Code of Canada 2005, published by the National Research Council of Canada

Quality Assurance

49. AECL stated that the PINO organization oversees the quality assurance activities in effect at Whiteshell Laboratories. AECL further stated that it has dedicated quality assurance personnel who implement and monitor the quality assurance program.
50. AECL stated that it has undertaken a number of initiatives in order to improve the quality assurance program at Whiteshell Laboratories, including self-assessments and audits.
51. AECL stated that, as a result of CNSC inspections, a number of directives, action notices and recommendations were provided to AECL regarding the quality assurance program. AECL stated that it has provided an action plan to the CNSC in order to address the inspection findings.
52. CNSC staff stated that the quality assurance program developed over the licence period meets requirements but the implementation of the program is below requirements. CNSC staff explained that there are two exceptions to an otherwise well-implemented program: the lack of an effective record control process and the failure of some work control documents to completely define and control decommissioning activity steps. CNSC staff noted that it will review AECL's correction action plan to address the implementation deficiencies.
53. The Commission sought further information regarding quality assurance within AECL's organizational structure. AECL responded that the quality assurance organization reports through the general manager of Programs and Nuclear Oversight within Research and Technology Operations, and there is an AECL-wide corporate quality program. AECL further responded that while there is no quality assurance manager at Whiteshell Laboratories, there is a senior quality representative and a quality support specialist.
54. The Commission sought further information regarding the implementation of the quality assurance program being below requirements. AECL responded that the Decommissioning Quality Assurance Plan was recently developed and approved by CNSC staff, and as such, AECL has not yet fully implemented it. AECL noted that there is full organizational support for the implementation of the program.
55. The Commission sought further information regarding the self-assessments and audits conducted over the licence period. AECL responded that the self-assessments are conducted by management teams and the results and corrective actions are reviewed by a broader senior management team. AECL stated that corrective actions are accepted and signed off from a senior quality representative. AECL noted that the audits are conducted by both internal and external organizations, including the International Organization for Standardization (ISO).

56. The Commission sought clarification regarding CNSC staff's proposed licence condition regarding quality assurance standards. CNSC staff responded that it removed the standards that were not applicable to the Whiteshell Laboratories facility as they were AECL standards that were not necessary for the purpose of decommissioning. CNSC staff explained that this change would emphasize the focus on the decommissioning standard.
57. Based on the above information the Commission is satisfied that facility decommissioning with the quality assurance measures in place does not pose an unreasonable risk to the health and safety of persons or the environment.
58. The Commission expects an update on the status of the quality assurance program and implementation following CNSC staff's review in 2009.

Public Information Program

59. AECL stated that it has a company-wide public information program. AECL stated that it posts copies of annual environmental monitoring reports, Ecological Effect Reviews, Comprehensive Preliminary Decommissioning Plans (PDPs), the associated Framework for a Communications and Public Consultation Plan, and other key documents of interest on the AECL Web site, and provides copies of these documents to stakeholders.
60. AECL stated that a Public Liaison Committee was formed in 2003 in order to discuss with local municipal officials, provincial government officials and on-site business tenants various issues related to Whiteshell Laboratories, including the decommissioning status, future plans and CNSC regulation of decommissioning. AECL further stated that it maintains communications with the Sagkeeng First Nation.
61. AECL stated that its public communication activities are included in its commitments under the EA follow-up program.
62. CNSC staff stated that it is satisfied that AECL has an acceptable public communications program in place to inform the public about the activities and risks at Whiteshell Laboratories.
63. Based on the above information the Commission is satisfied that AECL's public information program is acceptable and will continue to be acceptable during the proposed licence period.

Nuclear Criticality Safety

64. CNSC staff stated that AECL has developed, documented and implemented a criticality safety approach for each of its nuclear facilities where it is crucial to ensure criticality safety at all times during operation. CNSC staff noted that while there are no activities associated with fissionable material at Whiteshell Laboratories, other than storage, AECL is required to develop, implement and maintain a nuclear criticality program and develop Criticality Safety Documents in the event that they are required to facilitate decommissioning.
65. CNSC staff stated that it expects AECL to implement AECL's corporate-wide nuclear criticality safety program and revise the criticality safety documents for Whiteshell Laboratories. CNSC staff noted that, due to the magnitude of the task, this improvement will be carried out over a number of years and will lead to a consistent and gradual implementation of the nuclear criticality requirements at Whiteshell Laboratories.
66. Based on the above information, the Commission expects that AECL will implement an adequate nuclear criticality safety program consistent with modern national and international standards.

Security

67. The Commission does not discuss security matters in detail in a public document, such as this *Record of Proceedings*, but notes that it is satisfied that AECL's performance with respect to maintaining security at the facility has been acceptable.
68. The Commission concludes that AECL has made, and will continue to make, adequate provisions for ensuring the physical security of the Whiteshell Laboratories.

Non-Proliferation and Safeguards

69. 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.

70. AECL stated that it has a company-wide nuclear materials and safeguards management program. AECL stated that it maintains a nuclear materials inventory system in compliance with safeguards requirements. AECL further stated that the IAEA conducted various inspections, verifications and visits over the licence period, and no issues were found.
71. CNSC staff stated that AECL's safeguards management program and implementation meet requirements. CNSC staff stated that AECL has fully complied with IAEA and CNSC requests during the licence period.
72. Based on the above information the Commission is satisfied that AECL has made and will continue to make adequate provision for the maintenance of national security and the measures required to implement international obligations to which Canada has agreed.

Decommissioning Plan and Financial Guarantee

73. CNSC staff reported that AECL has maintained a Detailed Decommissioning Plan and financial guarantee according to its current licence. CNSC staff noted that the financial guarantee is in the form of an expressed commitment from the Federal Government of Canada that was previously accepted⁹ by the Commission.
74. AECL provided information regarding the decommissioning plan, the decommissioning activities it completed over the previous licence period and the decommissioning activities it was planning for the proposed licence period.
75. AECL stated that the decommissioning schedule had been accelerated due to the Government of Canada's implementation of the Nuclear Legacy Liabilities Program, which was initiated in 2006. AECL explained that although the Detailed Decommissioning Plan was not fundamentally altered, the decommissioning activities could be completed in a shorter time frame.
76. AECL stated that it intends to execute both storage-with-surveillance activities and final decommissioning of facilities and infrastructure at the Whiteshell Laboratories in the proposed licence period. AECL stated that it plans to undertake the following activities during this time:
 - continue decommissioning of Building 300;
 - remediate specific standpipes, trenches and bunkers within the WMA;
 - decommission the Active Liquid Waste Treatment Centre (Building 200);
 - resume the planning for the decommissioning of the WR-1 reactor;

⁹ Refer to *the Record of Proceedings* on the "Financial Guarantee for Decommissioning AECL's Whiteshell Laboratories Site", hearing date September 14, 2004.

- demolition of redundant buildings;
 - establish a waste handling facility;
 - continue Site Utilities Reconfiguration;
 - consolidate nuclear services;
 - construct a soil storage facility; and
 - construct two Shielded Modular Above Ground Storage (SMAGS) structures in the WMA.
77. CNSC staff concurred with AECL's plans for the next licence period and the revised decommissioning schedule.
78. The Commission sought clarification regarding how Phase Two fits into AECL's overall decommissioning schedule. AECL responded that the decommissioning is a continuous process and each facility within Whiteshell Laboratories has its own decommissioning schedule. AECL explained that Phase One was primarily a decontamination and clean-up phase, Phase Two would be a storage-with-surveillance phase and Phase Three would be the final decommissioning. AECL further stated that the proposed ten-year licence period would allow for the planning of the waste management and remediation activities that would be part of Phase Three.
79. The Commission, noting that the wording in the decommissioning section of AECL and CNSC staff's written submissions was vague and non-committal regarding the schedule for certain structures, expressed the concern that this vagueness could lead to a lack of accountability for maintaining the decommissioning schedule. CNSC staff responded that AECL is accountable to a specific schedule that is included in the Detailed Decommissioning Plan. CNSC staff noted that due to the acceleration of the decommissioning schedule, there are some questions regarding activities originally planned for Phase Three being included in Phase Two.
80. The Commission asked if the new soil storage facility will be adequately linked into the groundwater wells network. AECL responded that it would be built within the WMA and be monitored by existing wells.
81. The Commission sought assurances that the buildings within the decommissioning plan have been appropriately designated. AECL explained that certain buildings included in the radiological controlled area are designated as non-nuclear facilities as they were never used for nuclear purposes. Regarding Building 304, Gas Dynamics Research Laboratories, AECL explained that it has been converted to a waste clearance facility and should be renamed as such. AECL added that some of the buildings within the radiological controlled area would be eventually cleared from nuclear designation as the area is reduced through further decommissioning.

82. The Commission sought further information regarding the construction of the SMAGS facilities. AECL responded that the design of the facilities is identical to those recently constructed for AECL's Chalk River site. CNSC staff noted that the construction activities are authorized by the proposed licence. CNSC staff further noted that an environmental assessment (EA) is not required for the construction of the SMAGS facilities as it was included in the EA for the Decommissioning Project.
83. The Commission asked whether sufficient funds are in place in order to continue the decommissioning project for the next ten years. AECL responded that the funding is in place.
84. Based on this information, the Commission is satisfied that the Detailed Decommissioning Plan and related financial guarantee are acceptable for the purpose of the current application for licence renewal.

Cost Recovery

85. CNSC staff stated that AECL is in good standing with the *CNSC Cost Recovery Fees Regulations*¹⁰ for Whiteshell Laboratories.

Application of the *Canadian Environmental Assessment Act*

86. CNSC staff reported that the licence renewal would be made under the authority of Subsection 24(2) of the NSCA, in respect of a renewal. The renewal of AECL's decommissioning licence, under that provision, is not included in the *Law List Regulations* made pursuant to Paragraph 59(f) and is not a 'trigger' pursuant to Subsection 5(1) of the *Canadian Environmental Assessment Act*¹¹ (CEAA). Therefore, a CEAA trigger does not exist for AECL's proposal and the CNSC is not required to conduct an environmental assessment of the proposal.
87. CNSC staff explained that while an EA is necessary to enable the construction of the two SMAGS facilities, they are considered to have been previously included in the scope of the Comprehensive Study EA for the Decommissioning Project, and as such, no further EA is necessary.
88. Based upon the above assessment, the Commission is satisfied that an environmental assessment under the CEAA is not required for AECL's application for licence renewal.

¹⁰ S.O.R./2003-212.

¹¹ S.C. 1992, c. 37.

Licence Length and Interim Reporting

89. AECL requested that the licence be renewed for a period of ten years, with a proposed licence expiry date of December 31, 2018, in order to continue with Phase Two of the decommissioning and residual operations at Whiteshell Laboratories and construct and operate the two new SMAGS facilities.
90. CNSC staff stated that AECL's application met the requirements for a ten-year licence period. CNSC staff explained that AECL's application was consistent with criteria set out in CMD 02-M12¹². CNSC staff stated that AECL's overall performance during the current licence met requirements and AECL is making adequate provisions to protect persons, the environment, national security and international obligations.
91. CNSC staff proposed that it would prepare a status report following the three-year and seven-year points of the ten-year term of the licence. CNSC staff's stated that it would present its report at a public proceeding of the Commission and would provide a summary of the performance of the licensee and facility.
92. The Commission asked for further information regarding the proposed ten-year licence period. CNSC staff responded that the ten-year period is consistent with the activities, progress and schedule that AECL has made to date. CNSC staff stated that ten years is an appropriate licence period. CNSC staff noted that the three-year and seven-year reporting timeframe is also consistent with milestones in AECL's plan for the next ten years.
93. The Commission, noting the age of the Whiteshell Laboratories, asked if the condition of the facility infrastructure and underground piping will be adequate to perform the planned activities during the proposed licence period. AECL responded that the current infrastructure will continue to be adequate for the proposed licence period. CNSC staff stated that it conducts infrastructure maintenance inspections and agreed that the current system will be adequate for the next licence period.
94. The Commission sought clarification regarding licence conditions that would allow for the operation of certain Whiteshell Laboratories facilities over the licence period. CNSC staff responded that the licence has two parts, which are for decommissioning and for operating certain facilities. CNSC staff explained that the operational facilities include the waste management facilities and the shielded facilities, or hot cells, that can be used to characterize waste.
95. Based on the above information, the Commission is satisfied that a ten-year licence with interim reporting after three years and seven years is appropriate.

¹² Commission Member Document CMD 02-M12, *New Staff Approach Used to Recommending Licence Period*.

Conclusion

96. The Commission has considered the information and submissions of Commission 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 at the hearing.
97. The Commission concludes that an environmental assessment of the proposed continued operation of the facility, pursuant to the *Canadian Environmental Assessment Act*, is not required.
98. The Commission is satisfied that the applicant meets the requirements of subsection 24(4) of the *Nuclear Safety and Control Act*. That is, the Commission is satisfied 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.
99. Therefore, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, renews the Nuclear Research and Test Establishment Decommissioning Licence issued to Atomic Energy of Canada Limited for its Whiteshell Laboratories. The licence, NRTEDL-08.00/2018, is valid from January 1, 2009 to December 31, 2018.
100. The Commission includes in the licence the conditions as recommended by CNSC staff in the draft licence attached to CMD 08-H24.B, with the following clarifications:
 - In Appendix A, item 6 will refer to Revision 7 of the Site Security Report, EPS-14000-RPT-18, as indicated in CMD 08-H24.A;
 - In Appendix E, Building 304, formerly the Gas Dynamics Research Laboratories, will be referenced as the Waste Clearance Facility.
101. The Commission also modifies Section 9 - Reporting in the draft licence attached to CMD 08-H24.B, wherein all reporting shall be submitted to the Commission *or a person authorized by the Commission*.
102. With this decision, the Commission requests that AECL prepare a status report on the decommissioning performance at its facility following the three-year and seven-year points of the ten-year licence term. CNSC staff shall also prepare a report on the results of compliance activities carried out during the licence term and on the licensee's performance during that period. AECL and CNSC staff shall present their reports at a public proceeding of the Commission in early 2012 and 2016.

103. The Commission expects that a more detailed decommissioning schedule, including deliverables and milestones, will be provided with the status reports, as well as a list of the buildings that have been decommissioned and those yet to be decommissioned.
104. The Commission further requests an update on the status of the Quality Assurance program and implementation following CNSC staff's review in 2009.



DEC 16 2008

Michael Binder
President,
Canadian Nuclear Safety Commission

Date