



**Written submission from
Activation Laboratories Ltd.**

**Mémoire de
Activation Laboratories Ltd.**

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

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

Dear Commission member,

I am writing on behalf of Activation Laboratories Ltd (Actlabs) in support of the McMaster University Research Reactor Licence renewal (#NPROL-01).

McMaster is Canada's Nuclear University. It is home to a world-class suite of nuclear research facilities anchored by the McMaster Nuclear Reactor (MNR), built in 1959. These facilities enable discoveries in nuclear medicine, clean energy and materials science, while providing unique educational opportunities for students, including those in nuclear science and engineering.

For over 64 years, MNR has advanced nuclear research and innovation for the benefit of our local and global communities.

MNR:

- Is a world leader in the production of Iodine-125, a radioactive isotope that is used to treat prostate cancer in over 70,000 patients around the world each year. Earlier this year, MNR manufactured and packaged its first "core-to-clinic" patient dose of holmium-166 microspheres for liver cancer treatment trials.
- Is Canada's centre for neutron beam research and is expanding - it will be a leader in the discovery and development of advanced materials and technologies.
- Conducts hundreds of thousands of neutron irradiations every year, many in support of industry (mining exploration, environmental samples, etc.).

As a national leader in Small Modular Reactor (SMR) research and training, McMaster University is an active contributor to the Federal government's (SMR) Action Plan. SMRs are expected to play a key role in our national and global efforts to achieve Net Zero, as they have the potential to provide clean energy abundance for small and remote communities. McMaster's experts are spearheading research in SMR design, deployment and safety.

Actlabs has used the McMaster Nuclear Reactor for over 25 years from its inception in 1987. Actlabs currently uses the research reactor to radiate samples to test for elements in a process called neutron activation. This technique is so precise that it could measure gold in rocks or soil samples down to a couple parts per billion.

Canada is a tier-1 Nuclear nation, and it can only remain so with institutions such as McMaster University that support the growing demands of nuclear research, education, and expertise. McMaster University is a trusted and valuable collaborator to industry and research partners across Canada and

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internationally. Renewing the McMaster Nuclear Reactor Operating Licence will help ensure Canada continues to lead on the world's nuclear stage.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Hoffman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Rob Hoffman
VP Global Technical Support
Activation Laboratories Ltd.

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