



**AECL**  
Atomic Energy  
of Canada Limited

**EACL**  
Énergie atomique  
du Canada limitée

**Robert Van Adel**

President & Chief Executive Officer  
Président-directeur général

February 18, 2003

Ms. Linda Keen  
President and CEO  
Canadian Nuclear Safety Commission  
280 Slater Street  
P.O. Box 1046, Station B  
OTTAWA, Ontario K1P 5S9

Dear Ms. Keen:

In 1996, AECL informed the Atomic Energy Control Board that based on business and operational requirements, operation of the NRU reactor would not continue beyond 2005 December 31 [1]. The purpose of this letter is to formally notify CNSC that AECL now wishes to continue operation of the NRU Reactor beyond 2005 December 31.

In 1996 the existing and projected business environments were such that it was possible for AECL to anticipate an NRU shut down date of 2005 December 31. However, two key aspects of the current environment differ significantly from the situation in 1996. Specifically, the Canadian Neutron Facility (CNF), planned to replace the research capability of NRU, still remains uncommitted due to various factors. In addition, AECL has now completed a comprehensive safety analysis of NRU including seven major NRU safety upgrades. The new safety analysis, using up-to-date analytical tools and based on modern analytical standards, demonstrated that NRU is safe. The analysis showed that there are no technical reasons why NRU should not be operated beyond 2005.

Meanwhile, access to a world-class domestic research reactor remains essential for the continued sustainability and growth of AECL as both a Canadian centre for nuclear R&D and as a commercial vendor of CANDU reactors and reactor services. NRU is also of significant importance to the Canadian nuclear industry and to the Canadian scientific research community. Given that the detailed design, construction and commissioning of a replacement for NRU will take 6 or 7 years, the shutdown of NRU in 2005 without commitment for a replacement would result in a "neutron gap" of at least 6 – 7 years. This resulting "neutron gap" from shutting down the NRU Reactor in 2005 December, would:

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- 1) Jeopardize the continued development and retention of Canadian nuclear expertise,
- 2) Severely impact the development of the Advanced CANDU Reactor, particularly the demonstration and qualification of ACR fuel and fuel channel components,
- 3) Limit other commercial and public policy applications of nuclear technology,
- 4) Handicap AECL in meeting its legacy obligation to help ensure continued safe operation of the existing CANDU nuclear power reactors, and
- 5) Jeopardize the continued viability of the NRC and Canadian university advanced materials research using neutron scattering.

In addition, we foresee an increasing worldwide demand for specialty isotopes, which may require supplementary production of medical isotopes beyond those to be produced by the MAPLE reactors at CRL.

I would point out that with the implementation of the above mentioned safety assessment and upgrades to the NRU Reactor, and with a continuing strong proactive maintenance program, NRU is operating safely and effectively. In addition, we have initiated work to systematically assess the capability of NRU to meet continued safety and production demands, and to proactively implement further upgrades as may be required. We believe that continued safe operation in 2006 and beyond can be demonstrated to the satisfaction of CNSC staff, and we would not proceed with continued operation of NRU if at any time the situation changed. Please be assured that the safe operation of NRU remains, and will always be, our first priority.

We trust that this letter will serve to formally communicate the change in our position with respect to the operating lifetime of NRU, due to the change in circumstances since AECL's 1996 letter on this topic. We would welcome further detailed discussion in support of our position.

Yours truly,



Robert Van Adel

c.c.: C. Maloney – CNSC  
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