Date : 11/10/2010 2:10:41 PM
From : "Thompson, Robert"
To : "Crawley, Brian" , "Matthews, Elizabeth"
Cc : "Bown, Charles W." , "Morrissey, Ken"
Subject : LCP Summary Note
Attachment : LCP Summary BN - Version 3.DOC;

We have been keeping a summary narrative of the whole project trying to link all aspects of the decision, key issues, and next steps. Nalcor has reviewed, but the draft is evolving. For example, we have added a number of the issues that came up at Cabinet yesterday. Given how close we are to the final, I am sending for your use and info, but there will be updates.

I am still working on the New York price issue and finding some very useful data. Will send later.

Robert

DRAFT
Summary of Lower Churchill Announcement

1. Project Recommended by Nalcor

   The Provincial Government has approved the key elements of a development plan for the lower Churchill hydroelectric project. This approval is based on a submission to the government by the Board of Directors of Nalcor that recommends: 1) Muskrat Falls be used as the next generation source to meet future electricity needs inside the Province, and 2) surplus power from Muskrat Falls project be monetized through a maritime link for the export of energy, starting with an agreement between Nalcor Energy and Emera Energy.3) That Gull Island will be developed approximately three years after Muskrat Falls with a plan to overlap construction.

2. Next Generation Source for the Province

   Newfoundland and Labrador Hydro, a subsidiary of Nalcor Energy, is mandated by the Public Utilities Board to forecast electricity requirements in the province and bring forward the lowest cost option for meeting these requirements. Nalcor has estimated that an energy capacity deficit will emerge in the province by 2015, and an actual energy deficit will emerge by 2019, even taking into account the surplus power available from the closure of two pulp and paper mills. Therefore, Nalcor evaluated alternatives to develop new generation sources to avoid this deficit. Nalcor assessed five realistic alternatives and found the Muskrat Falls project with a transmission link to the Island to be the lowest cost alternative, even if surplus power is spilled over the dam. Muskrat Falls can produce 824 megawatts of electricity, more than enough to take the Holyrood thermal generating station off-line, avoid expensive capital upgrades to the Holyrood plant, and meet the electricity demand growth in the province up to 2041. The Muskrat Falls option is also more environmentally acceptable than maintaining an "isolated" Island power system, which would retain Holyrood in operation as a major source of greenhouse gases.

3. Stable and Comparatively Lower Consumer Electricity Rates

   If Nalcor had recommended the continuance of an isolated Island system, the impact on electricity consumers would be comparatively higher electricity prices due mainly to escalating oil prices and the mandatory upgrading of the Holyrood station (to maintain reliable operation and to deal with pollution abatement). In contrast, even though consumer electricity rates will also increase under the Muskrat Falls option, once the facility is in operation the energy price structure in the province will be stable and lower cost over a long period of time and will avoid the volatility associated with the price of oil.

Today's electricity rate in Newfoundland is xx/kwh. This rate will escalate in the next 6 years whether or not the lower Churchill project is started. By 2017, when Muskrat Falls power starts to flow, electricity rates are estimated to be xx/kwh, as compared to xx/kwh if the Island remains as an isolated system. Even this differential in 2017 may not occur if oil prices rise faster than currently expected, if construction costs are less than expected, or if there are other ways to spread out the rate impact. After 2017, however, the penalty for staying isolated will be much higher than the stability of Muskrat Falls power. (See current rates for North American cities attached.)

Future oil prices are a major consideration when comparing Muskrat Falls to an oil-fired isolated electricity system. Not only are oil prices volatile, it is quite certain they will rise rapidly. According to a report by the International Energy Agency, released this week, global oil supplies will come close to a peak by 2035 when oil prices will exceed US$200 a barrel, as China and other emerging economies drive demand higher. Oil prices would rise even further if governments do not act to curb consumption. This forecast is very similar to the PIRA oil price forecast that underlies the forecasting work of Nalcor when assessing alternatives for supplying NL customers into the future.

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4. Realizing Value in Surplus Power – the Emera Deal

   While Muskrat Falls/Island link project stands on its own as a necessary and viable project, the surplus water during the next 30 years represents potential value to Nalcor and the Province. Therefore, Nalcor has negotiated an [agreement in principle] with Emera to utilize 20% of the electricity from Muskrat Falls. In return for this energy, Emera will invest an amount equal to 20% of the costs of the three-part capital project – Muskrat Falls generation, Island Link transmission and Maritime Link transmission. Emera's 20% investment will be tied to transmission assets only, in particular the Maritime Link. Additionally, Emera will pay 20% of the ongoing operating costs of the overall three-part project for the 35 year life of the agreement. On top of obtaining a secure long term customer for power and an investor in the project, Emera has agreed to provide Nalcor with the right to use its transmission system in Nova Scotia and New Brunswick, all the way to a point of sale in Maine, to sell other available electricity directly into the marketplace.

5. The Emera deal brings enormous strategic value to Nalcor

   Emera is providing transmission capacity to the Maritime and New England markets for NL power. This deal allows NL to escape the geographic stranglehold represented by Quebec and give NL options for market access that it never had before. The Emera partnership also allows Nalcor to leverage the knowledge, skills and reputation of Emera in energy trading.

6. Project not Sanctioned for Construction

Government's acceptance of Nalcor's recommendation is a historic milestone in the development of the lower Churchill resource. However, certain critical milestones still remain before the start of the project is sanctioned for construction. Among these milestones are: 1) release of the generation project from environmental assessment; 2) transition from a MOU with the Innu Nation regarding impacts and benefits into a formally ratified Agreement 3) finalizing the agreement with Emera; and 4) completing pre-front end engineering work. The agreement with Emera will become fully binding if the conditions outlined inm the agreement are fulfilled, including such matters as environmental approval.

7. Muskrat Falls is a very large project

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At 824 megawatts, Muskrat Falls will be the biggest hydro power generating station in all of Atlantic Canada, and will be bigger than any of the four stations on the largest project currently under construction in Quebec (640 mw). The four stations of La Romaine in total will have a capacity of 1550 mw, while the total Lower Churcill project will be over 3000 mw. The only other large project in Canada in advanced planning is the Peace River in British Columbia. While this project has a slightly larger capacity than Muskrat Falls, at 900 mw, its energy output per year is smaller, at 4.6 twh (compared to 4.9 at Muskrat). The energy output difference speaks to the high quality of the resource in the Churchill River.

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~~7.~~8. Capital Cost and Financing

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The estimated capital cost of the project is [6.25] billion, with Nalcor and the provincial government providing 80 percent of that amount through a combination of debt and equity. The other 20 percent will be provided by Emera. The NL government will provide its share through ~~[~~an equity injection to Nalcor for 100% of the Muskrat Falls generating station and ~~equal to~~ 25 percent for the Island Linl. ~~, and~~ Nalcor will borrow the 75 percent balance~~]~~.

The Governments of NL and NS have applied to the federal government for $375 million in capital assistance for the Maritime Link. Should this assistance be approved the benefit of the financing will be shared 80/20 between Nalcor and Emera. The NL Government has also requested a loan guarantee for the project from the federal government.

~~8.~~9. Innu Nation Agreements to be Ratified

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Two agreements and a MOU have been negotiated and the agreements have been initialed as agreed with the Innu Nation leadership as a basis for proceeding with the lower Churchill project. The MOU between Nalcor and Innu Nation is in place until the Impact and Benefits Agreement ratification occurs. The other two agreements are the Upper Churchill Redress Agreement with the provincial

government and the land claims agreement with the provincial government. The Innu Nation has indicated a preference to ratify these agreements together after it finalizes its related negotiations on land claims with the federal government. The provincial government understands this goal and has encouraged the federal government to proceed expeditiously. However, given the compelling reasons for beginning the project in 2011, including the fact that market opportunities could disappear without timely approval, the provincial government is working closely with the Innu Nation to build the basis for timely ratification.

~~9.~~10. Gull Island will be Built as Phase 2

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Gull Island generating station will be built as phase 2 of the lower Churchill project with a planned overlap of construction with Muskrat Falls. Although originally slated as phase 1, the negative rulings in May 2010 by the Regie de l'Energie in Quebec caused a reconsideration of the best phasing approach. Potential markets for Gull Island energy include industrial customers in Labrador (either new or existing), or utilities in the Maritime provinces, New England, New York or Ontario. Nalcor will continue with all legal remedies to appeal the Régie's decision and a team will remain focused on developing business opportunities with potential offtakers, both inside and outside the Province. It is important to note that existing Upper Churchill recall power and future MF power will also be available for Labrador industrial development should it be required.

~~10.~~11. The employment and industrial benefits are significant, especially for Labrador.

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The Benefits Strategy for Lower Churchill Construction Projects ensures that NL will be the primary beneficiary of the Lower Churchill Development by providing full and fair opportunity for NL contractors, service providers, consultants, and suppliers, and first consideration for employment of NL residents – Labrador residents first (once aboriginal commitments have been implemented in accordance with a ratified IBA), and the rest of the province next. [Benefits arrangement in partnership with Nova Scotia, in regard to the Maritime Link, ….]

Total NL employment for Phase 1 is estimated to be 15,000 person years (direct, indirect and induced employment) or approximately 2,500 person years [annually. Labrador specifically will see approximately **40004~~,000~~ person years** of direct, indirect and induced ~~e~~employment throughout the duration of Phase 1 which is the equivalent of 700 person years annually.] It is estimated that NL will receive over 60% of direct employment. In addition, during construction of Phase 1, total income to NL labour and business is estimated to be $1.4 billion and the provincial government is expected to receive $200 million in tax revenue.

Comment [r1]: Needs to be revisited when numbers are finalized.

The benefits are also Canada-wide with total employment (direct, indirect and induced) for Phase 1 estimated at over 43,000 person years, income for Canadian

labour and business of over $3.35 billion and tax revenue of $500 million to the Federal Government and $270 million to other provincial governments.

12. Labrador Receives Major Benefits and Opportunities from this Project

The following beneficial outcomes will accrue to the residents of Labrador: 1) direct and indirect employment during the construction project, as noted above; 2) additional direct and indirect employment when Gull Island is built; 3) additional direct and indirect employment on the operation of these two projects; 4) clarification of land claims with the Innu Nation that will provide certainty for residents and businesses alike, including the establishment of the Mealy Mountains National Park; 5) redress to the Innu Nation for historical impact of the Upper Churchill project; 6) immediate surplus capacity from Muskrat Falls that can be recalled as needed for industrial development in Labrador.

The combined strength of Upper Churchill recall power, surplus Muskrat Falls power and future Gull Island power create a formidable resource for fuelling resource and industrial development in Labrador. While each industrial project is unique (and must sufficiently viable to pay the costs of transmission lines), there is ample power to supply for IOC expansion, new iron ore projects, Voisey's Bay ovoid and underground mine, the uranium mine, and other projects that may emerge. Such projects may also create economically viable opportunities to link-up adjacent communities.

It must also be noted that electricity rate reductions have already been provided to coastal Labrador communities in the expectation that the lower Churchill project would be developed, demonstrating in advance that the project benefits all residents of Labrador. [identify the details here.]

The 2007 Energy Plan contained additional Labrador energy commitments to recognize that the long term energy future for coastal communities needs continuous attention: [a) commitment upon project sanction to review electricity rates for commercial sector in coastal Labrador; and b) examination small-scale hydro projects in coastal Labrador.] In regard to the latter, a Phase 1 study of alternative energy opportunities on the coast of Labrador examined 15 locations with potential for small hydro sites. It found there are a number of sites near Charlottetown and Port Hope Simpson that could serve the needs of each community individually. There is one site rated at approx 1.5 – 3.0 MW that could serve both communities. Prospective sites were also identified for Hopedale, Mary's Harbour and Makkovik. The site at Makkovik was the only hydro potential identified north of Lake Melville suitable for potential development. Nalcor is seeking ($2.5 milion) to do a more detailed analysis of these sites and to identify those that could proceed for project level engineering and financial viability assessment.

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In general, the lower Churchill hydro projects must be run on an economic basis. The resource on the river is valuable, and it must be developed at the lowest cost possible in order to produce the greatest return. Muskrat Falls is a Labrador resource, but it will ba paid for by the ratepyers of thw whole province. In that sense it is a provincial asset. Industrial opportunities in Labrador will be facilitated by this power, but the value in the water must not be wasted by giving unrealistically low power rates to attract jobs. There must be an appropriate balance. One of the goals must be to generate the maximum possible revenue from the power to allow government to use that revenue provide important public services.

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~~11.~~13. This project makes NL an environmental leader.

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This project will make our electricity system run on 98% renewable, emission-free energy – a situation few jurisdictions in the world can boast. It is also the most significant measure we can take in the province to reduce our greenhouse gas emissions to the level we would like to attain by 2020. This project will also mean that NL's renewable energy resources will assist other jurisdictions, Nova Scotia in particular, ~~in the region~~ in meeting their renewable energy and emission targets.

14. The Project Arrangements are Open for Public Scrutiny

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There will be debate in the House of Assembly, in the media and other for a. We welcome scrutiny from independent analysts.

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Major North American Cities

Average Prices for Residential Customers[1] (in ¢/kWh)[2]