Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 26-H110.7

Date: 2026-06-19

# Written Submission from the Canadian Nuclear Isotope Council

# Mémoire du Conseil canadien des isotopes nucléaires

In the matter of

À l'égard du

**Bruce Power**

**Bruce Power**

Application to change the lutetium-177 production process at Bruce A and B Nuclear Generating Stations

Demande visant à modifier le processus de production de lutécium 177 aux centrales nucléaires de Bruce A et B

**Hearing in Writing**

**Audience par écrit**

July 2026

Juillet 2026

Document ID: QQQVZZNDK725-166150894-12855

Canada

CANADIAN NUCLEAR ISOTOPE COUNCIL

Members of the Commission
CNSC Hearing Identifier: CMD 26-H110
Ms. Candace Salmon,
Commission Registrar
Canadian Nuclear Safety Commission
P.O. Box 1046
280 Slater Street
Ottawa, Ontario
K1P 5S9

June 19, 2026

**Re: Bruce Power's application for proposed changes to the Lutetium-177 production process at Bruce A and B Nuclear Generating Stations**

Dear Members of the Commission,

On behalf of the Canadian Nuclear Isotope Council (CNIC), I am writing to express my support for Bruce Power's request to modify its existing Lutetium-177 (Lu-177) production process through the operation of a hot cell at the Central Maintenance Facility. This proposed change would enable the on-site removal of irradiated Lu-177 target carrier materials and represents an important step in strengthening Canada's medical isotope production capabilities while maintaining the highest standards of safety and regulatory oversight.

The CNIC is an independent, not-for-profit organization representing over 120 members across Canada's healthcare, nuclear, research, and academic sectors. Since its establishment, the CNIC has worked to safeguard Canada's global leadership in isotope production, nuclear innovation, and the broader ecosystem that supports patient care, scientific advancement, and national resilience. The CNIC also advocates for sustainable, research-based, and risk-informed policies that enable Canada's nuclear isotope sector to continue delivering strategic value domestically and internationally.

Lu-177 is one of the most in-demand medical isotopes in the rapidly growing field of radiotherapy and cancer care. It is currently used in drugs such as Lutathera, for the treatment of neuroendocrine tumours, and Pluvicto, for the treatment of advanced prostate cancer, with ongoing research and clinical development expected to expand its use across additional cancers. As these therapies become more widely available, patient need increases, and new, innovative applications complete clinical trials, demand for reliable Lu-177 supply continues to grow. Canada has already established itself as a global

leader in the production of medical isotopes like Lu-177, and Bruce Power has played a significant role in that success. Through its Isotope Production System (IPS), Bruce Power became the first private commercial power reactor in the world to produce Lu-177, demonstrating how Canada's nuclear infrastructure can be leveraged not only for clean electricity generation, but also for the production of life-saving medical isotopes. Bruce Power's continued investment in isotope production strengthens Canada's position within the global radiopharmaceutical supply chain and contributes to the long-term reliability of isotope supply for patients around the world. Now, a proposed hot cell facility to increase Bruce Power's on site capabilities to process the Lu-177 will save valuable time and reduce logistical hurdles.

The proposed hot cell would allow irradiated Lu-177 targets to be handled within a shielded, purpose-built environment designed for the remote manipulation of radioactive materials. By enabling this process to occur on-site, the proposed change would reduce handling complexity, streamline operations, and further strengthen radiation protection measures for employees involved in isotope production activities. Enhancing safety while improving operational efficiency is an important objective, particularly as demand for therapeutic isotopes continues to increase and production ramps up in Canada in line with the Government of Ontario's goal to double isotope production by 2030.

The global nuclear medicine market is projected to reach approximately US$42 billion by 2033, reflecting growing need and widespread adoption of isotope-based diagnostics and therapies.[1] Therefore, investments in infrastructure that improve the safety, efficiency, and reliability of isotope production and processing are critical to ensuring that Canada can meet future demand. By enabling a critical handling step to be completed safely on-site, the proposed hot cell will strengthen the resilience of Canada's Lu-177 supply chain while supporting continued access to these therapies for patients. It will also help reinforce Canada's position as a trusted global supplier of medical isotopes and radiopharmaceutical inputs at a time when countries around the world are seeking secure and reliable sources of these essential healthcare products.

For these reasons, the CNIC supports Bruce Power's application to modify its Lu-177 production process through the operation of the proposed hot cell facility. The CNIC appreciates the Commission's careful consideration of this matter and supports an

[1] https://s45591.pcdn.co/wp-content/uploads/2025/11/CNIC-Isotopes-For-Hope-Canadas-2030-Promise_2025-DIGITAL.pdf

approach that advances medical isotope production while maintaining the highest standards of safety, environmental protection, and regulatory oversight.

Sincerely,

**Melody Greaves**

Executive Director, VP Government Relations
Canadian Nuclear Isotope Council
Melody.greaves@canadianisotopes.ca
289-683-3732