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**Written submission from the
Ontario Tech University**

**Mémoire de
l'Ontario Tech University**

In the Matter of the

À l'égard de

**Cameco Corporation,
Blind River Refinery**

**Cameco Corporation,
Raffinerie de Blind River**

**Application to renew licence for Cameco
Corporation's Blind River Refinery**

**Demande de renouvellement de permis pour
la raffinerie de Blind River appartenant à
Cameco Corporation**

Commission Public Hearing

Audience publique de la Commission

November 24-25, 2021

24-25 novembre 2021

September 16, 2021

Canadian Nuclear Safety Commission
280 Slater Street
Ottawa, ON
Canada, K1P 5S9

Re: Cameco's application for renewal of the Blind River Refinery operating license

To the Commission Secretariat and other interested parties,

We are writing in support of Cameco's application to renew their operating license for the Blind River Refinery (BRR; Blind River, ON) for an additional ten years. The BRR facility plays an important role in Canada's nuclear fuel cycle and the generation of clean, reliable, safe, and affordable electricity in Canada. Cameco is an experienced company in the mining, milling, refining, and manufacturing of nuclear fuel to be supplied to Canada's nuclear generating stations with more than three decades of experience. The role that Cameco has in the Canadian nuclear supply chain is critical in supporting nuclear power generation, which currently contributes about 60% of electricity in Ontario.

The primary objective of the BRR is to refine uranium ore concentrate received from various mines and mills internationally, and refine it to high grade uranium trioxide (UO_3). The latter is then transferred to a conversion facility (mainly to Cameco's Conversion Facility in Port Hope, ON) where it is then converted into either uranium dioxide (UO_2 , which is used in Canada) or uranium hexafluoride (UF_6 , which is used internationally). This industrial process has been used for more than three decades. It is noteworthy that the license renewal does not request any changes to their industrial process.

Cameco's BRR facility is currently regulated by the Canadian Nuclear Safety Commission and follows strict guidelines with regards to the environment, and health and safety of its employees and the surrounding community. For instance, comprehensive air monitoring programs measure the uranium content in multiple locations at the facility and in the surrounding community. Also, water samples are routinely monitored in support of environmental programs and radiation detection is regularly performed. Air, water, and radioactivity reportings are made publicly available. Decisions made regarding the operation of the facility and the potential impact on health, safety, and the environment are objectively informed by empirical data.

Ontario Tech University offers the only undergraduate Nuclear Engineering program in Canada. We are ranked 3rd in North America for Nuclear Engineering graduates at the Bachelor's level

(behind Penn State and Texas A&M) and June 2020 graduated the 1,000th student from our program. As part of our accredited undergraduate nuclear engineering program, students take a class in Nuclear Fuel Cycles. In this class, all aspects of the conventional nuclear fuel cycle are covered, including uranium refining at the BRR facility. Students learn about the chemical process of uranium refinement, risks associated with a refinery, and measures taken in industry to mitigate those risks. In previous years, students were able to tour some of Cameco's other facilities, including the fuel manufacturing plant in Cobourg, ON. While on these tours, students get first-hand experience of the high regard to safety and rigour exercised in the Canadian nuclear industry. We also have comprehensive research programs that span from thermalhydraulics of nuclear reactor systems to nuclear fuel behaviour under severe accident conditions.

In conclusion, we at Ontario Tech University provide our endorsement for Cameco's application for a site license renewal at the BRR. The successful operation of this facility is critical to supporting the Canadian nuclear supply chain. Thank you for the opportunity to provide this intervention letter and we would be happy to take any questions that you may have.

Best Regards,



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