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St. John's, NL
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February 26, 2019

Minister Siobhan Coady
Minister of Natural Resources
Natural Resources Building
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Canada

Minister Coady

We are writing on the risks arising from the North Spur. As you know we have taken the position that a panel of eminent geo-physical experts should be convened to investigate the safety of the North Spur and its remediation. We believe that the panel should hear from the proponent and its engineering advisors and from others who have undertaken research. The panel should be empowered to recommend measures to improve safety and security at the site. The panel's terms of reference should be established by government in consultation with community organizations and the panel should be completely independent of Nalcor, reporting to government.

Dr. Lennart Elfgren and Dr. Stig Bernander have filed a technical report with the Muskrat Falls Inquiry which provides the technical reasons for their concern with the continuing risks associated with the North Spur. Dr. Lennart also wrote you on October 2, 2018 to support the appointment of an independent panel.

There has been no public forum for reviewing the North Spur and to test the research and remedial measures advanced by Nalcor's geo-technical experts. The engineering design work had not been completed when the joint panel undertook its review so the panel could not test the effectiveness of the remedial measures that have been taken since the panel's report of August 2011. The panel convened in 2017 by Nalcor was engaged with no public input nor did it provide Drs. Elfgren and Bernander with an opportunity to present and defend their research.

We are writing to propose that a monitoring system be put in place, one which would enable Nalcor to measure any movements or tremors at the North Spur. This would be accomplished through the use of sensors which would generate information in real time which could be available to an eminent panel. This would supplement the piezometers which measure the water pressure and which have been in place for a long time.

You will find at the following link a description of how monitoring works, along with photos of dramatic failures at hydro-electric dams:

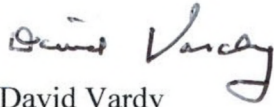
<https://www.ferc.gov/industries/hydropower/safety/initiatives/surveillance-monitoring/monitoring.pdf>

This excellent suggestion was presented to Nalcor CEO Stan Marshall by Mark Dykeman, an engineer who has worked at Muskrat Falls. Mark has referred us to Leica, a manufacturer of appropriate sensors whose website can be viewed at <https://leica-geosystems.com/about-us/news-room/customer-magazine/reporter-83/06-designing-a-dam-monitoring-system>.

Mark also proposes a dam safety protocol whereby in the event of a failure the flow of water could be controlled by shutting down the Upper Churchill, opening the gates at Muskrat Falls and draining the reservoir above the Falls. Please advise if any such protocol is in place.

With the impoundment scheduled to take place this fall we believe that early action is imperative. Every measure possible must be taken to reduce risk, following the precautionary principle, even if it leads to an excess of caution over incaution by the project proponent. Not only is a huge financial investment at stake but, more importantly, failure of the dam has the potential to place people and communities at risk, through life-threatening, unpredictable events! Better to err on the side of safety, when lives are in the balance!

Yours very truly,



David Vardy
Secretary
Muskrat Falls Concerned Citizens' Coalition

Ron Penney
Chair, MFCCC

Des Sullivan
Treasurer, MFCCC