UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

RioTinto

Environmental Science and Engineering Program
3333 University Way
Prince George BC V2N 4Z9 Canada

November 5, 2019

RE: Establishment of a new Research Chair on Climate Change and Water Security focusing on the Nechako Watershed

Dear Colleagues:

Over the past year, I have worked closely with colleagues at UNBC and Rio Tinto to develop an application to the Natural Sciences and Engineering Research Council of Canada (NSERC) for a Senior Industrial Research Chair (IRC) on Climate Change and Water Security. I am delighted to announce that the application to NSERC was successful and that I am now embarking on a 5-year program of research focusing on the rapidly changing Nechako Watershed.

Description of NSERC IRCs. NSERC is Canada's federal funding agency for university- and college-based research in the natural sciences and engineering. NSERC IRCs create mutually beneficial collaborative relationships between Canadian academic institutions and private and/or public sector partners with the expectation that these partnerships generate economic, social and/or environmental benefits for Canada and Canadians. An IRC grant supports the position of the Chairholder, research staff and students, research tools and instruments, and general expenses related to the Chair's program of research. Institutional funds liberated by this grant are also being invested in a new faculty position in the Environmental Science Program at UNBC. IRCs are funded jointly by NSERC and an industrial partner, which in this case is Rio Tinto.

Scope and objectives of this IRC. The study area for this IRC is the entire Nechako Watershed including the unregulated Stuart and Nautley Rivers and the regulated Nechako River, which is partially managed by Rio Tinto for hydropower generation in support of its BC Works operations in Kitimat, BC. This watershed is undergoing rapid climate change with impacts to its regional weather, hydrology, and hence water security. With the recent expansion of Rio Tinto's operations in Kitimat and the growing demands for renewable sources of energy such as hydropower, there is an urgent need to better understand the role of climate change and reservoir operations on the water supply and security of watersheds such as the Nechako.

The long-term goal of the NSERC/Rio Tinto Senior IRC in Climate Change and Water Security is to better monitor and assess recent changes in weather and precipitation patterns affecting the Nechako Watershed, and to establish their impacts on changing seasonal snowpack evolution and on the vast network of streams and rivers of the Nechako Watershed. The program of research spans five years (beginning 1 July 2019) and focuses on three research themes: 1) hydro-meteorological monitoring and data collection; 2) atmospheric and terrestrial rivers; and 3) hydrological and water temperature modeling. Under my supervision, the research will be led by a UNBC team of 11 graduate and undergraduate students, 2 postdoctoral fellows, a part-time research manager (Mr. Jeremy Morris) and a part-time outreach coordinator (Mr. Barry Booth).

A five-member Science Advisory Board composed of representatives from UNBC (Dr. Ellen Petticrew), Rio Tinto (Mr. Justus Benckhuysen), the academic sector (Dr. Francis Zwiers, Pacific Climate Impacts Consortium, University of Victoria), the provincial government (FLNRORD, Mr. Chelton van Geloven), and Cheslatta Carrier Nation (Mr. James Rakochy), will oversee the research progress and will report to Dr. Geoff Payne, Vice-President Research and Graduate Programs. The research will be conducted in close collaboration with Rio Tinto, researchers at UNBC and other academic institutions, and with community organizations and facilities.

Communication Plan. We will be reporting the results and findings of our research back to the community on an ongoing basis while seeking feedback on our work. We will be holding annual community-based workshops across several communities in the Nechako Watershed and beyond. Results will also be disseminated via a quarterly electronic newsletter and an annual report that will be sent to interested individuals, a dedicated website (http://web.unbc.ca/~sdery/irc.htm), a Slack chat room, and via social media (e.g., my Twitter, ResearchGate, and LinkedIn accounts).

Outcomes of the IRC program of research. IRCs are established to provide tangible benefits to the industrial partner and to Canada and Canadians as a whole. For the NSERC/Rio Tinto IRC on Climate Change and Water Security, this will include: the training of the next generation of meteorologists, climatologists, and hydrologists; improved decision-making on water retention and releases (e.g., flood mitigation) from Nechako Reservoir to ensure a stable and reliable water supply for the Kemano Powerhouse (which also powers thousands of BC households) while sustaining Nechako River flows for ecological needs; guidance on the management of keystone (salmon) and endangered (white sturgeon) aquatic species; and expanded knowledge dissemination and exchange with Nechako Watershed communities, First Nations, end users, stakeholders, and industry.

Closing remarks. We look forward to our interactions with Nechako Watershed community members as we embark on this ambitious program of research. We will have a strong presence in the watershed and will seek your thoughts and observations on the rapidly changing Nechako Watershed. Your ongoing support is critical in achieving our goals and will guide us as we expand our research activities and knowledge on this complex but fascinating system. If you have any questions or concerns, please feel free to contact me by email or regular mail using the contact information provided in this letter. To receive regular updates on the IRC program of research, please send us your contact information via email at irc@unbc.ca or by regular mail at the address listed below.

With kind regards,

Dr. Stephen Déry
Professor, Environmental Science Program
NSERC/Rio Tinto Industrial Research Chair in Climate Change and Water Security
University of Northern British Columbia
3333 University Way, Prince George, British Columbia, V2N 4Z9
Tel: (250) 960-5193 | Email: sdery@unbc.ca | Website: http://web.unbc.ca/~sdery/irc.htm
Twitter: @chacal_chanel | LinkedIn: https://www.linkedin.com/in/stephen-dery-15584946/