



Hydro Place, 500 Columbus Drive.  
P.O. Box 12800, St. John's, NL  
Canada A1B 0C9  
t. 709.737.1833 or 1.888.576.5454  
f. 709.737.1985

Rec. No. 10-11/5036

November 15, 2010

Bill Coulter  
Canadian Environmental Assessment Agency  
Atlantic Regional Office  
1801 Hollis Street, Suite 200  
Halifax, NS B3J 3N4

Pat Marrie  
Environmental Assessment Division  
Department of Environment and Conservation  
Government of Newfoundland and Labrador  
West Block Confederation Building, P.O. Box 8700  
St. John's, NL A1B 4J6

**Subject: Labrador - Island Transmission Link Environmental Assessment: Electrodes and Additional Labrador Corridor Option Being Considered by Nalcor Energy**

Dear Mr. Coulter and Mr. Marrie:

I am writing further and as follow-up to our previous discussions regarding the on-going environmental assessment (EA) of the proposed *Labrador-Island Transmission Link* (the Project), and particularly, to keep you up-to-date on our on-going Project design and planning.

As you know, the proposed Project under EA review is comprised of a High Voltage Direct Current (HVdc) transmission system extending from Central Labrador to the Island of Newfoundland's Avalon Peninsula, as described in the Project's *Environmental Assessment Registration / Project Description* (EAR / PD) (January 2009, revised September 2009). The Project, as described in that document, included the following key elements:

- 1) An ac-dc converter station at Gull Island on the north side of the lower Churchill River in Central Labrador;
- 2) An overhead HVdc transmission line from Gull Island to the Strait of Belle Isle (407 km);

Pat Marrie - Environmental Assessment Division  
Department of Environment and Conservation

November 15, 2010

- 3) Submarine cable crossing of the Strait of Belle Isle, including multiple cables extending out to and under the seabed between Labrador and Newfoundland, with associated infrastructure;
- 4) An overhead HVdc transmission line from the Strait of Belle Isle to Soldiers Pond on the Island of Newfoundland's Avalon Peninsula (688 km);
- 5) A dc-ac converter station at Soldiers Pond; and
- 6) Sea electrodes (high capacity grounding systems), with one to be installed in Lake Melville (Labrador) and another at Holyrood Bay (Newfoundland), with connecting wood-pole lines.

The EAR / PD provides an overview description of these Project components and associated construction and operations activities, as well as indicating that other alternatives were continuing to be evaluated. This is, of course, in keeping with the role and principles of EA itself, as a planning tool initiated early so as to be able to inform and influence Project design and decision-making.

I am writing to keep you apprised of new information resulting from our on-going Project planning activities, including further engineering work, environmental analyses and our associated consultation activities. As a result of that work, Nalcor Energy has identified refinements to our development concept and additional Project design options that we plan to bring forward into the EA process, including in the eventual development and submission of the Environmental Impact Statement and Comprehensive Study (EIS / CS). These are outlined briefly below:

### **1) Electrodes**

As indicated in our EAR / PD, electrodes are required for the operation of the HVdc system. Nalcor Energy originally contemplated the use of sea electrodes installed at the north or south side of Lake Melville in Labrador as well as in Holyrood Bay, Newfoundland. As reflected in the EAR / PD, however - and in the *Notice of Commencement* for the EA (July 19, 2010) - Nalcor Energy has also continued to explore other potential electrode types and locations.

As a result, Nalcor Energy is no longer proposing to place sea electrodes in Lake Melville or Holyrood Bay, nor to develop the associated wood-pole line connections to these sites. Rather, our current Project concept would see the use of "shore electrodes" at locations in the Strait of Belle Isle area (Labrador side) and Conception Bay South (CBS), in which the electrode elements will be placed within an in- or near-water (wharf / breakwater – like) structure installed in a small natural or excavated cove or adjacent to the shoreline.

Pat Marrie - Environmental Assessment Division  
Department of Environment and Conservation

November 15, 2010

The wood-pole transmission line connecting the Labrador converter station to the Strait of Belle Isle electrode will follow along the same route / right-of-way as the HVdc transmission line itself from the lower Churchill River to the submarine cable landing site at the Strait. From there it will follow the existing Labrador Straits highway and/or power lines northeast to the electrode site, which will be located at some point between the cable landing site and the Pinware area. Similarly, the wood-pole line from the Soldiers Pond converter station to the CBS shore electrode will generally follow along existing transmission lines and/or roadways in that region.

The specific location and detailed design for the shore electrodes will be determined following our on-going engineering and geophysical investigations and presented in the EIS / CS.

## **2) Labrador Converter Station and Transmission Corridor**

The EAR / PD indicates that the Labrador converter station will be located at Gull Island, on the north side of the Churchill River, with the HVdc transmission corridor extending from there and across Southeastern Labrador to the Strait of Belle Isle (for a distance of approximately 407 km, please see the attached Figure – Option 1). A 2 km wide transmission corridor (study area) is identified, from within which a specific route for the transmission line will eventually be selected (for an average 60 m wide cleared right-of-way).

The Gull Island facility location and above described corridor are still under active consideration, and will be brought forward in the EIS / CS and associated studies. As a result of recent decisions and announcements regarding the temporal sequencing of the various components of the Lower Churchill Hydroelectric Generation Project - namely, that the Muskrat Falls facility will be developed first, followed by Gull Island later - Nalcor Energy is also exploring the potential option of locating the Project's Labrador converter station at or near the Muskrat Falls site.

If that were to be the case, the Labrador transmission corridor would potentially extend from Muskrat Falls to the Trans Labrador Highway (Phase 3, TLH3), and then follow generally along the south side of TLH3 to its southernmost point, before picking up the previously identified corridor from that location to the Strait of Belle Isle (please see the attached Figure – Option 2). Again, while no final decision has been made on these options, we would plan to bring both into the EIS / CS and associated studies for detailed assessment, evaluation and potential EA approval.

Further information on the specific design characteristics of these and other components of the Project will become available as Project EA and engineering work continue. The eventual EIS / CS will, of course, provide a detailed description and assessment of the Project being proposed - and, particularly, will be clear as to what the Project is that we are seeking EA approval for. As indicated in the EAR / PD, and as required by the provincial and federal EA legislation, we will also be assessing these and other alternative means of carrying out the Project that are technically and economically feasible (e.g., other potential on-land and marine corridor segments, potential submarine cable landing sites, etc.).

Pat Marrie - Environmental Assessment Division  
Department of Environment and Conservation

November 15, 2010

**Nalcor Energy feels that it is important to keep you apprised of this on-going evolution and definition of these elements of the Project, as you will likely wish to consider and factor it into your planning - including, for example, the development and review of the EIS / CS Guidelines, as well as in your EA consultation processes and activities.**

Nalcor Energy trusts that you will recognize and agree that this on-going process of Project planning and evolution based on technical, economic and environmental considerations is typical of any major development, and indeed, is illustrative of the important role and value of EA as a planning tool. Given this, the legislative requirement to evaluate alternatives under the EA process, and the fact that the analysis of such options was referenced in the EAR / PD itself, we trust that the information provided herein will not in any way result in procedural delays or changes to the on-going EA process for this Project.

I hope that this information is helpful. If you have any questions or wish to discuss further, please feel free to contact the undersigned at any time.

Sincerely yours,



Todd Burlingame  
Manager, Environment and Aboriginal Affairs

cc.     Gilbert Bennett, Nalcor Energy  
          Paul Harrington, Nalcor Energy  
          Steve Bonnell, Nalcor Energy  
          Bas Cleary, NL DEC  
          Mike Atkinson, CEAA  
          Regent Dickey, MPMO – NRCan

*Attachments (2 Figures)*



Option 1: Gull Island to the Strait of Belle Isle

**Labrador - Island Transmission Link:  
Labrador Converter Station and Transmission Corridor**



Option 2: Muskrat Falls to the Strait of Belle Isle

**Labrador - Island Transmission Link:  
Labrador Converter Station and Transmission Corridor**