Q. **Tab: 2016 Capital Plan: p. B-10/B-11 Environmental Assessment of the Bay d'Espoir to Western Avalon Report**

Hydro outlines that this project was submitted for registration under Part 10 of the provincial *Environmental Protection Act* on July 16, 2015 and that its preferred route is within the Bay du Nord Wilderness Reserve (BDNWR) which requires the Lieutenant Governor in Council to reduce the size of the wilderness reserve. What alternate routes are being considered as part of the environmental assessment process?

A. As documented in the Environmental Assessment registration, there is a preferred route and two alternates. The blue line (See attached map (Figure 2.1) Attachment 1, page 2) is parallel and adjacent to existing Hydro corridors and is the optimal routing with the least cost and is considered to have the lowest environmental impact. It is also the routing that was included in the Board approved capital budget proposal. The green lines shown are alternatives that go around the Bay du Nord Wilderness Reserve (BDNWR - indicated by the brown polygon). These alternate routes were selected solely based on the possibility of not being able to go through the BDNWR.

Please refer to CA-NLH-001 Attachment 1, extracted from the Environmental Assessment Registration document for TL 267 – Section 2.2 Project Planning and Alternatives for further discussion of the transmission line routing alternatives.

The Government of Newfoundland and Labrador has initiated a proceeding to adjust the boundaries of the Bay du Nord Wilderness Reserve to permit the

construction of the Bay d'Espoir to Western Avalon transmission line. A copy of the public notice is provided as CA-NLH-001 Attachment 2.

the necessary studies and analysis to select the least-cost alternative. The Board is satisfied that the proposed transmission line is necessary to ensure that Hydro can continue to provide service which is safe and adequate and just and reasonable." The full Order from the Board is included as Appendix A.

In addition to these overall and long-term rationales and benefits, the proposed TL 267 will also contribute to local and provincial economies as a result of the employment and business activity that it will create, especially during its construction phase. As its proponent, Hydro is very encouraged by the benefits that will be realized through this development, and is confident that any environmental questions and considerations that may be associated with it can be addressed through sound planning, design and implementation, supported by public and stakeholder consultation and involvement.

2.2 Project Planning and Alternatives

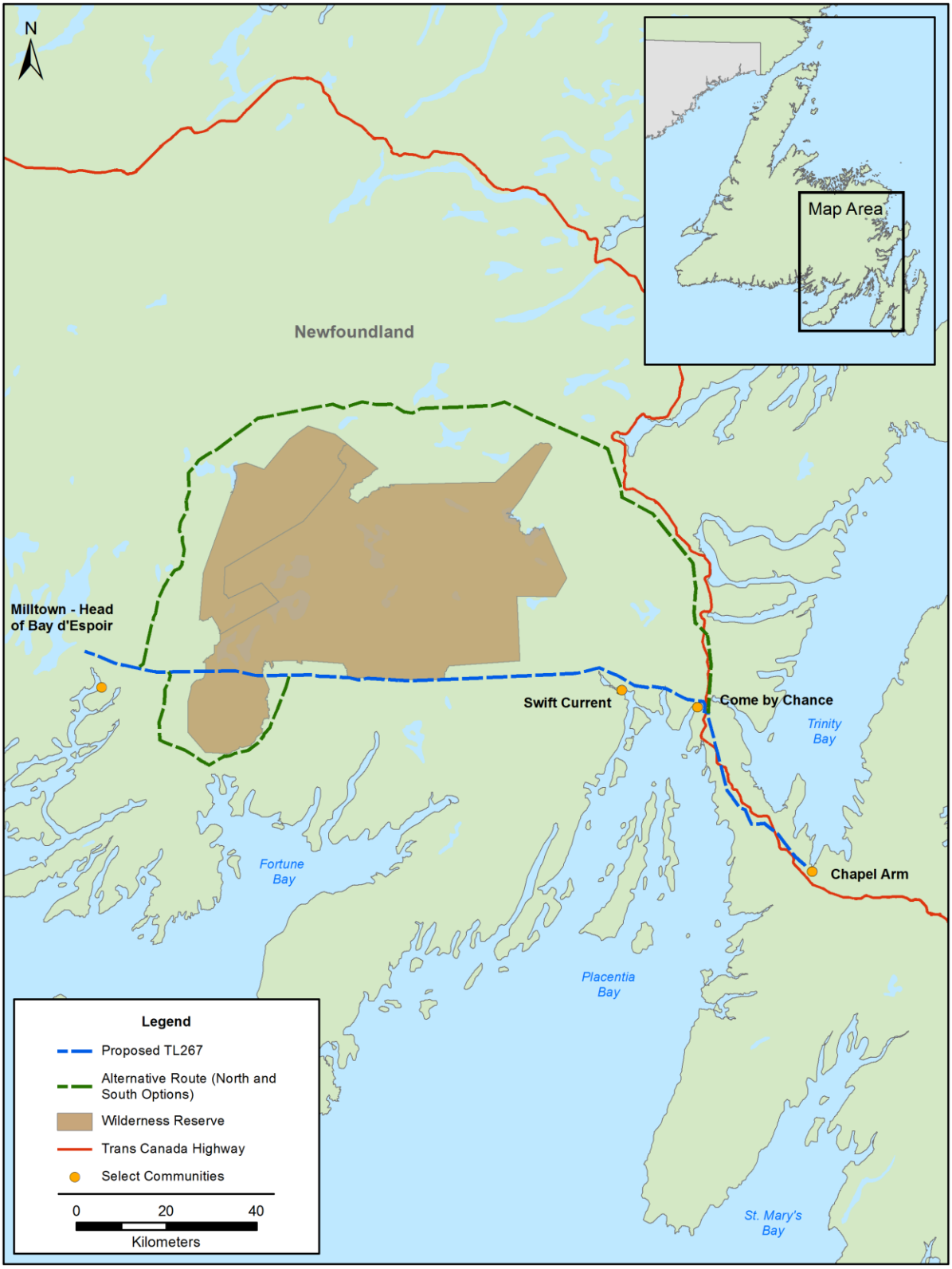
The consideration of environmental issues from the earliest stages of project planning and design is an important and integral part of Hydro's approach to its development projects and other activities. This approach allows potential environmental interactions to be identified early, so they can be considered and addressed in a proactive manner through appropriate development planning and design. The objective is to attempt to avoid adverse environmental effects where possible and practical, or at least, to put in place appropriate mitigation measures to ensure that these are maintained at acceptable levels.

Nowhere is this approach more relevant (and often possible) than in the case of transmission line planning and design. As a linear development with only its required start and end points established, a range of alternative approaches, designs and routings can typically be identified for these types of developments. These options can then be evaluated on the basis of technical, economic and environmental considerations and constraints, in order to identify and select a project design option that meets planning objectives, while at the same time being technically and economically feasible and environmentally acceptable.

As part of its planning and design processes to date for TL 267, Hydro has identified a preferred routing and several alternative routing options (Figure 2.1), each of which have been evaluated on the basis of environmental, socio-cultural, economic and technical factors. These included the following considerations and objectives:

- minimizing the overall length of the new transmission line to the extent possible and practical;
- attempting to follow along existing linear developments and other infrastructure where possible, for both technical reasons and to avoid opening up currently remote areas to increased human presence and associated resource harvesting activities;
- avoiding difficult terrain and/or unfavourable meteorological conditions where possible;
- minimizing the requirement for new access roads and trails for Project construction and future maintenance activities; and
- attempting to avoid interactions with identified environmentally sensitive and socially important areas.

Figure 2.1 Proposed (Preferred) and Alternative Transmission Line Routings



As illustrated, Hydro's preferred transmission line routing option parallels existing transmission lines for its entire length from the Bay d'Espoir terminal station, east to Come By Chance for 144 km and then southeast for 44 km to the Western Avalon terminal station, for a total length of approximately 188 km.

The first alternative (north option), runs north from the Bay d'Espoir terminal station along Highway Route 306 until it crosses over the Terra Nova River, at which point it turns east, extending through the Middle Ridge area to Port Blandford where it then veers south terminating at the Western Avalon terminal station. The total length of the north option is approximately 259 km.

The second alternative (south option), follows the same routing as the above described preferred transmission route from Bay d'Espoir to the western edge of the Bay du Nord Wilderness Reserve. This option then veers south, and avoids the Reserve by going around its southern boundary for approximately 57 km before rejoining the existing transmission line and then following the preferred route to the Western Avalon terminal station. The total length of the south option is approximately 218 km.

As noted above, a number of factors have been identified and considered in the selection of the above noted preferred routing option for the TL 267 Project, an evaluation and summary of which is provided below for each of the identified alternatives:

1) *North Option*
   - Requires approximately 259 km of new transmission line right of way, approximately 97 km of which is within undisturbed forest habitat.
   - Its development would also provide access to various areas and locations which are currently inaccessible, with associated concerns regarding future (induced) human activities in these areas and their associated environmental effects.
   - This routing would intersect with known calving and post-calving grounds for the Middle Ridge caribou population.
   - The overall length of this option is approximately 71 km longer than the preferred route, resulting in considerably higher construction and maintenance costs and increased construction time.
   - From an electrical system planning perspective, this option will also likely have higher additional costs and greater technical challenges with regard to tower design and placement and conductor selection.

2) *South Option*
   - Requires approximately 30 km of additional transmission line right of way as compared to the preferred route, through undisturbed forest habitat with associated technical and economic considerations.
   - Would result in the removal of an area of old growth forest habitat and would likely have a greater probability of interacting with a species of conservation concern, the Boreal Felt Lichen (*Erioderma pedicellatum*).

- The development of this alternative would also open up human access to areas which are currently inaccessible.

3) Preferred Route

Hydro's planning and design for the routing of TL 267 has again been based on the objective of establishing it along the existing transmission lines and/or other linear developments in the region for technical, economic and environmental reasons. For the proposed (preferred) route, the new transmission line will occupy a new cleared right of way of up to 40 m in width and approximately 188 km in length, located adjacent to existing transmission lines in the region.

As described earlier, there are currently two steel 230 kV transmission lines from the Bay d'Espoir terminal station to Sunnyside and a 230 kV wood pole line from Sunnyside to the Western Avalon terminal station. There are also existing access trails along the entire transmission line route, including west of Piper's Hole (approximately five kilometers west of Swift Current), which are in place for the ongoing maintenance of this infrastructure. The preferred route avoids the creation of new access to currently remote areas by paralleling existing linear developments, as well as minimizing the Project's overall environmental footprint by being the shortest and most direct route, which, in turn also reduces construction and maintenance costs. This route has therefore been identified as the most environmentally, economically, socio-culturally and technically feasible option.

An important principle of EA review (and particularly, the initiation of same) is also that it should occur at a relatively early stage of, and therefore influence and seek to improve, project design. In conjunction and concurrent with the EA registration and review process, Hydro will be continuing with detailed Project engineering and planning, including its technical and environmental analysis of the identified transmission route and the location and layout of the other Project-related components. Based on the results of on-going and future engineering analysis and aerial and ground surveys in the final design stage, the final transmission line right of way will be delineated and particular components for TL 267 will be designed and sited, including individual tower placements and other Project related components and infrastructure. Again, these will be evaluated and selected with consideration of technical, environmental and socioeconomic factors.

2.3 Project Components and Lay-out

The proposed Project includes the construction and operation / maintenance of the following primary elements (Figure 2.2):

- A 188 km long, 230 kV transmission line between the Bay d'Espoir and Western Avalon terminal stations, comprised of steel towers with both overhead ground wire (OHGW) and an optical ground wire (OPGW) which includes optical fibre for communication along its entire length;

- Required upgrades to the existing Bay d'Espoir and Western Avalon terminal stations; and

- Project construction and maintenance infrastructure requirements, including a temporary camp, access routes and other components as required.

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Environment and Conservation
September 18, 2015

Protecting our Natural Heritage

Public Hearings Set to Begin on Changes to Bay du Nord Wilderness Reserve

The Wilderness and Ecological Reserves Advisory Council (WERAC) is hosting public hearings in the Town of Milltown-Head of Bay d'Espoir on Thursday, October 29, to discuss proposed changes to the Bay du Nord Wilderness Reserve. The council will discuss removing a parcel of land from the reserve to allow for construction of a new transmission line and adding a parcel to the reserve for conservation value, and will discuss proposed changes to the management plan.

"I encourage all stakeholders and interested parties to take part in these public hearings. Your involvement is key to enhancing the management of our natural heritage. Protecting our ecologically-sensitive areas is important to ensure an environmentally-sustainable future for all residents."
- The Honourable Dan Crummell, Minister of Environment and Conservation

Two sessions will be held at the Lions Club in Milltown-Head of Bay d'Espoir on Thursday, October 29, from 2:00 p.m. to 4:00 p.m. and 7:00 p.m. to 9:00 p.m. Notices of the sessions will published in local newspapers.

NL Hydro has requested that a narrow section of the Bay du Nord Wilderness Reserve be removed to permit the construction of a new transmission line adjacent to the two existing transmission lines. Concurrently, the Department of Environment and Conservation is proposing that a parcel south of the Bay du Nord Wilderness Reserve and north of the existing transmission lines be added to the reserve. This added area of conservation will increase protection of caribou habitat and forested habitat in the region. The proposed changes to the area is available on-line at www.env.gov.nl.ca/env/publications/parks/bay_du_nord_wilderness_reserve_map.jpg

Any person wishing to make a presentation at the public hearings on any aspect of changes to the reserve boundary or the management plan, contact Erika Pittman at email erikapittman@gov.nl.ca or phone 709-637-8051 within 30 days of the publication of the notice.

In addition to the sessions, interested groups and individuals can submit feedback or written submissions to:

Erika Pittman

Parks and Natural Areas Division
Department of Environment and Conservation
P.O. Box 550, Corner Brook, NL A2H 6E6
erikapittman@gov.nl.ca

Written submissions must be received before November 12, 2015. The current Bay du Nord Wilderness Reserve management plan is available online at www.env.gov.nl.ca/env/publications/parks/bay_du_nord_wilderness_reserve.pdf.

The Wilderness and Ecological Reserves Advisory Council advises the Provincial Government on the creation and management of wilderness and ecological reserves. WERAC is an independent group of citizens from a variety of backgrounds and all regions of the province. Its members are appointed by the Provincial Government for three-year terms, which can be renewed. The council's work and recommendations are directed by scientific research and public input.

QUICK FACTS

- The Wilderness and Ecological Reserves Advisory Council (WERAC) will host public hearings in the Town of Milltown-Head of Bay d'Espoir on October 29 to discuss changes to Bay du Nord Wilderness Reserve.
- Two public sessions will be held at the Lions Club in Milltown-Head of Bay d'Espoir on Thursday, October 29, 2015 from 2:00 p.m. to 4:00 p.m. and 7:00 p.m. to 9:00 p.m.
- The *Wilderness and Ecological Reserves Act* was passed by the Provincial Government in 1980 to guide the creation of a system of protected areas in the province that would preserve wilderness, unique ecosystems, species, or natural phenomena.
- The Bay du Nord Wilderness Reserve was established in 1990 to protect the Bay du Nord River and its tributaries, a representative example of the Maritime Barrens Ecoregion, the Middle Ridge Woodland Caribou herd, and all other species of plants and animals occurring within the boundaries of the reserve.
- The reserve encompasses 2,895 km2 and is Newfoundland and Labrador's largest provincial protected area.

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