January 28, 2011

Honourable Peter Kent
Minister of Environment
Member of Parliament for Thornhill (Ontario)
Les Terrasses de la Chaudiere
10 Wellington Street, 28th Floor
Gatineau, Quebec K1A 0H3

Dear Minister Kent,

Re: Proposed Site C Dam on the Peace River in Northeast British Columbia

The purpose of this communication is to convey the concerns of thousands of people in Northwest Canada who are troubled by the proposed construction of a third dam on the Peace River in Northeast British Columbia. While the proposed project, known as Site C, will soon be entering the Environmental Assessment stage, there are good reasons to believe that the process has already been tainted.

According to the Globe and Mail, former Environment Minister Jim Prentice said, "***While geothermal, wind and solar power are important; the best bet for clean power is more hydro-electric development***". This statement creates the impression that thorough assessments of Site C's environmental considerations may be bypassed simply because it has already been given a general nod of approval by a former Environment Minister. Mr. Prentice would most certainly have been aware that the Site C development process was well underway when he made this comment. However, where the Site C Dam is concerned, he is wrong.

It is critically important for you to understand that ALL HYDRO DAMS ARE NOT CREATED EQUAL. The Site C proposal is littered with significant issues that have been ignored by the proponent, the media, and the people in elected office who are supposed to watch over public interests.

It is our belief, that it is the duty of your office to not only protect the environment from unreasonable human activity, but to also protect humans from unacceptable environmental risk. With that in mind, we ask that you carefully consider the following issues.

British Columbia's Peace River valley is characterized by **unstable geology**, including clay soils that "fail" when saturated. The area encompassed by the proposed Site C Dam and associated 83- km long reservoir has notoriously unstable banks, with four major landslides in the past century. Since the site was first identified as a potential location for a dam, two significant events have taken place. These alone should have raised red flags.

- In 1973, a rapid landslide deposited 7 million cubic meters of material into the valley and completely blocked the Peace River for almost 10 hours. This slide occurred within the flood zone of the proposed Site C reservoir. Previous to this and only a few kilometers downstream from the proposed dam site, heavy rains resulted in slope failure, which caused the collapse of the original Alaska Highway Bridge into the Peace River.

- In 2001, a 5.4 magnitude earthquake occurred in the local area. The epicenter was located almost directly under the Peace Valley, downstream from the proposed Site C Dam site. This is considered to be a moderate to strong quake. There have also been numerous smaller quakes in the region over the

past several decades. This seismic activity is cause for particular concern given the unstable soils and steep, high walls of the Peace River valley, especially when considering the construction of a 60 metre high, 1 km long earth-filled dam.

Another issue is more long-term in nature. The proponent's own **geotechnical reports** estimate silt contributions of about 3 million tonnes per year to be trapped in the reservoir. For perspective, that is equal to over 500 tandem gravel truckloads of silt being deposited per day for the entire projected 100 year life of the dam.

It is commonly accepted that all hydro dams will eventually fill with silt. In this location in particular, silt is very much an issue.

Inevitably, **dams left unattended** will also eventually fail.

- There is no decommissioning plan in place for the proposed Site C Dam even though it has a stated finite life span. However, this is apparently not the result of an oversight. When BC economist Erik Anderson, one of a very few "independent" economists in recent years to be invited to testify before the Federal Standing Committee on Finance, suggested directly to the Premier of British Columbia that such a plan for large scale projects should be mandatory, the idea was flat out rejected (Anderson, pers. comm.). It is very troubling to think that the largest of all forms of construction projects, with the potential to cause significant adverse effects, would be exempt from long-term responsibility.

- The W.A.C. Bennett Dam, which is upstream and three times the height of the proposed 60-m high Site C Dam, with a reservoir 14 times the size, also does not have a decommissioning plan. This dam is now 42 years old and would be over 150 years old when the Site C Dam reaches its maximum life expectancy. When only 28 years old, the W.A.C. Bennett Dam already had a crisis when the center of the earth-fill (rock) dam eroded to the point where failure was a genuine concern. Site C would employ a similar construction. It should be noted that the long-term viability of Site C is 100% dependent upon the WAC Bennett Dam remaining fully functional.

- To date, the largest dam ever successfully decommissioned was the 19 meter-high Grangeville Dam on the Clearwater River in Idaho, USA. This is roughly 30% of the height of the proposed Site C dam and about 10% that of W.A.C. Bennett. Dismantling a hydro dam could cost as much or more than it did to construct.

- Combined, the three dams on the Peace River (including Site C) would hold back about 75 cubic kilometers of water, most of it at an elevation over 200 meters above nearby settlements and valleys. Unlike many other dams, where outflows empty into a nearby ocean or very large body of water, the outflow from the Peace River dams moves through populated areas for well over one thousand kilometers downstream. It should be noted that these areas are also growing in population.

- The failure of the W.A.C. Bennett Dam would be catastrophic and would destroy both the existing Peace Canyon Dam as well as the proposed Site C Dam. According to the proponents, the W.A.C. Bennett Dam is classified as a Very High Consequence Category dam and Site C would also fall in the "High" or "Very High" Consequence Category as defined by the Canadian Dam Association. The CDA's Consequence Category "Very High" is defined as a large number of fatalities (Life Safety) and extreme damages (Socioeconomic, Financial and Environmental) in terms of the potential incremental consequences of failure, while the "High" category refers to some fatalities and large damages, respectively (Table 1: Classification of Dams in Terms of Consequences of Failure, in "Incremental Consequence Classification Methods, Tools and Challenges", October, 2002). Its failure would

eliminate or damage many downstream communities and infrastructure and would have significant effects as far north as the Arctic coast.

- Without a completed decommissioning plan, failure is inevitable at some point in the future for all man-made dams. Even if earthquakes or landslides do not cause monumental problems, silt deposition will. Without viable decommissioning programs these massive structures will have to be maintained indefinitely, perhaps centuries beyond their useful lives.

- British Columbia has a series of large dams, all approaching mid-life, that are continually aging and, without costly intervention, could potentially lead to catastrophic failure. Dave Cobb, President and CEO of BC Hydro was recently quoted as saying *"Our dams, generating stations and transmission lines were built primarily between 1950 and 1980, and many of these assets are nearing their end of life."* We can find no plan that addresses the need to remove these eventual but certain threats. It would seem that dealing with looming problems should be the priority rather than creating new ones. At the very least, strongly funded decommissioning plans should be a requirement of any proposed project even remotely close to these in size and scope.

It is very important to recognize where the responsibility will land, especially given that the dams on the Peace, and more specifically the proposed Site C, have a risk rating of *High* to *Very High* in terms of causing significant downstream damage in the event of a breach. The location for Site C, in particular, raises many serious geotechnical concerns that cannot be ignored, from instability of the banks and earthquake potential to significant siltation.

Who will carry the **liability** associated with existing and future hydro developments? BC Hydro is currently $10.4 billion in debt. The Province of British Columbia is currently $42 billion in debt. If the Federal government does not exercise due diligence in the environmental assessment process, it is very likely that the people of Canada will be left holding the bag.

Mr. Prentice was wrong in making a blanket statement that "the best bet for clean power is more hydro-electric development." We understand that a strong economy is needed to support a strong environment, however, to build a dam on highly unstable soils with a history of massive landslides and with significant potential for seismic activity, such as is the case for the proposed Site C Dam, is courting disaster.

These issues addressed in this letter deal with the life, limb and livelihood of existing and future Canadians. Therefore, we are asking for a meaningful and comprehensive Federal environmental assessment. Given the magnitude and scope of the proposed Site C hydro-electric project, with its transboundary and First Nations impacts, a full Federal review panel is warranted and this should be independent of any provincial processes. This cannot be a politically-driven process conducted by vested provincial interests to create relatively short-term economic development in British Columbia. A full panel Federal review would provide a forum for expert witnesses in all relevant disciplines to present a balanced case.

When the potential for damages or disaster are considered, and with compounding issues being a distinct possibility, how can going ahead with this sort of project make any sense?

Attached you'll find appropriate references and documents which support our concerns in greater detail.

Cordially,