



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 to Amend the Atomic Energy of
Canada Limited Chalk River Laboratories
Operating Licence for the Undertaking of
Decommissioning Activities at Two Facilities

Hearing Date August 5, 2011

RECORD OF PROCEEDINGS

Applicant: Atomic Energy of Canada Limited

Address/Location: 2251 Speakman Drive, Mississauga, Ontario, L5K 1B2

Purpose: Application to Amend the Atomic Energy of Canada Limited
Chalk River Laboratories Operating Licence for the Undertaking
of Decommissioning Activities at Two Facilities

Application received: June 1, 2010, May 6, 2011 and May 16, 2011

Date of hearing: August 5, 2011

Location: Canadian Nuclear Safety Commission (CNSC) 280 Slater St.,
Ottawa, Ontario

Members present: M. Binder, Chair

Secretary: M. Leblanc
Recording Secretary: D. Major

Licence: Amended

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Introduction

1. Atomic Energy of Canada Limited (AECL) has applied to the Canadian Nuclear Safety Commission¹ (CNSC) for an amendment to the Nuclear Research and Test Establishment Operating Licence for the Chalk River Laboratories (CRL) located in Chalk River, Ontario. The current licence, NRTEOL-01.08/2011, expires on October 31, 2011.
2. AECL has requested to receive approval to decommission two facilities: the Heavy Water Upgrading Plant and the Pool Test Reactor. As per Licence Condition 5.5 of the CRL operating licence, AECL must receive approval from the CNSC prior to decommissioning any nuclear facility at the CRL site.
3. AECL has also requested the following licence amendments:
 - remove the Heavy Water Upgrading Plant from the list of operating facilities in Appendix B of the CRL licence;
 - remove the Pool Test Reactor from the list of facilities in storage-with-surveillance in Appendix C Part I of the CRL licence; and
 - reference the Heavy Water Upgrading Plant and Pool Test Reactor in the list of facilities permitted to undergo decommissioning activities in Appendix C Part II of the CRL licence.

Issue

4. In considering the application, the Commission was required to decide, pursuant to subsection 24(4) of the *Nuclear Safety and Control Act*² (NSCA):
 - a) if AECL is qualified to carry on the activity that the amended licences 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.

Hearing

5. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to review the application. The Commission, in making its decision, considered information presented for a hearing held on August 5, 2011 in Ottawa, Ontario. During the hearing, the Commission considered written submissions from CNSC staff (CMD 11-H116) and AECL (CMD 11-H116.1).

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 Statutes of Canada (S.C.) 1997, chapter (c.) 9.

Decision

6. 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 has met the conditions of subsection 24(4) of the NSCA. Therefore,

the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, approves the decommissioning of the Heavy Water Upgrading Plant and the Pool Test Reactor and amends the Nuclear Research and Test Establishment Operating Licence NRTEOL-01.08/2011 issued to Atomic Energy of Canada Limited for the Chalk River Laboratories located in Chalk River, Ontario as presented in CMD 11-H116. The amended licence, NRTEOL-01.09/2011, is valid until October 31, 2011.

Issues and Commission Findings

Qualifications and Protection Measures

7. AECL requested approval to decommission the Heavy Water Upgrading Plant. CNSC staff described the facility and reported that the Heavy Water Upgrading Plant has been in a safe shutdown since August 1998. CNSC staff also described activities associated with the decommissioning of this facility and stated that AECL has committed to adhering to its Environmental Protection Program and Radiation Protection Program requirements during all decommissioning activities. CNSC staff also stated that radiological survey results indicate that the radiological hazards associated with this decommissioning project are expected to be low. CNSC staff reported that AECL will monitor waste and will apply waste management procedures to ensure waste material is adequately sampled, characterized, segregated, and packaged in appropriate containers. The contaminated waste will be collected, analyzed and processed as per AECL's Environmental Protection Program.
8. AECL also requested approval to decommission the Pool Test Reactor. CNSC staff described the facility and reported that the reactor has been permanently shutdown and defueled in 1990, with all remaining fissionable material removed from the pool in 1992, and is currently in a storage-with-surveillance state. CNSC staff also described activities associated with the decommissioning of the reactor. CNSC staff stated that AECL has committed to adhering to its Environmental Protection Program and Radiation Protection Program requirements during all decommissioning activities. CNSC staff also stated that radiological survey results indicate that the radiological hazards associated with this decommissioning project are expected to be low. CNSC staff reported that AECL would monitor waste and would apply waste management procedures to ensure waste material is adequately sampled, characterized, segregated, and packaged in appropriate containers.

9. CNSC staff reviewed and assessed AECL's Detailed Decommissioning Plans for the Heavy Water Upgrading Plant and the Pool Test Reactor against CNSC and CSA requirements. CNSC staff reported that both Detailed Decommissioning Plans, initially submitted by AECL, did not meet CNSC and CSA requirements. CNSC staff enumerated the deficiencies found in both documents in CMD 11-H116. CNSC staff stated that AECL had revised both Detailed Decommissioning Plans and that the documents now meet CNSC requirements.
10. CNSC staff stated that they also reviewed AECL's Decommissioning Quality Assurance Plan (QA Plan). The QA Plan, although not listed in the CRL operating licence, is referenced in the Detailed Decommissioning Plans for the Heavy Water Upgrading Plant and the Pool Test Reactor. CNSC staff stated that the QA Plan did not meet the requirements of CSA Standard N286.6-98 and reported that AECL had revised the QA Plan to address CNSC staff's comments. CNSC staff reported that AECL's QA Plan is now acceptable.
11. The Commission concludes that AECL's documentation to govern decommissioning of the Heavy Water Upgrading Plant and the Pool Test Reactor is acceptable.

Application of the *Canadian Environmental Assessment Act*

12. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the *Canadian Environmental Assessment Act*³ (CEAA) have been fulfilled.
13. CNSC staff reported that it had determined that there was a requirement for an Environmental Assessment (EA) pursuant to subsection 5(1) of the CEAA. CNSC staff stated that EA Screening Reports for the decommissioning of the Heavy Water Upgrading Plant and the Pool Test Reactor had been drafted and provided to the Commission for decision in May 2008 and January 2007, respectively. The Commission had determined that the decommissioning of both these facilities is not likely to cause significant adverse environmental effects, taking into account the mitigation measures identified in the EA Screening Reports.
14. The Commission is of the opinion that all applicable requirements of the CEAA have been fulfilled.

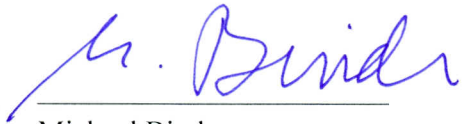
Public and Aboriginal Consultation

15. CNSC staff stated that the draft Environmental Assessment Screening Report for both the Heavy Water Upgrading Plant and the Pool Test Reactor projects were released for public consultation, with copies of the reports being sent directly to the Algonquins of Pikwàkanagàn. CNSC staff reported that no comments were received on either project.

³ S.C. 1992, c. 37.

CNSC staff also reported that AECL had undertaken initiatives to provide information on activities at the CRL site to members of the public and Aboriginal communities through various methods.

16. The Commission is of the view that there was sufficient opportunity for the public to be informed and express its views on the project.



Michael Binder
President,
Canadian Nuclear Safety Commission

AUG 05 2011

Date