



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 to Reflect Updates in
Documentation

Hearing
Date April 29, 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 to Reflect Updates in
Documentation

Application received: June 1, 2010

Date of hearing: April 29, 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 amendments to the Nuclear Research and Test Establishment Operating Licence for the Chalk River Laboratories (CRL) located in Chalk River, Ontario. The current licence, NRTEOL-01.07/2011, expires on October 31, 2011.
2. AECL has requested licence amendments to:
 - replace the reference to the regulatory document AECB-1049 with RD-336 for the accounting and reporting of nuclear material;
 - reflect the most current revision of the AECL documents entitled “Chalk River Laboratories Site Emergency Plan” and “Chalk River Laboratories Site Security Report”;
 - reflect the most current revision of the AECL facility authorization documents for the NRU Reactor, the Tritium Facility and the Combined Electrolysis and Catalytic Exchange Upgrading and Detritiation (CECEUD) Test Facility;
 - reflect the changes in action levels for the Mo-99 Production Facility and remove action levels for the CECEUD Test Facility, and
 - reflect the current AECL terminology for the release path monitoring point.

Issue

3. 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

4. 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 April 29, 2011 in Ottawa, Ontario. During the hearing, the Commission considered written submissions from CNSC staff (CMD 11-H100) and AECL (CMD 11-H100.1).

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

5. 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-01.07/2011 issued to Atomic Energy of Canada Limited for the Chalk River Laboratories located in Chalk River, Ontario. The amended licence, NRTEOL-01.08/2011, is valid until October 31, 2011.

Issues and Commission Findings

Qualifications and Protection Measures

6. AECL requested an amendment to licence conditions 8.15 and 16.1 of the CRL licence to replace the CNSC regulatory document reference AECB-1049 with RD-336. Regulatory document RD-336, *Accounting and Reporting of Nuclear Material*, which became effective January 1, 2011, replaces AECB-1049, *Reporting Requirements for Fissionable and Fertile Substances*. CNSC staff conducted outreach sessions with licensees concerning this document change and determined that AECL is already in compliance with the new requirements.
7. AECL requested an amendment to Appendix A of the CRL licence to include the latest revision of the documents entitled “Chalk River Laboratories Site Emergency Response Plan, Revision 1” and “Chalk River Laboratories Site Security Report, Revision 14”. CNSC staff reviewed both documents and determined that the modifications made included minor editorial changes and adjustments to reflect changes to the corresponding programs. CNSC staff reported that the documents were acceptable.
8. AECL requested an amendment to Appendix B of the CRL licence to include the latest revisions of facility authorization documents for the NRU Reactor, the Tritium Facility, and the CECEUD Test Facility. CNSC staff reviewed the revised facility authorization documents, to which minor editorial changes were made, and found them to be acceptable.
9. AECL requested an amendment to Appendix G and H of the CRL licence to reflect the changes in the action levels for the Mo-99 Production Facility and the CECEUD Test Facility. The changes in the action levels for the Mo-99 Production Facility and the removal of action levels for the CECEUD Test Facility are explained below.

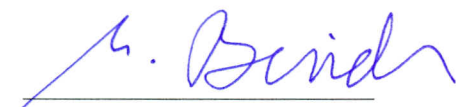
10. AECL re-measured the flow rate through the Mo-99 Stack and found it to be 1.6 times higher than the flow rate previously used. CNSC staff stated that, as a result of this higher flow rate, a correction factor of 1.6 should be applied to the releases of mixed noble gases from the Mo-99 Production Facility and, consequently, to the action level for the releases of mixed noble gases. CNSC staff further stated that the increase in calculated releases of noble gases resulting from the applied correction factor are less than 2% of the regulatory limit, and do not have a significant impact on the environment.
11. AECL discovered a discrepancy between the flow rate in the field and the flow rate used to calculate weekly particulate and radioiodine emissions from the Waste Management Areas Building 591. CNSC staff stated that AECL has reassessed the action levels based on corrected releases of particulates and radioiodine from Building 591 and CNSC staff propose updating the values of action levels to take into account a correction factor of 1.5. CNSC staff reported that the increase in calculated releases of particulates and radioiodines resulting from the applied correction factor are less than 0.00008% of the regulatory limit for alpha and gross beta, and less than 0.003% of the regulatory limit for iodine-125 and iodine-131, and do not have a significant impact on the environment.
12. CNSC staff stated that their assessment indicate that the CECEUD Test Facility Main Roof Vent Exhaust monitoring point does not meet the criteria for monitoring, since the CECEUD Test Facility is in storage-with-surveillance state. CNSC staff reported that the action levels for elemental tritium and tritium oxide releases from this facility are no longer required.
13. AECL's final request was a release path name change in Appendix G and H of the CRL licence. CNSC staff reported that AECL renamed the monitoring point that was identified as "Process Sewer" and "Process Sewer Outfall" to "Process Outfall" in earlier documentation submitted to CNSC and that the monitoring point should also be renamed in the licence to reflect the current AECL terminology.
14. CNSC staff reported that the proposed changes are administrative in nature and will not adversely affect the safe operation of the CRL. CNSC staff also considers that the proposed revised documents are acceptable to reference in the operating licence.
15. CNSC staff has determined that, since the requested amendments are administrative, these changes will have no adverse impact on the Aboriginal rights or Treaty rights of Aboriginal groups. CNSC staff stated that Aboriginal consultation was not necessary in relation to the proposed licence amendments.

Application of the *Canadian Environmental Assessment Act*

16. 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.
17. 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.

Conclusion

18. The Commission has considered the information and submissions of CNSC staff and AECL and is satisfied that the requested amendments are administrative in nature and will not adversely impact the safety of the CRL. The Commission is also satisfied that Aboriginal consultation is not necessary in relation to the proposed amendments.
19. The Commission is also satisfied that all applicable requirements of the CEAA have been fulfilled.



Michael Binder
President,
Canadian Nuclear Safety Commission

APR 29 2011

Date

³ S.C. 1992, c. 37.