



**Written submission from the
BC Cancer Research Institute**

**Mémoire du BC Cancer
Research Institute**

In the Matter of the

À l'égard de

TRIUMF Accelerators Inc.

TRIUMF Accelerators Inc.

Application by TRIUMF Accelerators Inc.
for renewal of operating licence for its
particle accelerator facilities

Demande de TRIUMF Accelerators Inc. pour le
renouvellement de son permis d'exploitation
pour ses installations dotées d'un accélérateur
de particules

Commission Public Hearing

Audience publique de la Commission

March 23, 2022

23 mars 2022

February 7, 2022

Canadian Nuclear Safety Commission
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To Whom It May Concern:

I write to express my enthusiastic support for TRIUMF's license renewal application.

My enthusiasm for TRIUMF stems from my time as the British Columbia Leadership Chair of the Centre of Excellence for Functional Cancer Imaging at BC Cancer (BCC) - a comprehensive program that focuses on research and development of novel cancer imaging technologies as well as professional and compassionate patient care by offering diagnostic services in positron emission tomography (PET). BCC is dedicated to excellence and performance, values we share with our colleagues at TRIUMF.

In my more recent role as Vice President of Research, I continue to work closely with TRIUMF on several fronts. Past efforts include the development and rollout of cyclotron-based production of the key medical isotope technetium-99m (Tc-99m), which received Health Canada approval for human use in November 2020 and has been adapted to produce other clinical-quality medical isotopes such as gallium-68 (Ga-68), zirconium-89 (Zr-89) and copper-64 (Cu-64). This achievement would not have been possible without the collective expertise from both TRIUMF and BCC, which together was able to design, build, test and safely commission the most potent small cyclotron solid target system available to date. The system has now been deployed into the commercial arena and has been installed in more than two dozen centres in North America, Europe and Asia.

TRIUMF has also been an alternative source of fluorine-18 (F-18) for BCC's F-18 Fluorodeoxyglucose (FDG) production program, produced in our own in-house radiopharmacy – one that TRIUMF provided guidance to build. The BCC facility has enabled the British Columbia PET program to flourish and will soon require additional isotope production capacity to ensure accessible life-saving diagnostic procedures at a number of sites in the province. With that, TRIUMF and BCC have recently partnered to construct the new Institute for Advanced Medical Isotopes (IAMI), which will be located at TRIUMF and is slated to be completed during the summer of 2022. This new facility will house a TR24 cyclotron and several GMP-compliant radiochemistry production laboratories that will not only supply certain isotopes used in the clinic today but will also open a new set of research frontiers into next-generation medical isotopes and radiopharmaceuticals for the future.

These examples serve to establish TRIUMF as leading developer of particle accelerator systems that enable clinical imaging applications, which inherently come with high quality and reliability standards.

TRIUMF remains as an important part of our Canada's research and technology ecosystem, and the lab remains as a technological hub for critical contributions to clinical health care, and education across the country and around the world. Canada benefits tremendously from the intellectual capital and scientific innovation that TRIUMF enables. From playing a key role in developing next-generation medical isotopes for the treatment of metastatic cancers, to helping orchestrate the development of a novel ventilator for the Canadian government in response to the COVID-19 pandemic, TRIUMF directly improves the lives of Canadians.

With over a decade of interaction with TRIUMF, I can say without reservation that TRIUMF has my full support as a premier research institution focused on operating safely and effectively. I am looking forward to continuing our partnership in the years to come.

Sincerely,



François Bénard, MD
Senior Executive Director and Distinguished Scientist, BC Cancer Research Institute
Professor, Radiology, University of British Columbia