



Supplementary Information

Renseignements supplémentaires

**Presentation from the Canadian
Nuclear Isotope Council**

**Présentation du
Canadian Nuclear Isotope Council**

In the Matter of the

À l'égard de

Cameco Fuel Manufacturing Inc.

Cameco Fuel Manufacturing Inc.

Application to Renew the Class IB Nuclear
Fuel Facility Licence for Cameco Fuel
Manufacturing Inc. in Port Hope, Ontario

Demande de renouvellement du permis
d'exploitation de l'installation de combustible
nucléaire de catégorie IB pour Cameco Fuel
Manufacturing Inc. à Port Hope (Ontario)

Commission Public Hearing

Audience publique de la Commission

November 23, 2022

23 novembre 2022



Canadian Nuclear Isotope Council

Cameco Fuel Manufacturing Application to renew the Class IB Nuclear Fuel Facility Licence

Canadian Nuclear Safety Commission Public Hearing

November 23, 2022

Overview

1. Introduction to the CNIC
2. Medical isotope production in Canada
3. Cameco's role in medical Isotope production
4. Other considerations
5. Value of 20-year term renewal
6. Increasing Cameco's Uranium production capacity

Introduction to the CNIC

- The Canadian Nuclear Isotope Council (CNIC) is an independent organization consisting of over 75 members convened to advocate for our country's role in the production of the world's isotope supply
- CNIC members are representative of the Canadian health sector, nuclear industry, and research bodies
- The CNIC acts as a voice in safeguarding the continued availability of isotopes, ensuring our public policies are risk-informed and science-based, and support the highest levels of public health and safety.

Cameco Fuel Manufacturing is a founding member of the CNIC!



Medical isotope production in Canada

- Nuclear isotopes are used for a variety of modern medical procedures and treatments
 - Diagnostic imaging
 - Radiotherapeutic treatments of illnesses like cancer and heart disease
 - Sterilization of medical equipment
- Canada is home to nearly the entire production pipeline for various medical isotopes, which all starts with the necessary fuel and components to power reactors, cyclotrons, and accelerators

Cameco's role in medical isotope production

- Cameco produces the fuel bundles and reactor components needed to power CANDU nuclear reactors
 - CANDU reactors produce a significant portion of Canada's supply of cutting-edge medical isotopes
- Cameco is one of only two fuel fabrication suppliers for Canada's reactors
- Cameco is the largest domestic fabricator of zirconium reactor components for CANDU reactors in the world

Cameco's role in medical isotope production

- Cameco manufactures specialized adjuster sets containing Cobalt-59, which are irradiated in reactors to produce Cobalt-60 isotopes
- Over 70% of the world's supply of Co-60 is produced in Canada's nuclear power plants → Cameco fuel bundles are vital for this source of Co-60
- Bruce Power exclusively uses fuel bundles from Cameco
 - Co-60 produced at Bruce Power is used to sterilize over 40% of the world's single-use medical devices
- In 2021, Cameco fabricated the first-of-its-kind Target Finger Tube assembly to house Lutetium targets to produce Lutetium-177 isotopes

Other considerations

- Long history of safe, responsible operations and expertise
 - Cameco has been producing fuel bundles since 1965
- Job creation
 - Cameco is one of the largest employers in Northumberland County, employing 600 people at Port Hope & Cobourg operations
 - The wider Canadian nuclear industry includes over 76,000 high-value jobs
- Contribution to local economy
 - Utilizes a variety of local suppliers, vendors, and contractors

Value of 20-year term renewal

- A 20-year licence renewal will:
 - Allow Cameco to continue fuelling reactors in Canada and internationally
 - Allow Cameco to contribute to powering homes and businesses and to the production of medical isotopes here in Canada
 - Support workforce stability for Cameco employees
 - Give certainty to customers

Increasing Cameco's Uranium production capacity

- The global market for medical isotopes is estimated to grow 15% per year to reach \$14-\$33 billion US in the next decade.
 - Canada requires sufficient fuel bundles and reactor components to take advantage of these figures
 - Cameco can help Canada safeguard its position as a global leader in medical isotope production
- Increasing the amount of Uranium processed at Cameco to 1,650 tonnes will allow the facility to meet changes in supply and demand



Thank you