

October 31, 2024

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Mr. Ramzi Jammal  
Executive Vice-President and Chief Regulatory Operations Officer  
Bruce Regulatory Program Division  
Canadian Nuclear Safety Commission  
280 Slater Street  
Ottawa, Ontario K1P 5S9

Dear Mr. Jammal,

Bruce A and B: Expanding Canadian Isotope Capability at Bruce Power

The purpose of this letter is to provide the Canadian Nuclear Safety Commission (CNSC) additional details on expanding Canadian Isotope Capability at Bruce Power. The company, in collaboration with our partners, is committed to contributing to the critical role Canada plays in the development, production and use of life-saving medical isotopes and doing our part to support the goal set-out by the Canadian Nuclear Isotope Council (CNIC) to double Canada's production by 2030.

Bruce Power, through our partnership with Nordion, continues to provide a reliable supply of cobalt-60 used for sterilization and the treatment of brain tumours and breast cancer. Our Major Component Replacement (MCR) Program and outage program at Bruce B is both securing the supply of cobalt-60 through 2064, and installed modifications have increased production. This work will continue as planned and is an essential underpinning of this critical isotope globally.

In October of 2024, Bruce Power celebrated its two-year anniversary of producing lutetium-177 in its Unit 7 Isotope Production System (IPS), a system that has proven safety and reliability, with no missed shipments since launch. In the same month, a second production line on Unit 7's IPS went into service; doubling our irradiation capacity. This system has the capability to meet growing supply needs for lutetium-177, used to treat certain tumours and prostate cancer along with potential future isotopes. We have achieved this through our partnership with IsoGen, ITM and the Saugeen Ojibway Nation (SON) and believe this has established a foundation for expansion. The partnership with the SON has been in place since 2019 and has been a key component to this project. The Anishinaabemowin project name, "Gamzook'aaminaakoziwin" translates to "We are teaming up on the sickness". The name and the project logo were designed by SON community leaders and members as a part of the ongoing community engagement. The revenue-sharing program will provide economic benefits to the SON community, enabling them to take a self-directed approach to managing social and economic conditions within their community. This revenue stream will provide a great opportunity to address wealth creation and improve well-being for the SON community.

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The lutetium-177 program will deliver benefits beyond the local community, including the reduction of barriers to economic self-sufficiency, improving the socioeconomic circumstances of SON members. Both SON and Bruce Power are committed to exploring new opportunities to further expand this partnership.

Bruce Power plans to add an additional IPS on Unit 6 in 2027 that will both increase long-term capacity and maintain production when Unit 7 is offline for its MCR between 2028-2031. To increase redundancy and capacity even further, Bruce Power will be evaluating the feasibility to move to Bruce A with a third IPS to be installed in 2029. Bruce Power will build on the strong track-record established to engage with the CNSC on these expansion plans going into 2025 as we work to provide a long-term view to the world of supply security and capability. This expansion will be done in collaboration with our partners at IsoGen, ITM and the SON.

Bruce Power is also committed to exploring additional isotope production using our system and plans to propose an amendment to its operating licence to add multiple new isotopes in a bounding approach for the IPS. This will be similar to Bruce Power's ability to produce a combination of Low Specific Activity (LSA) and High Specific Activity (HSA) within the Bruce B adjustors, which allows us to leverage the same system to respond to specific demands in the industry. A licence amendment for multiple new isotopes will be submitted in 2025 for review and consideration.

This approach will ensure that Bruce Power's isotope program can effectively support innovations in the isotope industry as research continues to identify new opportunities and change current demands while meeting high standards of safety. After more than two-years of safely producing lutetium-177 in the IPS, the system is proven, ready and available to provide more cancer-fighting isotopes to Canadians in need.

Lastly, in collaboration with the Southwestern Ontario Isotope Coalition (SOIC), IsoGen and SON, Bruce Power is committed to advocating for processing facilities to be built locally to enhance the supply chain of isotopes in Ontario and improve the logistical impacts of handling short lived medical isotopes. In 2025, we will be investing \$3 million into greater localization and will be proposing to the CNSC changes to existing licensed facilities to safely accommodate this important work.

If you require further information or have any questions regarding this submission, please contact Peter McDermid at 226-930-1551, or [peter.mcdermid@brucepower.com](mailto:peter.mcdermid@brucepower.com).

Regards,

James Scongack  
Chief Operating Officer & Executive Vice-President  
Bruce Power

cc: *CNSC Bruce Site Office*  
*Ms. Anupama Bulkan, CNSC – Ottawa*  
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