



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 Chalk River
Laboratories Operating Licence to Permit the
Construction and Operation of the Bulk Materials
Landfill

Hearing Date June 18, 2010

RECORD OF PROCEEDINGS

Applicant: Atomic Energy of Canada Limited

Address/Location: Chalk River Laboratories, Chalk River, Ontario K0J 1J0

Purpose: Application to Amend the Chalk River Laboratories Operating Licence to Permit the Construction and Operation of the Bulk Materials Landfill

Application received: July 24, 2009

Date of hearing: June 18, 2010

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

Members present: M. Binder, Chair

Secretary: K. McGee
Recording Secretary: M. Young

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 its Nuclear Research and Test Establishment Operating Licence for Chalk River Laboratories (CRL) located in Chalk River, Ontario. The current licence, NRTEOL-01.06/2011, is valid until October 31, 2011.
2. In 2007, pursuant to licence condition 7.18 in the CRL site licence, AECL notified the CNSC of its intention to proceed with the project to construct and operate the Bulk Materials Landfill. The project was determined to require an environmental assessment (EA) under the *Canadian Environmental Assessment Act*² (CEAA). The CNSC issued the EA Guidelines for the project in December 2007³. A Screening EA was completed and the Commission concluded that the project, taking into account the appropriate mitigation measures, is not likely to cause significant adverse environmental effects. The Commission decided⁴ that, pursuant to paragraph 20(1)(a) of the CEAA, it could proceed with the consideration of a licence amendment under the *Nuclear Safety and Control Act*⁵.
3. AECL applied for an amendment to the CRL site licence to allow the construction and operation of the Bulk Materials Landfill at CRL. The Bulk Materials Landfill will receive bulk materials containing very low levels of radioactivity. The bulk materials include dewatered sewage sludge from the CRL Sewage Treatment Plant, soils from routine excavations and like materials. The Bulk Materials Landfill will provide capacity for bulk material wastes generated over approximately 100 years. The Bulk Materials Landfill will be in a new Waste Management Area 'J' at CRL.
4. The proposed changes to the licence are to remove licence condition 7.18 and to update Appendix B in order to reference the revised Waste Management Areas facility authorization.

Issue

5. In considering the application, the Commission was required to decide, pursuant to subsection 24(4) of the NSCA:
 - a) if AECL is qualified to carry on the activity that the amended licences would authorize; and

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.) 1992, chapter (c.) 37.

³ Refer to the Record of Proceedings on *Environmental Assessment Guidelines (Scope of Project and Assessment) for the proposed construction and operation of a Bulk Materials Landfill at the Chalk River Laboratories*, Hearing Date October 31, 2007

⁴ Refer to the Record of Proceedings on *Environmental Assessment Screening Report for the Proposed Construction and Operation of a Bulk Materials Landfill at the Chalk River Laboratories*, hearing date June 18, 2010

⁵ S.C. 1997, c. 9

- 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

6. The Commission, in making its decision, considered information presented for a hearing held on June 18, 2010 in Ottawa, Ontario. During the hearing, the Commission considered written submissions from CNSC staff (CMD 10-H105) and AECL (CMD 10-H105.1).

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 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*, amends the Nuclear Research and Test Establishment Operating Licence, NRTEOL-01.06/2011, issued to Atomic Energy of Canada Limited for its Chalk River Laboratories located in Chalk River, Ontario. The amended licence, NRTEOL-01.07/2011, remains valid until October 31, 2011.

8. The Commission includes in the licence the conditions as recommended by CNSC staff in CMD 10-H105.

Issues and Commission Findings

Qualifications and Protection Measures

9. AECL submitted the Environmental Impact Statement for the project, along with three supplemental documents in support of the licence application, including a revised facility authorization for the Waste Management Areas at CRL, a Fire Hazard Assessment (FHA) and a third-party fire protection review of the Bulk Materials Landfill design. CNSC staff stated that they reviewed the documentation to ensure that AECL met the provisions of subsection 24(4) of the NSCA.
10. CNSC staff stated that licence condition 7.18 in AECL's current licence states that "The licensee shall include the future Sewage Sludge Landfill in a new facility authorization or in a facility authorization listed in Appendix B to this licence." CNSC staff stated that the project is a small, low-risk project that does not involve the introduction or use of unproven technology and will not result in an expansion of the existing CRL footprint.

11. CNSC staff stated that AECL's licence application sufficiently addressed the requirements of its licence and meets CNSC expectations. CNSC staff noted that the Bulk Materials Landfill design meets the requirements of the *National Building Code of Canada*⁶, the *National Fire Code of Canada*⁷ and the *National Fire Protection Association NFPA-801*⁸. In addition, CNSC staff stated that the methodology, scope and depth of the FHA are adequate for the facility, and the revised Waste Management Areas facility authorization has appropriately incorporated the BML facility.

Application of the *Canadian Environmental Assessment Act*

12. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of (CEAA) have been fulfilled.
13. CNSC staff reported that it had completed an Environmental Assessment (EA) determination and that there was a requirement for an EA pursuant to paragraph 5(1)(d) of the CEAA. A Screening EA was completed and the Commission concluded that the project, taking into account the appropriate mitigation measures, is not likely to cause significant adverse environmental effects. The Commission decided that, pursuant to paragraph 20(1)(a) of the CEAA, it could proceed with the consideration of a licence amendment under the NSCA.
14. The Commission is satisfied that all applicable requirements of the CEAA have been fulfilled.



Michael Binder
President,
Canadian Nuclear Safety Commission

AUG 18 2010

Date

⁶ National Building Code of Canada 2005.

⁷ National Fire Code of Canada 2005.

⁸ NFPA 801: Standard for Fire Protection for Facilities Handling Radioactive Materials, 2003