

# Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant

Atomic Energy of Canada Limited

Subject

Application to Amend the Non-Power Reactor  
Operating Licence for the Dedicated Isotope  
Facilities at the Chalk River Laboratories

Hearing  
Date

October 28, 2008

## **RECORD OF PROCEEDINGS**

Applicant: Atomic Energy of Canada Limited

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

Purpose: Application to Amend the Non-Power Reactor Operating Licence for the Dedicated Isotope Facilities at the Chalk River Laboratories

Application received: September 17, 2008

Date of hearing: October 28, 2008

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

Members present: M. Binder, Chair

Secretary: K. McGee

Recording Secretary: P. Reinhardt

**Licence: Amended**

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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 an amendment to its Non-Power Reactor Operating Licence (NPROL) for the Dedicated Isotope Facilities (DIF) at the Chalk River Laboratories (CRL), Chalk River, Ontario. The current licence is NPROL-62.01/2011.
2. The purpose of this request is to change one licence condition (3.1) and one of the documents listed in Appendix B, the MAPLE Reactors Operating Limits and Conditions (OLCs) of the current operating licence. The requested change to refer to a new set of OLCs (Revision 24, Reference 2) is a consequence of the decision to discontinue the operation of the MAPLE reactors. The transition in the MAPLE operation involves the reduction of staff and the removal of targets from the reactor bay.

## Issue

3. 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>:
  - 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.

## Hearing

4. Pursuant to section 22 of the NSCA, the President of the Commission established a panel of the Commission to hear this matter.
5. The Commission, in making its decision, considered information presented for a hearing held on October 28, 2008 in Ottawa, Ontario. During the hearing, the Commission considered written submissions from CNSC staff (CMD 08-H139) and AECL (CMD 08-H139.1).

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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> S.C. 1997, c. 9.

## Decision

6. Based on its consideration of the matter, as described in more detail in the following section of this Record of Proceedings, the Commission concludes that AECL is qualified to carry on the activity that the amended licence will authorize. Therefore,

the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, amends the Non-Power Reactor Operating Licence issued to Atomic Energy of Canada Ltd for its Dedicated Isotope Facilities. The amended licence, NPROL-62.02/2011, remains valid until October 31, 2011.

7. The Commission includes in the licence the modifications as recommended by CNSC staff in CMD 08-H139.

## Issues and Commission Findings

8. In making its licensing decision, the Commission considered a number of issues related 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.

### *Qualifications and Protection Measures*

9. CNSC staff reviewed the AECL request to modify condition 3.1 of its current licence to remove the requirements to have Group I Radiation Surveyors in the DIF at all times. CNSC staff considered this request acceptable since it is suitable given the non operating status of the facility.
10. CNSC staff also reviewed the AECL request to modify Appendix B of its current licence to refer to an updated version of the MAPLE Reactors OLC document including the removal of Reactors Operators from the Control Room and the movement of twelve targets in the Irradiated Fuel Bundle Transfer Flask.
11. In regards to the removal of staff, Clause 5.3.1 of the MAPLE Reactors OLC document was revised to permit the Control Room to be left unattended during periods of time when the Reactor Operators were not required to supervise work, as stipulated in the OLC. As this clause was changed, the addition of a note to OLC Table 5-1 was required to agree with the modified clause. Requirement for continuous availability of the Standby Reactor Monitoring System was also removed from OLC Clause 5.3.1-12. CNSC staff noted that the removal of Operators from the Control room will require the implementation of additional precautions:

- Access to the DIF facilities limited to required personnel only;
- A systematic fire survey by the CRL Fire Department and a facility tour by Reactor Operators or Manager of Operations to be conducted once every 24 hours, whether the Control Room is attended or not. A security round to be performed once per shift when the buildings are unoccupied; and
- Instructions to be issued to staff to define the minimum DIF response team composition for DIF abnormal events.

CNSC staff considered that the changes required for a transition in MAPLE operation involving the reduction of staff were suitable for the non-operating state of the facility.

12. In regards to the movement of the twelve targets in the Irradiated Fuel Bundle Transfer Flask, CNSC staff reported that an analysis of criticality performed for this modified configuration showed it was safely subcritical under normal and credible abnormal conditions in the revised Criticality Safety Documents for the MAPLE 1 Reactor and the Irradiated Fuel Bundle Transfer Flask. CNSC staff considered the changes required for a transition in MAPLE operation involving the optimized transfer of targets to waste storage to be suitable to expedite the safe removal of targets from the reactor pool.

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

13. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the *Canadian Environmental Assessment Act*<sup>3</sup> (CEAA) have been fulfilled.
14. CNSC staff reported that it had completed an Environmental Assessment (EA) determination. CNSC staff stated that there was no requirement for an EA pursuant to subsection 5(1) of the CEAA.
15. The Commission determined that there is no requirement for an Environmental Assessment pursuant to subsection 5(1) of the *Canadian Environmental Assessment Act*<sup>31</sup> (CEAA). The Commission is satisfied that all applicable requirements of the CEAA have been fulfilled.

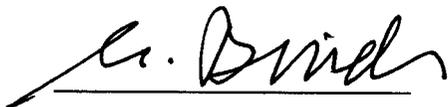
#### **Conclusion**

16. The Commission has considered the information and submissions of CNSC staff as presented in the material available for reference on the record.

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<sup>3</sup> S.C. 1992, c. 37.

17. The Commission is of the opinion 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 AECL is qualified to carry on the activity that the amended licence will authorize and that it 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.
18. The Commission therefore amends, pursuant to section 24 of the *Nuclear Safety and Control Act*, the Non-Power Reactor Operating Licence issued to AECL for its Dedicated Isotope Facilities, located in Chalk River, Ontario. The amended licence NPROL-62.02/2011 remains valid until October 31, 2011.
19. The Commission includes in the licence the recommendations made by CNSC staff in CMD 08-H139.



OCT 31 2008

Michael Binder  
President,  
Canadian Nuclear Safety Commission

Date