

## CANADA

# Alliance formed to promote isotope production

*A number of private and public organizations have banded together in order to ensure that Canada remains a leader in radioisotope production.*

A coalition of Canadian science, healthcare, and nuclear sector organizations has launched the Canadian Nuclear Isotope Council (CNIC) to ensure that Canada remains a world leader in the production of medical and industrial radioisotopes by raising awareness and supporting long-term policies at the domestic and international levels. The formation of the council follows an announcement by Canadian Nuclear Laboratories that the National Research Universal (NRU) reactor at Canada's Chalk River Laboratories was permanently shut down on March 31.

Put into service in 1957, the NRU reactor served three purposes: to be a supplier of industrial and medical radioisotopes; to be a major Canadian facility for neutron physics research; and to provide engineering research and development support for CANDU power reactors. The reactor ceased routine production of molybdenum-99, the precursor of the medical-imaging isotope technetium-99m, in October 2016 but retained the capacity to produce the isotope in case of a significant shortage that could not be filled by other means. In addition to Mo-99, Chalk River Laboratories produced iodine-131 and I-125, xenon-133, iridium-192, and cobalt-60.

Currently, radioisotopes are produced at the Bruce and Pickering nuclear power plants in Ontario, the research reactor at McMaster University in Hamilton, Ontario, and particle accelerators such as the TRIUMF center in Vancouver and the Canadian Light Source at the University of Saskatchewan.

Since 1940, the CNIC said, Canada has been a global leader in producing isotopes used in medical imaging, cancer therapy, sterilization, and diagnostic development, and the demand for a reliable supply of these critical isotopes continues to grow as advancements in healthcare continue and jurisdictions seek to secure fair access to diagnostic tools and treatments for patients. According to the CNIC, global medical isotope production is a Can\$4-billion (about \$3.2-billion) business and is projected to grow up to 5 percent every year.

James Scongack, vice president of corporate affairs and environment at Bruce Power, said in a statement, "For decades, the world has looked to Canada as a source of healthcare innovation and a reliable supply of isotopes to diagnose and treat some of the most serious medical conditions, while also supplying critical sterilization isotopes to keep hospitals and medical facilities clean and safe. Our council of leaders in healthcare, energy, and academia has come together because we believe this is a critical role people in Canada and around the world are counting on us to play in the years to come."

According to the CNIC, medical isotopes are an important part of Canada's innovation agenda, and beyond medicine, the nuclear sector contributes to a wide range of other scientific and economic activities, including energy, human health and safety, material testing, food safety, and even space exploration. The CNIC said that by leveraging a strategic national alliance of Canada's nuclear, healthcare, and academic sectors, effective policies and awareness can be brought to the critical international role Canada plays in isotope production.

The CNIC said that the Canadian government recognizes the critical role that radioisotopes play in the global community and has stated its intention to work with industry, the healthcare community, and provincial and territorial governments to ensure that the Canadian supply of radioisotopes is brought to the next level.

The founding members of the CNIC include the Brain Tumour Foundation of Canada, Bruce Power, Framatome, Nordion, the Canadian Nuclear Association, SNC-Lavalin, Canadian Nuclear Laboratories, the International Irradiation Association, the Ontario Association of Nuclear Medicine, BWXT, Isotopen Technologiën, Ontario Power Generation, Cameco, CanProbe, Laker Energy, the Organization of Canadian Nuclear Industries, the Canadian Association of Nuclear Medicine, the Centre for Probe Development and Commercialization, and NB Power.