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19 January, 2016

Executive Director / Awards Committee
Association of Professional Engineers of Yukon
312B Hanson Street,
Whitehorse, Yukon, Y1A 1Y6

Re: Nomination for Yukon Engineering Excellence Award

Nomination

Please accept this letter and presentation of the *Yukon Climate Change Indicators and Key Findings Report* in submission for the Yukon Engineering Award. Most nominations for this award are likely innovative designs and/or challenging construction projects. At the Yukon College / Yukon Research Centre, we deal in innovation, information and applied research. Our goal is to solve northern problems with northern expertise. One of the major engineering challenges we face is climate change.

In the most recent global assessment report, the Intergovernmental Panel on Climate Change states that “warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, [...]” (IPCC, 2013) More change is anticipated and in fact the North “is projected to warm most”. Having a clear statement about the overall global context still leaves us needing much more information to understand the situation at a regional level. The *Yukon Climate Change Indicators and Key Findings Report* assesses our state of knowledge for climate change in Yukon.

It is a cross-sector, evidence-based assessment of Yukon climate change knowledge, ranging from permafrost and precipitation to infrastructure and hazards. Synthesizing our understanding is useful for industry, engineers, assessors, regulators and decision makers. For example, we anticipate that the report will be a foundational reference for a mining company when they seek to develop a tailing pond in a changing hydrological regime, or for an engineering firm as they design around degrading permafrost, and for assessors as they weigh whether a project is safe. “Roads, buildings and infrastructure built without the future climate in mind are vulnerable.”

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Criteria

This report touches on all of the evaluation criteria used for the APEY annual award. The focus of our team at the Yukon Research Centre is adaptation to a changing northern climate and this report, in particular, is meant to enhance our understanding. The purpose of this report is to increase the resilience of our communities by ensuring that we are well-informed with both the knowledge and uncertainty around climate change. The report has clear application to engineers who are designing systems to last in a changing environment.

Eligibility

This report is Yukon specific, both in its scope and in its application. The report has been in development for the past two years and was completed late this past fall. The report is applied research; it has relevance for a range of end-users including scientists, engineers and policy-makers. The report was authored by John Streicker, our Science Advisor, who is a Professional Engineer in good standing with APEY.

John has held the role of Science Advisor for the climate change research group at the Yukon Research Centre for over 8 years now. Normally his role is advisory in nature. However, for this project we sought out his expertise to lead the report. John's knowledge of the science, of industry and of policy made him an ideal choice to develop the report.

Conclusion

We believe that the *Yukon Climate Change Indicators and Key Findings Report* has significant value for the Yukon. So much so, that we have committed to making it an ongoing report which will be updated over the years. Even as the report came out in draft form, it was referenced in the Government of Yukon's climate change progress report. At the same time it was used to brief the 9-person Yukon delegation going to the United Nations climate negotiations in Paris last month. We were very pleased to see the report put to such good use right away.

We submit the *Yukon Climate Change Indicators and Key Findings Report* to you for your consideration of the Yukon Engineering Excellence Award. Please don't hesitate to contact me if you have any further questions.

Sincerely,

Dr. Karen Barnes
President & Vice Chancellor

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