Date : 9/17/2012 5:44:31 PM
From : "Bown, Charles W."
To : "Scott, Paul G."
Subject : Fw: 2041 paper
Attachment : Upper Churchill as an Alternative to Muskrat Falls Development with edits sept 17 2012.doc;

Sent Via BlackBerry

From: BrianCrawley@nalcorenergy.com <BrianCrawley@nalcorenergy.com>
To: Bown, Charles W.
Sent: Mon Sep 17 10:32:24 2012
Subject: 2041 paper

Charles... this document has not been reviewed by Ed so this is provided for technical accuracy only. Nalcor would not support the release of this paper without a review of the strategic messaging. Brian

Brian Crawley
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Upper Churchill: Can we wait until 2041?

Department of Natural Resources

July 2012

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Commented [JM1]: Add comment/info on legal case to obtain a fair price for power. This has nothing to do with getting more power or cancelling the power contract – it's just to make the price/kWh fair.

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Key Factors

In the debate surrounding the development of Muskrat Falls, it has been suggested that Newfoundland and Labrador has the option of refurbishing the Holyrood Thermal Generating Station and/or taking other stop gap measures until 2041 when Upper Churchill power contracts expire and energy from Upper Churchill become available for domestic and export use. This option is not realistic for a variety of reasons:

- It is incorrect to assume that NL will receive cheap or free power when the Hydro-Quebec Power Contract expires in 2041. It is likely that the province will be required to purchase power from CFLCo at prevailing market rates~~rates~~.
- CFLCo is owned by Newfoundland and Labrador Hydro (NLH) and Hydro-Quebec jointly, with NLH owning 65.8% of the common shares and Hydro-Quebec 34.2% of the common shares. In 2041, NLH will not have absolute authority over the corporate actions of CFLCo~~CFLCo~~.
- It is doubtful that life extension efforts at Holyrood could continue to provide reliable power for an additional 30+ years. At that time the first two units would be 70 years old.[1]
- Deferring Muskrat Falls for more than 30 years will mean increased reliance on fuel and volatile prices for electricity as rates will be tied to fuel prices. **(Note: See accompanying paper on Electricity Rates for a complete description of oil forecasts and other issues pertaining to fuel pricing).**
- Deferring Muskrat Falls for more than 30 years prevents the province from capitalizing on the Muskrat Falls option through export sales and/or industrial expansion in Labrador~~Labrador~~.

For these reasons and others described below, it is not feasible to defer Muskrat Falls under the assumption that the province will have plenty of cheap or free power in 2041.

Historical Context

1927 Privy Council Decision

From the mid-1700's through to the early 1900's there were various disputes between Newfoundland and Canada related to the border between Quebec and Labrador. Quebec claimed that NL was entitled only to a small strip of land along the coast to facilitate the traditional migratory fishery while NL argued for a broader territory. The matter was ultimately referred to the Judicial Committee of the Privy Council and in 1927 it upheld NL's arguments.[2] The border was established as it is seen today, with Churchill Falls falling within Labrador territory.[3] This decision was entrenched in the 1949 legislation that brought NL into Confederation and continues to be deeply unpopular in Quebec. This ongoing resentment over the decision, and NL's subsequent inability to secure a power corridor through Quebec territory to facilitate its own development of the Upper Churchill, has been referred to as the "revenge of geography". This, coupled with successive federal governments refusing to intervene, not only

[1] MHI reply to PUB Information Request 3. Available online at: http://www.pub.nf.ca/applications/MuskratFalls2011/files/rfi/MHI-Nalcor-3.pdf

[2] [1927] UKPC 25.

[3] J.K. Hillier, NL Heritage Website, Memorial University of Newfoundland, 1997.

Commented [JM2]: Consistency of look/feel with other discussion papers.

Commented [RJH3]: This option is realistic. It may not be least cost or most practical.

Commented [RJH4]: This is a relative term. It may well be cheap relative to building something else.

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Commented [SRG5]: This cannot be stated with 100% confidence. We know that at 2041 NLH will own ~2/3 of the CF output and HQ will own ~1/3 of the output as per their respective ownership of CF.

[redacted]

It is more 'likely' that the parties will take their respective product share at cost plus a return on rate base for CF (consistent with 65 years of history, regardless of what CF cost of service is in the day)) and then do whatever they wish with their product, either sell internally at cost of service as per established regulation or sell into external regional open markets, or a combination of both.

Commented [RJH6]: This is not a clear factual statement. It is likely that CFLCo will seek out the best price it can get for an acceptable risk.

Commented [SRG7]: However, the voting trust restrictions will be no more. NLH will control the Board of Directors.

Commented [RJH8]: It has majority voting rights and must act in the best interests of CFLCo in the sme manner that HQ board members must.

Commented [RJH9]: Therefore additional costly measures will have to be taken to meet the production that would otherwise be met by Holyrood.

Commented [SRG10]: Seems to conflict with rainson d'etreof MF Falls targeting domestic supply.

Commented [RJH11]: This should be two bullets. One is for export opportunities which if it does not occur results in lost prof ...

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Commented [RJH12]: "Practical" or "appropriate" would be better. It is feasible.

Commented [SRG13]: Not persuasive for informed public

Commented [RJH14]: Strike "between Newfoundland and Canada" as the parties likely were not these in the 1700's.

Commented [SRG15]: Do not agree with this charaterization

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completely undermined NL's bargaining position during the original Upper Churchill negotiations but has also left NL's great hydro resources at Muskrat Falls and Gull Island undeveloped.[4]

Upper Churchill Development

In 1953, the British Newfoundland Company (Brinco) was formed to develop projects including the Upper Churchill. It established a subsidiary called Hamilton Falls Power Corporation (now called Churchill Falls (Labrador) Corporation or CFLCo) which was held 80% by Brinco and 20% by Montreal-based Shawinigan Engineering Company. The subsidiary's mandate was to develop Upper Churchill. To this end, CFLCo began negotiations with Hydro-Quebec, the most obvious customer for Upper Churchill power.

Negotiations were complicated by political differences between Quebec and Newfoundland, particularly with respect to the on-going boundary dispute. Notwithstanding the 1927 Privy Council decision, during negotiations in the early 1960's Premier Lesage of Quebec attempted to tie a commercial agreement on Upper Churchill development to a political agreement to change the boundary between Quebec and Labrador. This had the effect of significantly interfering with, and delaying, negotiations.[5]

Ultimately, a letter of intent between CFLCo and Hydro-Quebec was finalized in the fall of 1966 but with the negotiating position of Brinco and CFLCo undermined as described previously, the terms were not advantageous for NL. Hydro-Quebec received an extremely favourable electricity price for about 90% of Upper Churchill power over forty-four years coupled with price reductions over the term of the contract and additional price reductions if capital costs were lower than expected. There was no mechanism included to raise prices for forty years and the terms thus largely eliminated the potential for future profits for CFLCo.

Upon signing the letter of intent, CFLCo began construction of the Upper Churchill development in order to have first power available on schedule. However negotiations on a contract to implement the letter of intent proceeded slowly, and with bank loans and other funding nearly exhausted, both CFLCo and Brinco were in financial difficulty. Hydro-Quebec used inside knowledge (it sat on the Board of Directors of CFLCo and were thus represented as both buyers and sellers of the same power) to unfairly exploit this fact and received a significant additional concession that was contrary to the letter of intent – an automatic renewal at a fixed price. The automatic renewal clause takes effect in 2016, providing for continuation of the contract for a further 25-year period. The renewal clause fixes the price for electricity at $2 per megawatt hour (MWh), an extremely low price even by the standards of the 1960's.

CFLCo resisted these terms initially but the contract was ultimately signed in May of 1969. At the time of signing, Brinco owned 56.9 ~~percent~~% of CFLCo, Hydro-Quebec owned 34.2 ~~percent~~%, and the Newfoundland and Labrador Power Commission owned 8.9 ~~percent~~%. A new government under Premier Frank Moores was elected in 1972 and took the approach of

[4] Churchill, Jason. "Pragmatic Federalism: The Politics Behind the 1969 Churchill Falls Contract". Newfoundland Studies 15, no. 2 (Fall 1999).
[5] Churchill, Jason. "Pragmatic Federalism: The Politics Behind the 1969 Churchill Falls Contract". Newfoundland Studies 15, no. 2 (Fall 1999).

Commented [SRG16]: NL not involved in negotiations. Rights were vested to private interests (Brinco) and what mattered was to get the deal and project done and had nothing to do with protecting of guarding the long term interest of NL. Coupled with the lack of oversight from NL itself, and ergo you have the loss in 'perpetuity' of one of the great natural resource economic asset in the world.

Commented [SRG17]: The intent of the power contract WAS ALWAYS to reflect utility cost and appropriate return on capital and not value. The haggle was over tenths of mills.

Commented [SRG18]: That's not was the issue is or was. HQ were a defacto regulator of Brinco where "..the price modality …(was) based on costs…"

Commented [SRG19]: The language for the second half of this paragraph should be sourced to Feehan's journal article "The Origins of a Coming Crisis…." …so the assertion of "using inside knowledge…" is indirect.

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threatening to expropriate Brinco if it did not sell its water rights to the lower Churchill River as well as its shares in CFLCo. This sale went ahead in 1974 leaving NL controlling 65.8 ~~percent~~% of CFLCo.[6] Power was first delivered from Upper Churchill in 1971 with project completion in 1974. The total cost for the project was $950 million dollars and financing has been fully paid back.

To illustrate how low the contract price is, in its 2010 annual report, Hydro-Quebec reported receiving $1.034 billion for 12.6 Terrawatt hours (TWh) of electricity exports in that year - approximately $82 per MWh.[7] By contrast, Hydro-Quebec currently pays only $2.50 per MWh for Upper Churchill power and in 2010 NLH received just $76 million in energy sales from its entire Upper Churchill business segment.[8] As highlighted in NL's 2007 energy plan, the Upper Churchill project has generated more than $20 billion dollars in net revenue, but the vast majority of this, over $19 billion, has gone to Quebec with NL seeing over $1 billion.[9]

Twin Falls Power Corporation (TwinCo)

A 225 MW power station at Twin Falls on the Unknown River, a tributary of the Churchill River, was also developed by Brinco in partnership with Wabush Mines Limited and the Iron Ore Company of Canada (IOCC). TwinCo supplied power during the construction phase of the Upper Churchill development, but in July 1974 the Twin Falls plant was closed and the water was diverted into the Smallwood Reservoir associated with Upper Churchill. Upper Churchill has been able to produce approximately three times more electricity as would have been possible at the Twin Falls plant from the diverted water. A 225 MW "TwinCo block" of power continues to be supplied to TwinCo although this requirement expires on December 31, 2014. Under the current arrangements, the companies pay primarily fixed costs (with some minimal variable costs) regardless of the amount of power taken, and as a result the cost of power to Wabush Mines and IOCC averages less than $5 per MWh.

Summary of Principal Legal Documents

A number of principal legal documents (see Annex A for a more comprehensive description) are key to CFLCo's operations:

- **Water Lease between the Government of Newfoundland and CFLCo** – Gives CFLCo the right to waters of the upper Churchill River for 99 years (renewable for a second 99 year term). CFLCo pays the province an annual rental and royalty for the water rights. The Lease confers tax exemptions on CFLCo which expire on August 31, 2016.
- **Power Contract between CFLCo and Hydro-Quebec** – CFLCo is required to make available to Hydro-Quebec approximately 4,100 MWs in the winter and 3,860 -MWs in the summer subject to limitations of the 225 MW TwinCo block and 300 MW ("the Recapture") which may be withheld by CFLCo. Current price is $2.5/MWh. This price is

[6] Feehan, James. "The Churchill Falls Contract: What Happened and What's to Come." Newfoundland Quarterly, Volume 101, Number 4, 2009.
[7] Hydro-Quebec 2010 Annual Report. Page 9.
[8] Newfoundland and Labrador Hydro 2010 Consolidated Financial Statements. Note 18 – Segment Information. 2010.
[9] Focusing Our Energy. Government of Newfoundland and Labrador. 2007. Page 33.

Commented [SRG20]: Wording needs to be corrected. This was a little more to this…

Frank Moorese stated in an interview later in life that that if he had one decision to undo, it would be the decision and wasteful cost to nationalize Brinco.

Commented [SRG21]: Incorrect analysis. The CF block of power forms part of HQ Production Heritage Block which is sold to consumers within Quebec for ~ < $30 /MWh

Commented [SRG22]: Not technically correct, but politically correct

Commented [SRG23]: This section contributes nothing to paper

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Commented [RJH24]: .. capacity available..

Commented [RJH25]: 4,380

Commented [RJH26]: MW, strike the s.

Commented [RJH27]: 4,160

Commented [RJH28]: Insert a comma and be clear that both are subject the recall. The summer and winter capacities already consider the TWINCO block.

Commented [JM29]: Recall?

Commented [RJH30]: Insert "approximately" or "just over"

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valid until 2016 when an automatic renewal at $2.0/MWh takes effect.

- **Power Contract between CFLCo and Newfoundland and Labrador Hydro** – All power under the Recapture is sold to NLH on the same pricing terms as applicable to Hydro-Quebec Power Contract.
- **Guaranteed Winter Availability Contract (GWAC) between CFLCo and Hydro-Quebec** – Intended to provide for maximum availability of all generating units at Churchill Falls during winter months. Provides financial compensation to CFLCo for ensuring that 682 MW of additional capacity is available during the winter. Terminates upon termination of Hydro-Quebec Power Contract.
- **Shareholders' Agreement between Newfoundland and Labrador Hydro, Hydro-Quebec, and CFLCo** – An agreement on governance, operating, and financial provisions for the affairs of CFLCo. Includes restrictions on the transfer of shares, composition of the Board of Directors, provisions related to TwinCo, etc. Expires when one of the shareholders no longer holds shares in CFLCo or August 31, 2041.
- **Water Management Agreement between CFLCo and Nalcor Energy** – Provides for the coordination of the use of the waters of the Churchill River in the production of power and energy by CFLCo on the upper Churchill River and by Nalcor on the Lower Churchill. This coordination must not adversely impact CFLCo's obligations under the Hydro-Quebec Power Contract, the NLH Power Contract, the GWAC, and TwinCo requirements.

Pre-August 31, 2041

Several of CFLCo's major contracts that expire on August 31, 2041 largely set the course for the Corporation over the next 30 years. The Power Contract with Hydro-Quebec provides for the sale to Hydro-Quebec of the vast majority of energy produced at the Upper Churchill Plant at a price which has declined through the life of the contract thus far and which will be a firm price after 2016. Similarly, the Recapture energy which CFLCo recalls under the Hydro-Quebec Power Contract will be sold to NLH pursuant to a separate power contract between CFLCo and NLH, which expires August 31, 2041. [redacted]

The Guaranteed Winter Availability Contract [redacted] CFLCo to provide any additional capacity available in the winter months to Hydro-Quebec. In addition, the Shareholders' Agreement limits certain aspects of the CFLCo's operations and provides Hydro-Quebec with certain powers through requirements for its approval, both in its capacity as shareholder and through its nominees on the CFLCo Board.

Notwithstanding the August 31, 2041 expiry of several major contracts, there is a near-term change in the status quo that will likely result in increased revenues for CFLCo. Its obligation to provide 225 MW to Twin Falls Power Corporation Limited expires at the end of 2014. [redacted] This price will likely be higher than the price at which the TwinCo block of power is presently sold to TwinCo and consequently revenues to CFLCo from the sale of this power will increase.

Commented [JM31]: Recall?

Commented [redacted]: [redacted]

From here on seems to have a very different writer.

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[redacted]

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[redacted]

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CFLCo continues to have responsibility for the operation and maintenance of the plant prior to September 1, 2041. It will operate and maintain the plant and pay for the work associated with these activities. The approval of annual budgets requires approval of the CFLCo Board of Directors, who are required to act in the best interests of CFLCo.

Post-August 31, 2041

The August 31, 2041 expiry of the Hydro-Quebec Power Contract will not represent a windfall for NL. First, there will be no free or unusually cheap power available to the province at expiry nor will the province have unfettered control over the power produced. In fact, because the board of CFLCo has a fiduciary obligation to act in the best interests of the corporation, Upper Churchill power will be available only at fair market prices prevailing at the time~~time~~. Secondly, upon expiry of the Power Contract, the NLH power contract to purchase the 300 MW Recapture on the same terms as Hydro-Quebec also expires. This will effectively limit the province's ability to recall power at a low price as it does now.

After August 31, 2041, CFLCo will have more freedom to operate in the nature of a privately owned power utility. Its obligations relating to the sale of power to both Hydro-Quebec and NLH will have expired, leaving CFLCo with flexibility in relation to the sale of the power and energy it produces. The Corporation will continue to own the plant and own the water rights until such time as the Water Lease expires. Additionally, with respect to the sale of energy after August 31, 2041, the expiration of the Shareholders' Agreement removes restrictions contained in that Agreement on CFLCo's internal governance and operations, which should allow the Province, through NLH, to more freely deal with CFLCo.

In addition, CFLCo is owned by NLH and Hydro-Quebec, with NLH owning 65.8% of the common shares and Hydro-Quebec 34.2% of the common shares. CFLCo's by-laws, albeit less restrictive than the current Shareholders' Agreement, will still require the approval of both shareholders in some instances. Furthermore, Hydro-Quebec will have legal remedies available to it should it feel that its rights as a minority shareholder are not being respected. In any case, as stated above, the board of CFLCo will have a fiduciary obligation to act in the best interests of the company and this may or may not align with Newfoundland and Labrador's public interest or policy goals at any given time ~~time~~.

Churchill Falls as an alternative to Muskrat Falls

To meet the province's future energy needs, Nalcor assessed the option of deferring Muskrat Falls until 2041, when the power contract between CFLCo and Hydro-Quebec expires, and then accessing Upper Churchill power. This would require maintaining the isolated Island system until that time, followed by the construction of a transmission link with Labrador.

Deferring Muskrat Falls has strategic and financial concerns:

Security of supply and reliability

Commented [SRG35]: This is much stronger wording than at beginning of paper. Is this a legal opinion? CF is not a private sector company.

[redacted]

Commented [RJH36]: This may be a matter of public policy. I can't express a legal opinion but my understanding of the lease is that the sale could be at cost of service as are many suppliers of electricity. The Public Utilities Act does not apply to the sales to NLH, HQ, Wabush Mines and IOCC as per the water lease. If the sale is made to someone else, it could be cost of service and regulated under the act. Also, it does not preclude the government from establishing that the sale to NLH could be at cost of service.

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Commented [SRG37]: CF is not a private sector company and its Board of Directors will be controlled by Nalcor/NLH notwithstanding HQ.

Commented [SRG38]: See comment #1

So what if HQ pursue legal remedies? They will have their prorate share of product at cost.

Commented [SRG39]: Again much stronger language than at start of paper…..but it has to be correct to be stated publicly. This type of language (as reproduced from a PUB RFI below) has been shown to be at odds with language in the Energy Plan regarding Churchill Falls in 2041.

Commented [RJH40]: Does the water lease prevent the government from establishing public policy to affect the price sold by CFLCo within the Province or directing it to sell its power in the province? Also, if NLH buys the output at fair market value and it is well above costs, then CFLCo will have a very large profit and likely substantial dividends to NLH. It could be public policy to use the dividends paid to NLH as a credit to electricity rates applied by NLH to its customers.

Commented [SRG41]: Shouldn't we expect the informed public to want to review a generation expansion plan that proves the point in CPW terms?

Commented [RJH42]: Insert a new bullet to discuss the security of supply to meet Labrador industrial growth. While this is not part of the base load forecast, Muskrat Falls provides a secure provincial source for that growth which, if not built will require the development of an other source or the purchase of power and energy outside the Province to meet that need which may not be so secure unless a long term commitment is made.

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- Guaranteeing the availability of supply from the Upper Churchill in 2041 is uncertain because it is difficult to determine the environmental and policy frameworks that will be in place 30 years from now;
- NLH is not the sole shareholder of Upper Churchill and therefore cannot unilaterally decide how to distribute Upper Churchill power;
- It may not be possible to maintain reliable power supply through continued life extension measures for the Holyrood generating station through to 2041. At that time, the first two units at Holyrood will be 70 years old and beyond their life expectancy.

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Commented [redacted]

Cost to ratepayers

- Deferral of Muskrat Falls would result in significantly higher rates for Island consumers between now and 2041 and will not provide rate stability to Island consumers. As a result of continued dependence on Holyrood, rates would be tied to highly volatile fossil fuel prices. In addition, escalating maintenance costs for Holyrood and an increasing likelihood that the plant will require replacement prior to 2041, contributing to increased rates.

Commented [JM44]: PHumphries: Is this still true?

Environmental compliance

- Island customers would remain dependent on fossil fuel generation until 2041 resulting in continued and increasing GHG emissions
- Given the Government of Canada's decision to introduce GHG emissions regulation for coal fired generating stations, Nalcor's ability to refurbish Holyrood without conforming to GHG emissions regulation is doubtful, and replacement of the plant may be required between now and 2041.

Risk and uncertainty

- Each of the screening criteria above – security of supply and reliability, cost to ratepayers, and environmental compliance – carries significant risk and uncertainty that are not present in either the Isolated or Interconnected Scenarios.

If Muskrat Falls is deferred to 2041, the province's ability to capitalize on the value of its energy resources at Lower Churchill could be delayed by up to 30 years or more. This is particularly true if the only viable alternate export route through Quebec remains unavailable to NL during this period. In such a scenario Lower Churchill projects (Muskrat Falls and/or Gull Island) would almost certainly remain undeveloped for the foreseeable future.[10]

Conclusion

The power contract between NL and Hydro-Quebec has been the source of great resentment for the people of our province for many decades. The price of power negotiated under that contract, along with the length of the contract itself, is wholly unacceptable and has resulted in tremendous profits for Hydro-Quebec, while returning very little to Newfoundland and Labrador.

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[10] MHI reply to PUB Information Request 3. Available online at: http://www.pub.nf.ca/applications/MuskratFalls2011/files/rfi/MHI-Nalcor-3.pdf

The power contract expires in 2041, at which time, the province will obtain much more control over Upper Churchill power than currently exists, and will certainly benefit from the economic returns of that resource. However, Upper Churchill power is not exclusively owned by the province and NL will consequently not have unfettered control over the resource. There will be no free power available to the province and there will be limited rights to recall power after the Power Contract expires.

Commented [RJH45]: I am not sure I see the basis for this statement in the discussion. NLH should be able to get what it needs as long as it is paying CFLCo a reasonable price for it that at least matches what HQ is paying.

Deferring Muskrat Falls until 2041 is not a viable alternative for several reasons. Maintaining the isolated Island system until that time, followed by the construction of a transmission link with Labrador, is more expensive than developing Muskrat Falls. There is also considerable risk and uncertainty regarding security of supply and reliability, the cost to ratepayers, and environmental compliance. Deferring the project also means deferring the province's ability to fully capitalize on the value of its tremendous energy resources.

Clearly, the province cannot afford to take only stop-gap measures and wait until 2041 when the Hydro-Quebec Power Contract expires. This date does not represent an enormous windfall of cheap or free power for the province and in any case, the needs of customers must be met in the interim. Deferring the Muskrat Falls development represents a more costly approach to supplying power and adds a layer of cost and uncertainty as power for domestic customers will be tied to fossil fuel prices as well as the ability to extend the life of the Holyrood Generating Station to provide reliable power within potential future GHG regulatory guidelines. For all these reasons, Upper Churchill power is not a practical, economical, or sensible alternative to Muskrat Falls.

Commented [RJH46]: This is the main argument. It would be good to have hard numbers to show it.

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ANNEX A - Principal Legal Documents

The following is a listing and summary of the principal documents that facilitate the supply of power from Upper Churchill to Hydro Quebec.

Water Lease ~~Between~~between the Government of Newfoundland and CFLCo - May 16, 1961 ("Water Lease")

- This lease gives CFLCo the right to the waters of the catchment area of the upper Churchill River and the exclusive right to harness the River to produce hydroelectricity. CFLCo is also given the right to do what is necessary in the development, transmission and supply of hydroelectric power produced on the upper Churchill River, which would include the right to construct dams and acquire Crown Land.

- The term of the Water Lease is 99 years renewable (at CFLCo's option) for another 99 years.

- CFLCo is required to pay to the Province an annual rental and royalty which amount to approximately $4 million on an annual basis.

- The Water Lease provides CFLCo, as a corporate entity, with an exemption relating to provincially imposed taxes, charges and fees. With respect to the development, transmission and supply of hydroelectric power, CFLCo is exempt from any increase in taxes existing as of July 14, 1966, and is also exempt from any liability with respect to any new or additional taxes and any new or additional charges, dues, fees, rents, etc. imposed by the Provincial Government after July 14, 1966. This exemption expires on August 31, 2016.

- The Water Lease is a statutory lease and therefore has the force and effect of statutory law.

Power Contract ~~Between~~between CFLCo and Hydro-Quebec - May 12, 1969 ("Hydro-Quebec Power Contract")

The principal terms of this Power Contract are as follows:

- The original term of the Hydro-Quebec Power Contract expires on August 31, 2016. It will then automatically be renewed for a further term of 25 years until August 31, 2041 ("Renewal Period").

- The price of electricity during the first 40 years of this Contract was set on a downward sliding scale. It provided for five price changes during this period. The present rate ($2.5426 per MWh) will remain in effect until August 31, 2016. During the Renewal Period the rate shall remain constant at a lower rate ($2.00 per MWh).

- CFLCo is to make available to Hydro-Quebec Firm Capacity of approximately 4,100 MW in the winter and 3,860 MW in the summer, as well as whatever additional capacity can, in

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CFLCo's opinion, be made available when requested by Hydro-Quebec. In addition, CFLCo shall make available such energy from the plant as Hydro-Quebec may request.

- These obligations are subject to two limitations: first, CFLCo's requirement to supply power and energy to Twin Falls Power Corporation Limited (225 megawatts ("MW") until December 31, 2014 and second, the Power Contract permits CFLCo to withhold up to 300 MWs of power per year from the power and energy agreed to be sold to Hydro-Quebec ("the Recapture") This is to be sold by CFLCo only for consumption outside the Province of Quebec. CFLCo presently recaptures the full 300 MW.

- During the Renewal Period (post – 2016) the amount of power and energy that CFLCo will be required to sell to Hydro-Quebec under the Contract will be a set amount of energy per month ("Continuous Energy"). Currently, Hydro-Quebec has a right to all of the energy produced at the plant other than the Twinco block and the Recapture. The amount of the Continuous Energy is set at the end of the original term of the Power Contract and is based on the amount of energy delivered to Hydro – Quebec prior to the expiry of the original term.

- CFLCo is required to maintain in good repair and in accordance with sound utility practice, all required facilities at the Upper Churchill Falls plant.

- If CFLCo should at any time, when it is not prevented by an event of force majeure, be unwilling to operate the Upper Churchill Falls plant, then Hydro-Quebec, if it is not in default under the terms of the Contract, has the right to operate the plant for the account of CFLCo in accordance with sound utility practice, until such time as CFLCo itself resumes such operation.

Power Contract ~~Between~~between CFLCo and Newfoundland and Labrador Hydro - March 9, 1998 ("NLH Power Contract")

- As noted above, CFLCo now recaptures 300 MW under the Hydro-Quebec Power Contract. All of this power is sold to NLH under this Power Contract on the same pricing terms as is applicable to the Hydro-Quebec Power Contract and for the same duration, i.e. August 31, 2041.

Guaranteed Winter Availability Contract between CFLCo and Hydro-Quebec - November 1, 1998 ("GWAC")

- The purpose of the GWAC is to provide for maximum availability of all eleven generating units at the Churchill Falls plant during the winter months, as this is the peak demand period for Hydro-Quebec.

- Hydro-Quebec makes payments to CFLCo based upon the availability of these units during the winter months. As noted earlier, the terms of the Hydro - Quebec Power Contract require CFLCo to make available to Hydro-Quebec on request, any additional capacity that in CFLCo's opinion can be made available. In essence, GWAC provides financial compensation to CFLCo for ensuring that additional capacity, in the amount of

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682 MW, is available during the winter.

- The GWAC terminates upon the termination of the Hydro-Quebec Power Contract.

Shareholders' Agreement between Newfoundland and Labrador Hydro, Hydro-Quebec and CFLCo - June 18, 1999 ("Shareholders' Agreement")

- Under this Agreement, NLH and Hydro-Quebec, as the shareholders of CFLCo, agree on certain corporate governance, operating and financial provisions related to the business and affairs of CFLCo. These include such things as restrictions on the transfer of shares, composition of the Board of Directors, decisions requiring the approval of both shareholders and others requiring a "special majority" of the Board of Directors, provisions relating to Twinco Power upon the expiration of the Twinco Sublease, creation of a Reserve Fund and an agreement as to a dividend policy. CFLCo is a party to the Agreement "to take cognizance of and to agree to comply with its terms and conditions."

- The Shareholders' Agreement expires on the earlier of date upon which either of the present shareholders (or an affiliate) no longer holds shares in CFLCo or August 31, 2041.

Water Management Agreement between CFLCo and Nalcor Energy – March 9, 2010 ("WMA")

- The Electrical Power Control Act requires that two or more persons who have been granted rights by the Province to the same body of water as a source for the production of power and who utilize, or propose to utilize, or to develop and utilize the body of water as a source for the production of power, shall enter into an agreement for the purpose of achieving the most efficient production, transmission and distribution of power.

- The WMA provides for the coordination of the use of the waters of the Churchill River in the production of power and energy by CFLCo on the upper Churchill River and by Nalcor on the lower Churchill River. The purpose of this Agreement is to make for the most efficient use of the waters of the Churchill River in the production of power and energy on the river, but pursuant to the Act, it can in no way adversely affect any of the existing contractual obligations which CFLCo has to provide power and energy i.e. Hydro-Quebec Power Contract, NLH Power Contract, GWAC and Twinco obligations.

- The WMA shall be in effect until such time as one of the parties permanently ceases to operate a production facility on the Churchill River, or the parties agree to terminate it. In the latter case, the parties must agree on a new agreement to replace the WMA.

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