

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 Nuclear Research and Test
Establishment Operating Licence to allow
construction and operation of additional shielded
above ground storage buildings

Hearing
Date February 25, 2009

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 Nuclear Research and Test Establishment Operating Licence to allow construction and operation of additional shielded above ground storage buildings

Application received: November 17, 2008

Date of hearing: February 25, 2009

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

Members present: M. Binder, Chair

Secretary: K. McGee
Recording Secretary: S. Dimitrijevic

Licence: Amended

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Introduction

1. Atomic Energy of Canada Limited (AECL) has applied to the Canadian Nuclear Safety Commission¹ (CNSC) for the approval to construct and operate Shielded Modular Above-Ground Storage (SMAGS) Buildings 2-6. The buildings would be constructed within the Waste Management Area (WMA) “H” located at the Chalk River Laboratories (CRL) near Chalk River, Ontario. The facility is operated under the current Nuclear Research and Test Establishment Operating Licence NRTEOL-01.03/2011 (Licence).
2. Following a hearing held on May 1, 2007, the Commission approved the construction of SMAGS Building No. 1, dedicated for the storage of low-level radioactive waste. During the hearing, the Commission expressed concerns regarding the version of the building code to be applied in the design of the individual buildings. The Commission noted that it would consider a request for the approval for construction of the remaining buildings upon further application by AECL. The Commission also expressed its expectation to receive more detailed information regarding compliance with building codes at the time of application.
3. Following a hearing held on January 10, 2008, the Commission amended the Operating Licence to approve the operation of the completed Building No. 1. The Building No.1 was placed in service in April 2008, following acceptance of its Commissioning Report by a CNSC Designated Officer.

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:
 - a) if AECL is qualified to carry on the activity that the amended 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 S.C. 1997, c. 9.

Hearing

5. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to review the application. In establishing the process, a standing panel on procedural matters determined that it was not necessary to hold a public hearing on the matter, and the hearing was conducted by a panel of one commission member, based on written submissions.
6. The Commission, in making its decision, considered information presented for a hearing held on February 25, 2009 in Ottawa, Ontario. During the hearing, the Commission considered written submissions from CNSC staff (CMD 09-H103), and AECL (CMD 09-H103.1).

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 amends the Nuclear Research and Test Establishment Operating Licence issued to AECL for the Chalk River Laboratories to approve the building and operation of SMAGS Buildings No. 2 to 6. The amended operating licence, NRTEOL- 01.04/2011, remains valid until October 31, 2011.

8. The Commission includes in the Licence the conditions as recommended by CNSC staff in CMD 09-H103.

Issues and Commission Findings

Qualifications and Protection Measures

9. In its written submission, AECL presented a schedule for construction of the SMAGS Buildings 2-6. According to the presented schedule, SMAGS Buildings No. 2 and No. 3 would be built in 2009 and 2011, respectively. SMAGS Buildings No. 4 and No. 5 would be built in 2016, and SMAGS Building No. 6 in 2022.
10. To address the Commission's concerns regarding the building code to be applied in the design of the individual buildings, AECL proposed to provide the CNSC with the design requirements for each building, prior to the start of construction activities for that building.

11. In addition, AECL proposed a generalisation of the existing licence condition 3.7 to allow for the approval of the operation of the completed SMAGS Buildings upon submission of a commissioning report for each individual building.
12. CNSC staff reported that it finds acceptable the application by AECL to construct five SMAGS Buildings, providing that some conditions are met by the licensee. These conditions include the obligation that AECL submit the design requirements documentation for each of the buildings to the CNSC for review and approval prior to start of the construction activities. AECL should identify the applicable codes and standards in the design requirements documents. AECL should also provide supporting documentation to the CNSC to demonstrate, for each of the planned SMAGS Buildings, that the requirements of the applicable building codes and standards are met prior to the start of the construction activities for that building.
13. With respect to the operation of SMAGS Buildings, CNSC staff is of the opinion that AECL should submit a commissioning report that demonstrates compliance with the design requirements for each of the individual buildings to CNSC for review and acceptance, prior to start operating that building.
14. In its submission, CNSC staff included a section on its approach to licensing of similar waste storage facilities. CNSC staff noted that the design of AECL's SMAGS buildings is similar to that of storage buildings operating at Ontario Power Generation Inc.'s Western Waste Management Facility. This type of building has been used since the 1980's with minor variations in design.
15. CNSC staff noted that, according to AECL's proposed schedule, the construction and operation of SMAGS Buildings No. 3 - 6 will happen after the current licence expires. In a similar situation, the Commission amended Gentilly-2 Radioactive Waste Facility Operating Licence to allow the construction and operation of solid radioactive waste storage areas beyond the expiry of the current licence. The Commission delegated the authority to accept the design requirements documents and commissioning reports for storage structures to be built and operated at Whiteshell Laboratories and Gentilly-2 to CNSC staff, in accordance with the proposed licence conditions.
16. CNSC staff proposed to follow a similar approach for AECL's application. In order to ensure that the design and quality of construction are acceptable before each of the SMAGS buildings is operational, CNSC staff proposed the following changes to the licence conditions:
 - Rewording of the licence condition 3.7 so that the licensee shall not carry out the activities related to completed construction activities for SMAGS Buildings 2-6 until the submission of a Commissioning Report for each of the buildings that is acceptable to the Commission or a person authorized by the Commission, and

- Introduction of a new condition stating that the licensee shall not carry out the construction activities for SMAGS Buildings 2-6 until the submission of a Design Requirements document for each building that is acceptable to the Commission or a person authorized by the Commission.

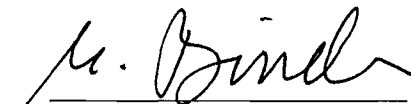
The above changes have been incorporated into the draft Licence attached to the CMD 09-H103.

Application of the *Canadian Environmental Assessment Act*

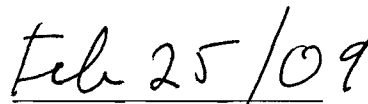
17. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the *Canadian Environmental Assessment Act*³ (CEAA) have been fulfilled.
18. The Commission has previously reviewed the environmental assessment screening report for the proposal to construct and operate the six SMAGS Buildings. Following that review, the Commission concluded that the project, taking into account the mitigation measures identified in the environmental assessment screening report, is not likely to cause significant adverse environmental effects.
19. Therefore, the Commission is satisfied that all applicable requirements of the CEAA have been fulfilled.

Conclusion

20. The Commission has considered the information and submissions of AECL and CNSC staff as presented in the material available for reference on the record.
21. The Commission is satisfied that the applicant meets the requirements of subsection 24(4) of the *Nuclear Safety and Control Act*.
22. The Commission therefore amends AECL's Nuclear Research and Test Establishment Operating Licence.
23. The Commission includes in the licence the conditions recommended by CNSC staff, as set out in the draft Licence attached to CMD 09-H103.



Michael Binder
President,
Canadian Nuclear Safety Commission



Date

³ S.C. 1992, c. 37.