



**TRIUMF**  
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Canada

**The University of British Columbia**  
224-6328 Memorial Road  
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Canada

September 21<sup>th</sup> 2011

#### **LETTER OF INTENT – Heat Recovery**

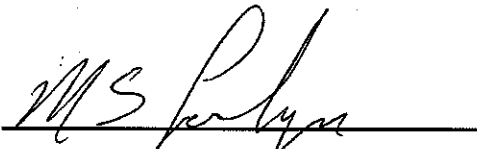
TRIUMF and The University of British Columbia (UBC), agree to jointly support the development, establishment and operation (the Partnership) of a heat recovery and distribution system (the System). The Partnership is enabled by the unique opportunity lent by the TRIUMF facility's siting on the UBC, Point Grey campus, the facility's by product of waste heat, in the form of warm water, and the requirement to vent this waste heat to the atmosphere before the water is reused. Concurrently UBC operates a sophisticated district-heating system in its academic precinct, has plans to expand its serviced area into the South Campus and is interested in diversifying its energy-source mix beyond natural gas and/or electricity with the aim of reducing GHG emissions in a cost efficient manner.

Legal agreements, contracts or other articles arising out of this Partnership shall be guided by the following principles:

- 1) TRIUMF will guarantee UBC sole access to, and use of, the warm water generated at the TRIUMF facility at no cost until such time as UBC has retired the debt associated with the capital cost of the System
- 2) UBC shall be liable for any costs associated with establishment and operation of the System
- 3) UBC will provide the space required to house UBC owned and operated System equipment
- 4) TRIUMF will allow UBC personnel access to the System's TRIUMF-UBC interconnection point on an ongoing basis
- 5) Financial savings realized by TRIUMF through the Partnership shall be to the sole benefit of TRIUMF
- 6) Revenues, and the value of avoided costs, realized by UBC through the Partnership shall be the sole benefit of UBC
- 7) UBC will not require TRIUMF to guarantee, or indemnify, UBC for costs associated with, the volume, temperature or quality etc. of the warm water provided to UBC
- 8) TRIUMF will not require UBC to guarantee, or indemnify, TRIUMF for costs associated with, the volume, temperature or quality etc. of the water processed by UBC and returned to TRIUMF
- 9) UBC and TRIUMF will work cooperatively to implement practicable procedures that maximize the heat recovery opportunity while not impacting the primary function of the TRIUMF facility
- 10) TRIUMF and UBC will work cooperatively to identify, and make application to, 3<sup>rd</sup> party sources of funding
- 11) TRIUMF and UBC will work cooperatively to develop/identify, facilitate and demonstrate technologies which are enabled by, or are synergistic with, the System

- 12) From time to time, TRIUMF and UBC will jointly produce a report detailing the financial and environmental impacts of the System
- 13) By December 31, 2011 TRIUMF and UBC will enter into a Memorandum of Understanding, or Appendix/Attachment to a suitable existing agreement to which they are the sole participants, that fully describes the System and Partnership. If no such action is taken, the LOI is deemed to have expired unless TRIUMF and UBC mutually agree to continue to pursue the Partnership.
- 14) Principles can be added or deleted as required.

The following agree to the establishment of the Partnership and commit their respective organizations to be guided by the Principles outlined:



**Nigel Lockyer, Director, TRIUMF**



**Pierre Ouillet, Vice President - Finance,  
Resources and Operations, UBC)**