



**Written submission from  
North American Young  
Generation in Nuclear**

**Mémoire de  
North American Young  
Generation in Nuclear**

In the Matter of

À l'égard de

**Application to allow the production of  
lutetium-177(Lu-177) at the Bruce Nuclear  
Generating Station (NGS)**

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**Demande de modification de permis visant à  
permettre la production de lutécium 177 à la  
centrale nucléaire de Bruce**

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Public Hearing - Hearing in writing based on  
written submissions

Audience Publique - Audience fondée sur des  
mémoires

**June 2021**

**Juin 2021**



**17-May-2021**

Tribunal Officer, Secretariat  
Canadian Nuclear Safety Commission  
280 Slater Street  
P.O. Box 1046, Station B  
Ottawa, Ontario K1P 5S9  
Email: [cncs.interventions.ccsn@canada.ca](mailto:cncs.interventions.ccsn@canada.ca)

**Re: Bruce Power Licence Amendment Application (June 25, 2021 Hearing in Writing)**

Dear President and Commission Members,

I am representing North American Young Generation in Nuclear (NAYGN) as the NAYGN Canadian Operating Officer. [NAYGN](#) is an association of young professionals and students passionate about the nuclear industry and is focused on professional development, public relations, networking, and community outreach. There are currently over 100 chapters across North America with 14 chapters in Canada.

Bruce Power has been a strong community supporter (including actively supporting non-profit organizations such as the NAYGN Bruce Power chapter) and provide careers to many of our NAYGN members.

Situated on the shore of Lake Huron, Bruce Power provides more than 30 per cent of Ontario's electricity at 30 per cent less than the average cost to generate residential power. Bruce Power's people are proud of the role they play in safely delivering clean, reliable, low-cost nuclear power to families and businesses across the province and life-saving medical isotopes across the globe. Bruce Power is proud to supply life-saving medical isotopes across the globe to keep medical equipment sterilized and assist in fighting disease.



As demand for medical isotopes is expected to grow substantially in the next decade, there is a need for additional irradiation capacity. More than 10,000 hospitals around the world use medical isotopes for sterilization, diagnostic imaging and for various treatments. Canada's nuclear isotope program pioneered a number of medical applications which are used widely, and much of that work has been focused on the diagnosis and treatment of cancer.

The Isotope Production System (IPS) will be a game changer in the global medical isotope supply chain, providing unprecedented capacity for the production of some medical isotopes with the existing Bruce Power infrastructure. The IPS will first be used to produce Lu-177, which is currently used to treat neuroendocrine tumors, and has additional applications for prostate and breast cancer treatments.

Bruce Power plans to begin to supply the world market with Lu-177 in 2022. The partnership will use the made-in-Ontario Isotope Production System installed into Bruce Power's nuclear reactors to produce Lutetium-177 and other isotopes used in the diagnosis and treatment of cancers in hospitals around the world.

In closing, I truly believe that Bruce Power should be granted a licence amendment to produce Lutetium-177. I believe this isotope will have amazing health benefits and that Bruce Power (and Canada) should step up to meet the growing isotope demands. Bruce Power is a trusted community partner that has safely been delivering clean, reliable, low-cost nuclear power to families and businesses across the province and life-saving medical isotopes across the globe.

Thank you.

Matthew Mairinger