



**Written submission from the
Canadian Nuclear Isotope Council**

**Mémoire du Canadian
Nuclear Isotope Council**

In the Matter of

À l'égard de

McMaster University

Université McMaster

Application to renew its McMaster Nuclear
Reactor Class IA non-power reactor operating
licence

Demande concernant le renouvellement de son
permis d'exploitation d'un réacteur de catégorie
IA non producteur de puissance pour le réacteur
nucléaire McMaster

Public Hearing - Hearing in writing based on
written submissions

Audience publique - Audience fondée sur des
mémoires

April 2024

Avril 2024



March 18, 2024

Senior Tribunal Officer, Secretariat
Canadian Nuclear Safety Commission
280 Slater Street, P.O. Box 1046, Station B
Ottawa, Ontario K1P 5S9
Email: interventions@cnsccsn.gc.ca

Re: McMaster University Research Reactor Licence Renewal Application (Licence #NPROL-01)

Dear President and Commission Members,

On behalf of the Canadian Nuclear Isotope Council (CNIC), I am pleased to support the McMaster University Research Reactor Licence renewal application (#NPROL-01) to support the continued operation of the McMaster Nuclear Reactor (MNR).

The Canadian Nuclear Isotope Council (CNIC) is an independent, not-for-profit advocacy and member services organization. The CNIC supports over 85 members from across science, academia, healthcare, and nuclear-sector organizations dedicated to maintaining Canada's position as a global leader in the production of life-saving isotopes. The CNIC raises awareness and advocates for long-term policies that support health-care innovation and will save countless lives for decades to come. As a member of the CNIC since 2018, McMaster is committed to ensuring that Canada remains a world leader in the production, research, and supply of isotopes.

Operational since 1959, the MNR is Canada's most powerful research reactor, allowing for the safe production of several essential isotopes. In the past 64 years, its flexible design and suite of unique nuclear facilities and laboratories designed for nuclear research and radiopharmaceutical, have propelled McMaster to earn a reputation as a world-class facility and leading educational institution.

In Canada, the MNR is an important piece of our supply chain for various medical isotopes. McMaster is the world's leading supplier of iodine-125, used to treat solid tumours, and produces over 60% of the global demand – enough to treat more than 70,000 cancer patients annually. McMaster continues to be a leader in isotope production and research and most recently manufactured and packaged its first patient dose of holmium-166, used in radio-embolization microspheres for liver cancer treatment trials. Additionally, a portion of Canada's supply of lutetium-177 to treat a variety of cancers including prostate cancer, is sourced from McMaster. Each year, McMaster ships roughly 825 shipments of medical isotopes to patients and researchers around the world.

Beyond medical applications, the MNR is a world leader in neutron beam research and development, and conducts hundreds of thousands of neutron irradiations every year, many in support of industrial applications. From applications like mining exploration, environmental sampling, and neutron radiography to safely test over 500,000 jet engine parts, the continued operation of the MNR positively impacts Canadian's everyday lives.



For over 70 years, Canada has been a global leader in the research, development, and production of medical isotopes and radiopharmaceuticals. The world continues to rely on Canada for its supply of critical isotopes, and the CNIC was established to ensure this leadership can continue. As a member of the CNIC and a key supplier of isotopes, McMaster's importance to the isotope community is clear.

A Licence Renewal will allow the MNR to continue allowing ground-breaking research, immersive education programs, and essential isotope production to occur in one location. For these reasons, the CNIC supports the MNR's application for its Licence Renewal.

The CNIC is thankful for the invitation to intervene in this process and wishes to provide its insight through this written submission.

Sincerely,

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