January 3/12 — Meeting w/ Tom Johnson — (1)

- PUB review announced in June '11
  ↓
  initial time frame was December 31/11 — this time frame was ambitious

- Jackie Glynn was counsel for PUB → she went on [redacted] [redacted] and Maureen Greene filled in (late Spring)

TJ
- met w/ Shawn Skinner in May/11 → modelled after insurance review
  → Tom would consider to be a hybrid review
  → more interveners, pros -x, presentations

- met w/ Verdy/ for Jerry (Cabot Martin) — challenging to deal w/

- Tom looking for expert / consultant, big engineering projects
- Tom did not want to duplicate effort

- Knight, Piesold (Vancouver) → consultants / engineers responsible for design / hydro projects — looking in Golder - Hatch group
  → presumed on assumption that like insurance review

- Tom wrote govt. in August (→ got approval from Todd Frenley (e-mail))

- date changed until March 31/12 — issues arose
  → Tom wrote PUB re: schedule

- Tom Johnson wrote govt. re: LNG issue (Jensen for us) — Jensen: Associates, Cambridge, Mass.
  → lot of input from Nalcor, Verdy
  → Nalcor, Navigant both referred to LNG issue — NATURAL GAS

* should be looked into

(2)

- RUB asking good questions → This letter to board references "guidelines"
letter to Tom Johnson - approved by LGIC but not
- some level of independence ≠ independent officer of HOA -
Tom would prefer to have actual guidelines

"in light of time deadlines"
→ role of CA
→ CA will not hold separate public hearings
rather coordinate public

→ Muskrat Falls / Consumer

sentence "CA's role ...." in 2nd last paragraph
↓ is problematic

- letter doesn't make sense - "expect contribution to be on informed and expert basis"

KNIGHT PIESOLD — What is Tom using them for?
↓
What can he use them for?

→ No confidential exhibits Knight Piesold overall also report

(3)

WHAT Tom Noel's

- The perception of guidelines in clearly ambiguities and contradiction in terms of the rule

- ~~Clarification~~ role of Crown Advocate's expert, Knight Perold

= use of website → doesn't know process

↓

Exhibit 106 - reliability
→ Not only least-cost power but least-cost reliable power

10. What CA and PFI's to Nalcor?

January 4/12 Meeting w/ Andy Wells

① oil pricing - future pricing / forecasting

② natural gas - Is LNG a viable alternative for Holyrood? | reasonable option
- Nalcor opened up by referring to ... these
- Nalcor filed a 2001 report
- pipeline from Grand Banks

④ Gull Island

⑤ Wind.

⑥ Energy markets in the Northeastern US

⑦ * commercially sensitive information

↓

issue to wait

60 Lakes Nstanda

↓

⑧ * DG2 vs DG3 → possibility to provide current info to public

⑨ should he have a role for PUB in ongoing expenditures

January 4, 2012

Issues re: PUB scheduling

- Charles' conversation of Cheyenne.
  - → if Consumer Advocate not filing report then no technical conference
  - → need clarification re: Tom Johnson's role
- → call for public participation - Mr. Johnson only
- → no technical paper

MHI Report - can't move; Nalcor still answering RFIs
- draft schedule - Nalcor and CA
- Jan 26/12 - provide to Minister
- Jan 27/12 - provide to public
- Jan 28/12 - public notice in newspaper

Feb 20 - public hearings
- can design public hearing process as they please
- 4 to 5 days dependent on interest

March - write report

January 5/12 Meeting w/ Andy Wells, Paul(?) Green (1)

- 45 RFIs filed on Dec 16/11 → in relation to Nalcor submission (RFIs 133-177) filed on Nov 10/11 and other RFIs on November 24

* Nalcor to file Progress Report on Dec 23/11, Tom O'Reilly verbally ~~[illegible]~~ informed Paul(?) Green.

* Progress report not ~~[illegible]~~ filed by Dec 23/11 → Paul(?) Green spoke to Tom O'Reilly

6 RFIs of Dec 16/11 answered today

* don't know when they will get the 39 — significant to MHI report

* MHI determined reliability would be issue in September / earlier
- systems integration study — asked for in RFI
- supposed to be done by end of November
- nothing by end of November — another RFI
- reply today not completed yet and will not be completed til end of March.

— deals w/ important issue of reliability → MHI will raise concern in report.

Andy — lack of information; the thread of it is key.

2 — 62 — November / 2010 — first entry on November / 10

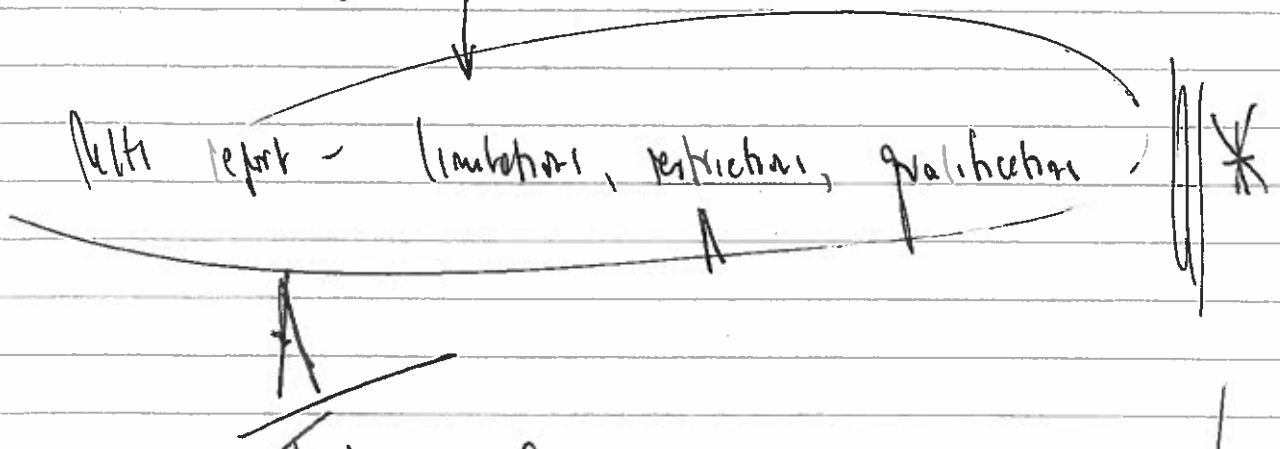
No info in between

Chair of PUB — nothing has changed in flow of information / no improvements

* indifference, incompetence, contempt [illegible]

(2)

- Metis report originally scheduled to be filed in mid-September



(1) Lack of timely response from Valcor -

(2) Lack of support into -

(3) do not have enough time for technical team and public consultations -

January 6/12

Telephone conversation with Ed Martin

Point # 1 – RFI re: systems integration study
– answered RFI → not necessary for DG2 or for DG3 study

– Issue re: Consumer Advocate RFIs – stopped work once PUB RFIs were received on December 16

– Tom's concern → December 23 progress report
– Tom's commitment → not aware from Meridian. Not as important as Meridian was saying

– The RFIs will be filed next week → asked Ed if it would be put in writing to PUB
→ he would not commit but would get back to me after he checked with his people

January 10/12 Meeting re: PUB – Don P., Tom O, Ed M, Charles, Bren, Premier, Robert T.

Andy Wells' comments in today's Telegram
– questions Nalcor's openness, competence

- Nov 10 – Nalcor submission filed
- Nov 24 – answered all outstanding RFIs
- Dec 7 – from CA
- Dec 16 – 44 RFIs from PUB
- by end of this week all RFIs will be answered

- Ed → doesn't know what is MHI report

JPK raises issues – Ches. Green's bias
– commitment to file Dec 23 progress report
– systems integration study

[redacted]

Robert / Nalcor – ① what Nalcor has done
② concern about Andy's comments

JANUARY 6/12

November 2: Received two different data sets for projected rates from Nalcor; one based on DG2 and another rebased using the July 2011 rate adjustment
November 3: Meeting with the Minister on electricity rates
November 3: Received historical rates data from Nalcor (2000-2011)
November 3: Received final proposed householder from Nalcor for urgent review; householder shows rates rebased using the July 2011 rate adjustment
November 7: Meeting with Nalcor and the Minister on load forecasting
November 7: Received PUB filing on rates from Nalcor; uses original DG2 data set
November 7: Nalcor provided a review of NR's charts and confirmed that they accurately represent the rebased data set; NR expressed concern to Nalcor over the existence of conflicting data sets; Nalcor accepted that the rebase may cause confusion since it creates an additional data set which is offline with previous releases but re-issued the complete rates data set based on the July 2011 rebase.
November 7: NR expressed concern that the complete data set was refreshed based on a single point; Nalcor responded that it was not an ideal approach but that there were *no concerns* regarding accuracy.
November 8: Nalcor indicated that it is holding on the householder until the issue of two different data sets can be resolved. →
November 22: Meeting with the Minister on electricity rates
November 23: NR explained to Nalcor that we would like sign-off on any rates information before taking it public; Nalcor agreed it was a good idea and asked for a chance to review the Minister's charts before using them
November 25: NR sent a copy of the minister's rates charts (using the rebased data set) to Nalcor for review.
November 25: NR met with Nalcor at Hydro Place to discuss the rates charts and Nalcor confirmed that they were accurate. *
November 30: Meeting with the Minister on electricity rates
December 2: Meeting with the Minister on electricity rates
December 2: NR sent another copy of the minister's rates charts to Nalcor for review ahead of December 5 meeting.
December 5: Meeting with the Minister on electricity rates
December 5: Meeting with Nalcor on rates data sets; Nalcor explained that the rebased data set was updated only to reflect rate change of July 2011 and none of the other inputs were refreshed; NR provided a copy of the Minister's proposed caucus presentation for review.
December 6: Nalcor reviewed the Minister's proposed caucus presentation and confirmed that the charts used accurately represented the rebased data set. *
December 12: Meeting with the Minister on forecasted demand and electricity rates
December 16: Meeting with Nalcor on Muskrat Falls costs; Nalcor now indicated that the rebased data set for rates, while more recent, cannot be considered as reliable as using the older DG2 data.
December 20: Meeting with the Minister on electricity rates
December 28: Meeting with the Minister on electricity rates; addressed issue of multiple data sets and the older DG2 data set being more reliable that the rebased data set; Minister asked for final sign-off from Nalcor. *

by early November Nalcor is involved

(never been raised by NR)

Jan 6/12 – Paul Scott spoke to Derrick Sturge, VP Chevy & Finance, that included Peter, and he knew nothing about it
– General Manager, Advisor Western, Owen – left has involved → he reports to Derrick Sturge

January 3: Meeting with Nalcor on the rebased rates data set; told that the rebased data set was "technically unsound" and that Nalcor would not sign off of on its use
January 3: NR modified its rates charts to represent the DG2 data set (with 2011 alone updated to reflect actual values) thus abandoning the rebased data set
January 6: Meeting with the Minister on electricity rates

January 8/12

AVERAGE

Profile 1 / 90,000 customers w/o electric heat (775 kwh)

	2000	- $78.		
1.9	2011	- $107.	$100	
1.20	2016	- ~~140.~~ $137.00		($121)
	2017	- 146.		($129)
	2030	- 155		($137)

Profile 2 - 140,000 customers with electric heat (2058 kwh)

	2000	- $176.		
1.10	2011	- 256.	238	
1.21	2016	- 327.		($287.)
	2017	- 349.		($306)
	2030	- 370.		($325)

Profile 3 / Average of all island customers / 230,000 (1517 kwh)

	2000	- $135		
1.11	2011	- $193	$179	
1.22	2016	- $241		($217.)
	2017	- $263		($232)
	2030	- $279		($246)

= Increase of $58

AVERAGE USERS

b/w 2000 - 2011 - rates went up $58

b/w 2011 - 2016 - rates projected to go up / a distr. of less than / $38

overall monthly bill $180 in 2011

2016 - $227

2017 - $237

2030 - $246

2017 - will go up $15.00

2030 - will go up $14.00

January 9/12

PADDY'S ISSUES

1. NEED for lower - actual consumption & power not only that population has declined
2. COST OVERRUNS -
3. RATES will DOUBLE -
4. NS getting free power -
5. Environmental concerns
6. IUB in issue -
7. KEY ISSUE IS DEBATE IN THE HOUSE

BACKTALK - January 10, 2012

① Do we need the power?

② Is Muskrat Falls the least-cost option?

Need for Power
- increase in residences despite decline in population
- growth in residential use, commercial and industrial
- Vale in Long Harbour - 92 MW
- 2015 - Needs
  2021 - Not enough energy

Then $10-15B mining developments in Labrador
→ potentially need 800-900 MW of power - no firm contracts but have not all of the confidence

PUB will look at this issue

* NEED POWER ON ISLAND AND LABRADOR - Muskrat Falls [illegible] both

② PUB review / discussion on Interveners → vs. Upper Churchill
- MHI Report
- issue that PUB has to examine - is MF the least-cost option
- lack of Andy Wells → offered further existence
- number of issues (175), filing of report, continuing work

** ~~WADE LOCKE VERSUS DAVE VARDY~~ **

③ JRP's approval - examining all details
- EA panel - MHI Report
- PUB report - debate in House
- Nalcor / Emera negotiations - updated info from Nalcor

Then Decision on SANCTION
^ Any approval

January 11/12 Meeting of WADE LOCKE

/ Harris Centre public presentation - to discuss Vardy's paper

/ Supposed to be a discussion / debate

/ Nothing in Vardy's paper or discussion changed Wade's mind

BASIC MESSAGE / Muskrat Falls is not the best project

- Nalcor estimates ~2.2B CPW

— big capital project with small operating cost
versus
small capital project with large operating cost

→ how can we lower operating cost of Holyrood?

→ natural gas or LNG — at prices as low as [illegible] they conceivable

→ at what price can you get natural gas?

→ price of LNG tied to price of oil

— US - export versus import facilities

— regas. facility ~1.2B — Holyrood

/ amount of gas for Holyrood ? 800 million cubic ft / day
1.0 million btu / 1000 cubic feet

/ very small number

/ New Brunswick producing 1.2 bcf per day

* Holyrood would need 0.085 bcf per day

— if Henry Hub price is ~~4.00~~ 6.00 — ~~7.00 - 8.00~~ 9.00 - 10.00

— (adding $3.00 - 4.00, liquefaction, transport, regasify) —

Any reasonable person would need a criticism

Motivation of MF — Locke on supporting paper

* Henry Hub price is not LNG price - gas - liquefaction [illegible] to gas

(2)

- 1 barrel of oil = 6 million
  ∴ $10.00 for natural gas the $60-70 b/oil

- Price of 9.00 - 10.00 for natural gas would not be a lower price than Muskrat

  Nalcor says 5.75 per 1000 cubic feet

WHAT PEOPLE HAVE TO UNDERSTAND

- ~~Currently~~ is 2.2 MF is 2.2B cheaper than alternative
- to look at alternative source of energy have to 2.2B in saving 1 in alternative source of energy
- world region prices in natural gas not an market lower than ~~properly~~ ~~properly~~ or projecting / board here

If need for power then we have to make decision
- 20 years from now markets may be different

Then industrial development in Labrador *

- if you don't have power the projects cannot proceed

-

January 12/12 President Lin Lyall & NG (1)

- EA Panel Report / President Lyall: formulate
- Inuit beneficiaries in Upper Lake Melville
- downstream impact → impact on land & resource use, land, and quality of life
- impacts on Inuit could be mitigated by claims agreement
- further facilitation of Inuit (^)
(1) preferred process to go // research needs during EA hearing — NG beneficiaries get special consideration / designated only groups
4 areas Inuit concern — downstream impact
- methyl mercury
- sea ice displacement →
- traditional harvesting → seals and fish
- socio-economic impacts
- Lower Churchill — 1.7% ↑ fresh water flow into Lake Melville
- effects of methyl mercury
* NG needs adequate funding for research & monitoring
- high-level management structure — Fed., Prov., NG & Inuit
agreement (^) by Nalcor & NG should be negotiated //
- negotiations for mitigation, if required
↓
If there is sanction / pp. XVII - XVIII →
- letter & request sent to Nalcor / Nalcor replied they weren't interested re. Inuit knowledge
* Nalcor: position → downstream impact ended at mouth of the river
— Panel agreed with NG submission

(2)

NG has put forward potential solutions –
// both doing the EA level and Arace the...
// NG wore (both federal and provincial environmental ministers

Other Issues

(1) Hydro / to the front –
(2)

↓

* need for further discussion prior to making decision.

January 16/12

meeting of Ken C., Ray K., John D., Dave B., Paul L., Calvin P., Kevin P.

Criticisms of Muskrat Falls

1. PUB - Public Consultation
2. Holt - special person vs Holt not open

] it is a done deal

3. Overruns
4. Provincial debt
5. alternatives / natural gas
6. NS deal 'free' Power
7. info coming from Nalcor only [what about other experts in the field?
8. rates ~~will~~ going up

↓

9. Communications - people do not understand - people think it is a good deal /

↓

January 18/12 — Meeting w/ Wood MacKenzie – Premier, VPK, Diane, Glenda, Terry, Greg, Bob Fleck, Wade Scheres, [illegible] – Jones, Ed Martin, [illegible] ①

Ed gives overview of project
- / 6,000 of undeveloped hydro
- / 5,000 mgw of wind
- / 300-400,000 barrels of oil per day
- / Estimated 6.0B barrels to be discovered
- / 10 tcf of natural gas | 60 tcf to be discovered

/ overview of Nalcor → Churchill Falls generating, Bull Arm
- / Lower Churchill → Gull & Muskrat
- / our needs are 40% of Muskrat → $2.2 C/w difference
  w/o exporting any power — only 40% taken into account
- / deal w/ Emera / NS government
- / Emera will run for 35 years — 1 terawatt of power (20%) "free"
- / 330 mgw of open capacity
- / transmission rights in NS → only pay tariff like we [illegible] versus normal 24 hr arrangement
- / sell power on spot markets until power is needed in Labrador
- / 300 mgw capacity through Quebec into NY

Bob Fleck / gas overview
- 1.4 - Henry Hub line — 4.00 - 4.50
- / NyMex hub at $2.50
- / in longer term do not see going up
- / 2030 / not going to exceed $6.00 - 6.50

/ Marcellus / 10-11 bcf per day by 2020 (1.5)
- / three times quality of Marcellus

1.7 - gas prices going down, oil going up
- WTI - 90-100 through 2020
- Brent - little higher

/ As long as oil stays around $77.00 they will continue to drill
- not [illegible] by 3.00 gas → reserves & production

(2)

p.11 - map of whole gas plays
- there could be an LNG hub / Holyrood in 10-15 years

p.13 - lot of infrastructure needed in Northeast

p.17 - Need - Atlantic supply sources → importance / prevalence of Holyrood
p.18 - Holyrood destination

p.21 - New England Gas Demand → not a gas-growing market

2030 - gas price in NE - $6.00 - $6.50
- last year we were at $5.00

(1) + 2.00 - $2.50 at LNG Terminal
100 - 120% premium + 1.00 premium

On board at $8.00
+ transport
liquefaction
regasification

(2) 10.00 - 12.00 to develop gas on Grand Banks
build pipeline, Gravity Holyrood

* what is point of getting gas to Holyrood?

3

WADE SCHAVER — Electricity Markets — p.26
- what the main driver in renewables → main resource addition
- mandate in Ontario to shut down coal plants by 2014
- wind → renewable portfolio standards (RPS)

p.30 - Northeast energy price forecast

Ed - carbon not included in 2.2B CPW

p.31 - nuclear plants in US Northeast at strikes against them
3 times as much wind = nuclear
(30%)

- Indian Point - need 6000 MW of onshore wind
4000 MW of offshore wind

- power plants set to retire in NY →
retirement announcements

- New England - by 2020 would have to build 6000 MGW of wind ~~by 2020~~ to meet RPS
- 300-500 MGW of power not available

-* backing up of fossil generation
HAVE TO BACK UP WITH WIND

Present
40 coal
30 gas
20 ~~[illegible]~~ nuclear
14

-100 nuclear generating stations

(4)

Quebec - target by 2015 ↑ 4,000 MW ↑ wind
- Currently 2 nuclear - 1500 MW wind equivalent

- Premier Ed Tasse issues ↑ identifying Upper Churchill as NL resource
- Hydro being supplied by Quebec

- Cost to NL for Muskrat power - $40.00
Competing ↑ Quebec
clearing price of NB/NE border

- MF going to be close to 100.00
- if $10,000 to breed even then there is a market
- $25 - 30 power per market

Nalcor - what we expect to get on spot market - $40.00

Ed - yes, there is a market but what it what we build in economic analysis
- high price from NS, hence the link.

** market for 1st ferrewell + then spot ** market for the rest

Free line
Free power
then deal is good

(5)

- additional info provided by Ed [illegible] [illegible]

info [illegible] provided at last meeting

Bob

- No one building gen info NE b/c of pipeline issue
- assume that pipeline n

Itinerary
New York
January 18-19, 2012

Date	Time	Location	Organization/Contacts	Topics
January 18	2-4 pm	Studio 1 W Times Square 1567 Broadway New York	WoodMackenzie: Bob Fleck, VP, Americas Gas & Power Consulting Wade Schauer, Principal Analyst, North America Power Research Conor Bint Energy Sales and Account Manager, Americas (NR Client Manager) NL: Premier Dunderdale Brian Taylor Minister Kennedy Vanessa Newhook Ed Martin Greg Jones	Gas and power outlook with a focus on Northeast Power markets. Major trends in global gas supply, demand and price forecasting and impact on Northeast Power markets.
January 19	9 am	Studio 6 W Times Square 1567 Broadway New York	PIRA Mark Schwartz NL: Premier Dunderdale Minister Kennedy Ed Martin Brian Taylor	Discuss PIRA's availability as expert consultant

Feb 5/12

Robert Martin / talk to Open Line on February 1, 2012

p. 2 - then Hydro - Nal - WB /

p. 3 - "And anybody who characterizes this project as anything other than an export project is wrong." NF -

- cost of power delivered to ratepayer's bill
- Nalcor's response to WB
- price of oil - if you are using a 200 barrel projection

p. 5 - "Let's focus on the price of oil."

KRUNEAU — PRODUCTION LICENSES - S.50 of Atlantic Accord Act

Newfoundland Labrador

Cabinet Room

(1) Under S.50 of CNL Accord a production licence grants to holder an exclusive right to develop licensed area and to produce all oil and gas from licensed area and title to all oil and gas produced.

(2) Where board and governments can set terms and conditions of production licence must be set prior to interest being granted. → No terms and conditions in production licence regarding production of gas of Crown's interest

(3) Term of production licence is 25 years

(4) By statute production licence provides exclusive rights and interest in property → Any interference of rights would be grounds for expropriation

(5) Power would have to be in Accord itself

(6) S.149 - general regulation making powers

(7) S.153 - Order production to stop waste

(2)

Newfoundland Labrador

Cabinet Room

CONCLUSION - No legislative authority for province or CNLOPB to order an existing project to 1) produce gas if it is not Mercury (Hebron and 2) to require gas produced be sold to province where only reason for production of gas is to meet a new requirement of province for gas for a new energy generation requirement

WAYS TO IMPLEMENT BRUNEAU'S PLAN

(1) Voluntary cooperation of license holders

(2) Significant amendments to powers of province & CNLOPB under Accord Acts

NOT DONE WITH BY BRUNEAU

- expected life of all fields shorter than timeframe
- client free operators to operate flaring facilities to produce gas to supply electricity client i.e. province would have to assume ownership & operation
  - → potential costs, complications & environmental liability implications not considered

NATURAL GAS BETTER THAN LABRADOR HYDRO FOR ISLAND ENERGY REQUIREMENTS

DR STEPHEN BRUNEAU

THE TWENTY-EIGHTH IN A SERIES OF ARTICLES DEVELOPED FROM REGULAR PUBLIC FORUMS SPONSORED BY THE LESLIE HARRIS CENTRE OF REGIONAL POLICY AND DEVELOPMENT. MEMORIAL PRESENTS FEATURES SPEAKERS FROM MEMORIAL UNIVERSITY WHO ADDRESS ISSUES OF PUBLIC CONCERN IN THE PROVINCE.

The Government of Newfoundland and Labrador is proposing to meet the expected future demand for electricity on the Island of Newfoundland by constructing a new hydroelectric dam at Muskrat Falls in Labrador and transmission facilities to the Avalon, at a cost currently estimated at $6.2 billion. But what if there was a much less expensive alternative to provide this energy? This article questions why the government of Newfoundland and Labrador is not exploring the potential of utilizing natural gas from the Grand Banks to provide electrical power to the Island of Newfoundland.

In a public presentation given by this author in March 2012,[1] the following points were made:

- The main challenges facing the province's electrical system are the replacement of the Holyrood thermal generating station and the need to keep pace with the Island's slow demand growth.
- There are sufficient gas supplies offshore to generate all the electricity we need on the Island of Newfoundland. There are many reasons why it would be beneficial to the offshore operators over the next decade to have a natural gas marketplace: improved oil recovery, longer development life, additional revenue streams, etc. In fact, expectations are that there will be so much natural gas that the operators will have difficulty pumping it back into storage reservoirs.
- The technology to land gas onshore is commonplace around the world and the natural environment of the Grand Banks (such as icebergs) is not a deterrent to landing gas onshore here.
- The technology for transforming natural gas into electricity is both widely used and scalable – that is, generating stations can easily grow to meet increasing demands for electricity.
- The Crown has all the authority it needs to negotiate (and, if need be, compel) the petroleum producers to land natural gas onshore.
- The better use for Muskrat Falls is to replace oil-fired and coal-fired generating stations in the North American marketplace when and if that marketplace can bear the actual development costs.

In Nova Scotia, the private energy company Encana has just built an offshore natural gas platform, drilled and completed all production wells, constructed a 175-km, 22-inch subsea pipeline, and has begun selling its natural gas to a Liquid Natural Gas facility in New Brunswick – all for a grand total of $700 million.[2] This Scotian shelf project was privately funded, has a gas carrying capacity many times greater than what we would need in Newfoundland if it were being built to satisfy our local electrical needs, and the entire development is based on a gas field that is much smaller than what is available at Hibernia and about one-quarter the size of what lies idle at White Rose.

The Government of Newfoundland and Labrador has stated that using offshore natural gas for domestic power requirements is uneconomical and can't be justified on the basis of our modest electricity requirements, so it is a waste of time to speculate on the timing of Grand Banks natural gas commercialization. And, by extension, that it is best to assume that our offshore oil operators will for decades to come do nothing commercial with the natural gas under their platforms, even as the oil play matures and associated gas volumes become excessive and problematic. Another view is that oil producers in Newfoundland simply do not "want" to commercially develop natural gas resources, thus Newfoundland officials would have to try and force them to do so at our peril, as it might jeopardize future oil exploration and development plans. Is it possible that using Grand Banks gas for Island energy needs will indefinitely be too complex, expensive, and potentially damaging or risky to oil production operations, profits, and planning?

It is more likely that the only danger in having a frank discussion with operators about Island domestic gas use is that it threatens to undermine the delicate financial assumptions and vulnerable market claims supporting the current Muskrat Falls power proposal. This is why offshore oil operators have been given zero-to-negative incentive by the Government of Newfoundland and Labrador to reveal any details on possible gas delivery strategies.

The argument advanced to date by the Government of Newfoundland and Labrador against developing the offshore natural gas resource has been that it is not yet commercially attractive for the operators to connect to the national marketplace for natural gas sales. However, this argument is disingenuous in that it does not address the issue at hand, which is whether it is economical for the Province to negotiate a purchase of, or access to, natural gas to power the Island of Newfoundland. Sadly, the argument that there is no *national* market has served as an excuse for the Crown to avoid the discussions and negotiations necessary for a mutually beneficial trade involving natural gas use on the Island. And this virtual armistice has cleared the way for the "Labrador-hydro-and-wires-around-Quebec" plan to take hold as the only viable alternative for the Island's energy needs.

Originally, Government's Energy Plan (2007) made it clear that the Lower Churchill project was to be the priority because it provides many wide-ranging social, environmental, and industrial benefits to the citizens of Labrador and, to a lesser extent, the people on the Island of Newfoundland. Thus it is a "nation building" policy, insensitive to market realities, that actually created the now-evolved Muskrat project in the first place. More recently, however, the project has been hailed not only as the lowest cost option for Island electricity needs, but as the only viable means which satisfy Holyrood thermal power replacement and future demand growth. It is doubtful that this new project justification can be maintained, but to our great loss it appears that those in charge are so far entrenched in this Labrador-hydro-for-the-Island plan that even if certain financial hardship were now revealed, some alternate justifications would emerge to, once again, make it the only viable choice for patriotic Newfoundlanders.

Here's what we stand to lose by opting out of natural gas:

- The public services and wise investments possible with the billions in savings realized by opting for a less expensive electricity generation method.
- Long term, reliable, inexpensive, scalable, and dispatchable[3] thermal power for the Island.
- In its native form, a new low-cost fuel source for industrial activities and possibly for domestic use.
- The potential to grow into a gas exporter via pipeline interconnection or Liquid Natural Gas production. These in turn would usher in a new era in offshore exploration and development.
- Extended life and productivity of oil developments, which would come about as a result of an additional revenue stream and extra gas handling options.[4]
- The Province's opportunity to have much greater stake in the longer-lived natural gas play than that of oil.
- An avenue through which Labrador shelf hydrocarbons may become monetized.
- A miniscule environmental impact, including a tiny ecological footprint and low risks compared to most other energy sources and megaprojects.
- And an opportunity to develop and manage the Churchill River hydro resources to its full extent and capacity in an economically optimal manner, at a time when markets want it and will pay for it.

What we get by opting out of natural gas is a remote source of seasonal power for the Island, a huge debt beyond all proportion to the domestic utility service that it renders, a very expensive interconnection with Labrador that does not improve system reliability for either Labrador or Newfoundland, and a follow-on interconnect with Nova Scotia which apparently allows us to give them free power and compete with Quebec's cheaper surplus power elsewhere.

Recently it was suggested by a Crown official that the case made for Grand Banks gas utilization at the previously mentioned Harris Centre Forum in March 2012 was appreciated, but flawed for a few reasons:

- *No costs for well-drilling, platform modifications, or ongoing operations were taken into consideration in the assessment.* I raised this point myself during the presentation, stating that it was beyond the abilities of any one person to perform all the analyses required to come up with these costs. For instance, the White Rose/North Amethyst oil developments require new wells and development plan amendments for meeting gas storage challenges. Whether the gas is sold to the Island or not, wells have been drilled and will need to be drilled to handle the surplus gas. Determining

how the costs should be divided is a complex task best performed by operators, Nalcor, and specialized consultants as part of negotiations and due diligence in proposing the "best" method of providing electricity to the Island of Newfoundland.

- *The White Rose FPSO would be too costly to operate, keep and/or replace in order to provide natural gas to the Island beyond 2026.* However, the Canada-Newfoundland and Labrador Offshore Petroleum Board, in November 2001, stated: "The Proponent describes the cost to modify the FPSO for gas export. These costs range from $75 million to $180 million..." Further, the White Rose Benefits Plan actually goes out of its way to explain the routine technology, methods, and costs for converting the Sea Rose FPSO to a gas exporter whilst oil production continues.

- *The gas was freely taken and not paid for, no value was assigned to it, and the operators were paid nothing.* This point can be charitably called a misinterpretation because the assessment given during the presentation made the clear and simple assumption that offshore producers would be paid the North American (Henry hub) market price[5] for produced gas while still stranded at a production facility on the Grand Banks. Actual price would depend greatly on the negotiated division of the capital and operating costs, royalties, and general value trading that would naturally arise between the crown and a supplier. For example, the cost of arranging for a seasonal sale of gas would have to take into consideration the optional and complimentary seasonal reinjection costs, the blending of normal gas handling operations with gas export operations, inter- and intra-field gas movements that may result, new equipment costs, etc. Clearly, the situation does not lend itself well to being over-simplified. It would be a bad idea to speculate from afar as to just what the best arrangement would be and with which operator(s) the best arrangements may be made – but it is quite clear that such arrangements can and could be made to great mutual benefit some time in the next decade.

- On the last claim by the Crown that they have no authority with which to encourage or enforce oil operators to do fair business selling gas for isolated domestic use, recall this from the CNLOPB (Nov. 2001): "... Concern was also expressed during the Public Hearing that White Rose gas might not be made available for export if gas transportation infrastructure was put in place. The Board, on its part, would expect in such circumstances that access to White Rose gas, subject to conservation considerations, would be realized through normal commercial negotiations. As discussed later, the Legislation does, however, provide the Board with authority to issue a Development Order should such a course of action be required."

It could be argued that it is an abdication of responsibility for the Government of Newfoundland and Labrador and its Crown energy company not to insert themselves into natural gas negotiations with Grand Banks operators – as they did into North Amethyst Oil, Hibernia South Oil, and Hebron Oil developments. The timing for such an intervention is perfect as a new Gravity-Based Structure is under consideration for White Rose, the shared costs for which would be of huge mutual benefit as it would provide the ideal location and structural configuration for a future export pipeline. Market prices for oil (being high) and gas (being low) are not in favor of the debt-heavy, long-term hydro-power pact, but are perfectly in step for maximizing local benefit from natural gas utilization. NQ

Dr Stephen Bruneau *is a member of the Faculty of Engineering and Applied Science at Memorial University.*

Reference

Canada-Newfoundland and Labrador Offshore Petroleum Board (CNLOPB), 2011, (www.cnlopb.nl.ca/news/decisions.shtml).

1 During a Harris Centre-sponsored public forum held on the St John's Campus of Memorial University. Watch the video at www.mun.ca/harriscentre/policy/memorialpresents/2012b/2012b.php.
2 *The Chronicle Herald*, "Encana keeps Deep Panuke, at least for now", Feb 17, 2012.
3 That is, available when it is needed, for example during periods of heavy use, like during the winter.
4 The CNLOPB, the White Rose Partners, and Hibernia Management are all on record saying that eventually gas exploitation and sales would extend the economic life of oil production by permitting additional oil to be recovered. (CNLOPB decision reports, 2001 ... 2011).
5 The Henry hub is a distribution hub on the natural gas pipeline system in Erath, Louisiana. Due to its importance, it lends its name to the pricing point for natural gas futures contracts traded on the New York Mercantile Exchange.

Feb 5/12

Natural gas - Two options

① Natural gas from Great Bear
- what is involved ie pipeline, LNG Marine, etc?
- cost of building infrastructure?
- who would build it (ie who owns gas?)
- price of natural gas needed
- any discussions ongoing or past discussions? (ie. has oil company shown any interest?)
- current use of natural gas
- future development
- cost of gas to operate facility

② Import Natural gas
- Henry Hub price versus delivered price
- Water Locke's analysis → has to be 2.2b cheaper
- Small capital cost with long operating cost
- Mill dependent on fuel ex volatility of market, especially trying to compete with Asia and Europe.
- as market tight of lack of pipelines -

Feb 6/12

POTENTIAL QUESTIONS

Need for Power ✓
Least cost options ✓

1. PUB Review ✓
   – Public opposition
1A. Navigant Report ✓

2. ✓ Alternative sources of fuel – natural gas, wind, small hydro

3. Cost overruns ✓

4. Debt to province / Financing of project ✓

5. Electricity rates (rates will double) ✓

6. Deal with Emera (NS getting free power) ✓

7. ✓ Lack of export market

8. No power for Labrador ✓

9. Cost of oil ✓

10. Muskrat Falls vs Holyrood ✓

11. Decision on pension

12. Economic benefits ✓

13. Benefits to Labrador ✓

14. Federal loan guarantee ✓

15. Environmental benefits ✓

OPENING

VOCM Debate
February 8, 2012
Opening

Thank you, and good evening.

The Muskrat Falls project was announced in November 2010.

Whether or not to proceed with the development of Muskrat Falls can be boiled down to two simple questions:

1. Do we need the power?
2. If so, what is the lowest cost option?

Nalcor's position that we need power has been confirmed by the recent report of Manitoba Hydro International. MHI is an independent consultant hired by the PUB, independent of government, and Nalcor. And the MHI report did not take into account the potential $10-$15B in mining developments in Labrador, all which need power.

So, if we need the power – what are the options:

1. develop Muskrat Falls with a Labrador-Island link;
2. refurbish Holyrood in combination with small hydro and wind;
3. develop Gull Island;
4. do nothing.

While we would all like to develop Gull Island, it is not an option at present and without transmission access across Quebec it cannot happen.

To do nothing is not an option, because we need the power. What are we left with – Muskrat Falls or refurbishing Holyrood?

The MHI Report concludes that Muskrat Falls is $2.2B cheaper than the Holyrood option. The cost of oil for Holyrood is expensive. At peak, Holyrood burns 18,000 barrels of oil per day. Experts tell us that the price of oil will continue to rise.

The Muskrat Falls project has significant economic and environmental benefits. At its peak, Muskrat Falls will employ 2,700 people. Closing Holyrood is the equivalent of taking 300,000 cars off the road. Also, we have reached a historic deal with the Innu Nation and all of the people of Labrador will benefit greatly from this deal.

Contrary to the position put forward by the critics, Muskrat Falls will stabilize and eventually reduce power rates. When Muskrat Falls comes online the average Island user's rates will go up $15 a month and then start to decrease over the next 5 years.

Muskrat Falls provides us with an opportunity to provide a secure a bright future for our children and we want to do it right. As a government we will be guided by one simple question – is Muskrat Falls in the best interests of the people of NL?

5. Alternative Sources of Energy

- **Natural Gas – two scenarios**
  1. Build 350 – 600 km pipeline from Grand Banks and other capital cost - minimum $1.0 - $2.0B.
     - Practical issue of who owns the natural gas – province cannot force oil companies to develop/also jurisdictional issues
     - Low price of natural gas at present a deterrent to development
     - natural gas currently selling for less than $3.00 mbtu
     - Price needed to make development viable more than $10.00 - $12.00 mbtu– experts tell us that the price in the next decade will stay around $6.00
     - natural gas is part of our Energy Plan but not a pressing present need to develop
  2. Import Natural Gas – lower capital cost than Muskrat Falls but operating cost high
     - Cost of building LNG terminal - $1-$2B
     - Henry Hub price ($3.00) versus delivered price ($7.00 - $8.00)
     - Not the same - add liquefaction, transport and re-gasification
     - Would have to be at least $2.2B cheaper than MF
     - Dr. Wade Locke's review – natural gas would have to cost less than $5.75hbtu delivered
     - Spot prices being paid in Europe and Asia ($13 - $16) – we cannot compete
     - US now exporting natural gas
     - Small amount needed in Holyrood which makes us a very small player and vulnerable to a volatile market in the future because we cannot compete with China and Europe
     - Still dependent on volatile fuel prices

- **Wind** – Nalcor's position supported by MHI
    - Wind is an important component in NL's future but cannot rely solely on wind
    - Have to integrate into NL system
    - Cannot operate on wind only – best wind in North America but only generateselectricity 40% of the time
    - MHI found that Nalcor's plan to incorporate 80MW into the system by 2025 reasonable and appropriate
    - Maritime Link allows for development of more wind to use as export
- **Small Hydro** – 77 mgw of power (Round Pond – 18 mw, Portland Creek – 23 mw, Island Pond – 30 mw) - MHI's conclusion than Nalcor's estimates of cost reasonable but price would be more than what Nalcor has forecast

6. Other Options

Recall power from Upper Churchill - two issues:

1. **Recall Power Under 92A**

   - Opinion from retired SCC Justice Gerard LaForest that constitutionally we could do this if industrial need existed
   - Province could pass legislation
   - However, Justice LaForest indicated that could still be breach of power contract which is governed by the law of Quebec
   - Met with leading expert in Quebec retired Court of Appeal Justice Jean Louis Baudouin
   - His opinion that only way out of contract was force majeure and recall of power would not qualify
   - Would be liable to Quebec for damages at fair market value
   - Potentially billions of dollars in damages
   - While matter in the courts no power to offer the mining developments

2. **Upper Churchill Block**

   - Upper Churchill produces 5,400MW of energy
   - 225MW, or the Twinco block, goes to IOC (160MW) and Wabush Mines
   - In August 2009 we got back 300MW of energy from Quebec
   - That energy is used for Labrador, which has the lowest electricity rates in Canada
   - In the winter 80MW may be available but we need 500MW to replace Holyrood
   - Extra energy can be used for mining developments in Labrador

7. Electricity Rates – critics who have said repeatedly that power rates will double have deliberately misled the people of NL

- **2000 - $135**
- **2011 - $179**
- **2016 - $217** $15
- **2017 - $232** $14
- **2030 - $246**

Without MF rates will go up $52 between 2017-2030 More than triple 06

- Island electricity rates are currently the 4th lowest in Canada
- Electricity rates will go up between 2011-2017 because of the price of oil
- As more power is needed Holyrood is being used more and therefore more oil used
- Estimated that cost of fuel between 2017-2067 is $6.0B
- Experts advice us that price of oil will continue to rise
- MF eliminates our dependence on oil and price volatility that goes with it
- $6B that will be spent in the province as opposed to paying big oil companies
- MF will stabilize then reduce electricity rates

8. Emera Agreement – NL only requires 40% of MF in early years

- What do we do with excess energy
- Emera will invest $1.2B to build the Maritime Link and gets 170MW of energy – works out to $95MWh escalating 2% per year for 35 years - good price in today's markets
- Emera will also invest $600M in LIL – total investment of $1.8B
- After 35 years NL will own the Maritime Link and the 170MW will be returned
- Deal provides NL with access to markets in Maritimes and US and allows us to escape the geographical stranglehold of Quebec
- If we do not do deal with Emera does not change the fact that NL needs power
- Will export 40% until Labrador mining projects come on stream
- Link allows us to develop more of our wind resources and even small hydro
- Critics argue that there are a lack of export markets – met with US experts in New York
- Export markets exist but one of the effects of shale gas is that you may not get the price you would have gotten years ago
- But this is water that will run down the river
- Sell in the spot markets ($40-$100) until power is needed in Labrador

9. Economic Benefits

- Peak employment in NL in 2013 will be 2,700 people
- $1.4B in total income to labour and businesses in NL
- $737M in taxes during construction to Government of Canada and NL
- $450M income to businesses and labour in Labrador
- Benefits agreement provides Aboriginals and other residents of Labrador with access to jobs

10. Environmental benefits – at peak Holyrood burns 18,000 barrels of oil a day

- Closing Holyrood approximately equivalent to taking 300,000 cars off the road
- Reduction of GHG's by more than 1 million tones annually
- Establishes NL as a climate change leader
- MHI finds that even with $600M for upgrade of Holyrood will not reduce GHG emissions
- MHI may not last until 2041

11. Debt – MF generating station and LIL are assets which produce revenue

- We are investing in the future
- Different type of debt – borrow $10,000 and have a nice vacation vs. having house with a mortgage, or renting an apartment in your home
- Taking on debt to build an asset that has value and will produce revenue for at least 50 years
- Will pay for itself while stabilizing then reducing electricity rates
- Federal loan guarantee will save province approximately $500M
- Good time to borrow money because interest rates are low which means project will cost less
- Federal government support and ability to borrow money for project indicate confidence in the economic viability of the project

12. Decision on Sanction

- To date we have report of EA panel, Navigiant report and MHI report
- Loan guarantee and deal with Emera have to be finalized
- PUB report will be received on March 31
- Debate in the HOA during the Spring session
- Final Decision Gate 3 numbers from Nalcor
- Decision on sanction – Is MF project in the best interests of the people of NL?

CLOSING

VOCM Debate
February 8, 2012
Conclusion

Thank you, John.

I began this evening by asking 2 simple questions and the answers are obvious. One, we need the power and two, Muskrat Falls is the cheapest way to get it.

Sometimes
~~Oftentimes~~ the easiest thing for politicians to do is do nothing. But that is not how we ~~operate as a~~ in our government. We have a vision for the future of this province where we will use our oil revenue to create a renewable resource economy.

Our Energy Plan looks to 2041, and the return of the Upper Churchill. And it is the Upper Churchill deal which hangs like a spectre over Muskrat Falls. While we must learn from the mistakes of the past, as politicians we cannot be paralyzed by fear of making a decision. For those who are elected as leaders must lead. And that is what we will do.

Development of the Lower Churchill has been debated for over 40 years. As a province and as a people, we have never been stronger, or better financially positioned to move forward with the development of Muskrat Falls.

In deciding whether or not to sanction Muskrat Falls we will be guided by one basic principle – doing what is best for the people of Newfoundland and Labrador.

VOCM Debate
Potential Questions

1. PUB Review (public opposition / timelines/ scope of review / criticisms of Nalcor response / hearings)
2. Manitoba Hydro Report (independence / dated data Nov 2010 / only 2 options reviewed / cost overruns)
3. Alternative Sources of Energy (wind/natural gas / small hydro)
4. Cost Overruns
5. Debt to Province
6. Electricity Rates
7. Deal with Emera (NS free power)
8. Lack of Export Market
9. No Power / Benefits for Labrador
10. Cost of Oil
11. Muskrat Falls vs Holyrood
12. Decision on Sanction – what's the rush?
13. Economic Benefits
14. Federal Loan Guarantee
15. Decision Gate 3 – new data / numbers – any additional independent reviews?
16. HOA Debate
17. Demand for energy
18. Joint Environmental Panel
19. Timelines for new power – energy deficits / MF online
20. Critics – has debate become too political?

- Since Emera / Nalcor has been given extension why not this
- system reliability / system integration issues
- will there be another review after the numbers are received?
- will export profits be used to subsidize rates?
- how will MF be financed? how will it pay for itself?

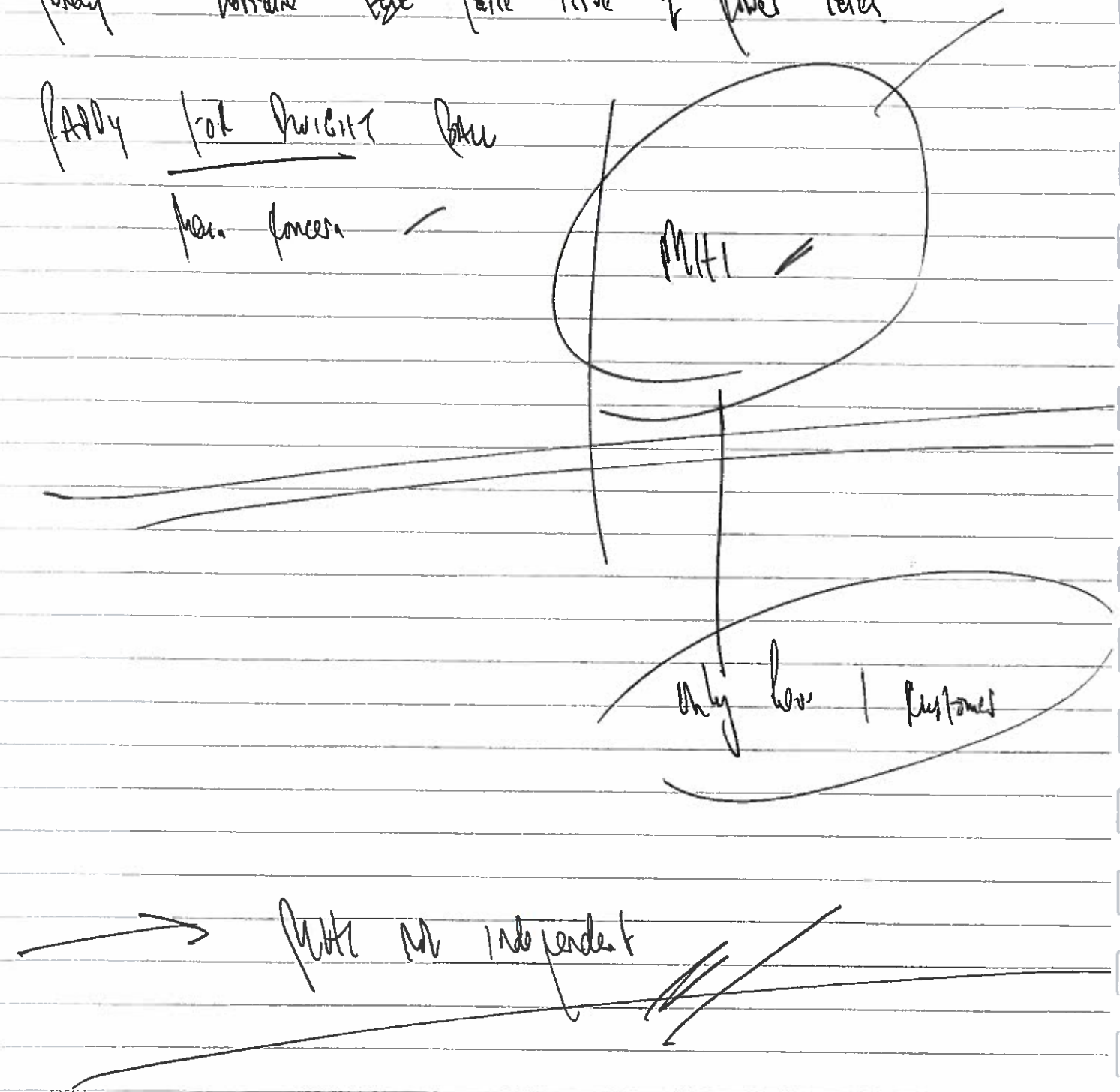
21. Gull Island – 92A / Quebec

22. LCP Expenditures to date

Be Cool | Calm – In Control
Speak to Province – People of Province
Do Not Argue | Do Not Interrupt
Be Respectful

Term sheet w/ Emera
NB limited –
EA level – Energy | economic term
Comment : 9x perceived blem
Power demand for Labrador

– UGA –
– Work proceeding as if a done deal.


MIFI
Only low / customer

Randy — Premier of NS ✓ April 18/11

— Jack Layton ✓

how many reports do we need?

→ New Regional Project

→ Provincial liberal

— Nalcor
— Navigant
— MHI

Need experts

Speaking Notes
The Honourable Jerome Kennedy, Minister of Natural Resources
Greater Corner Brook Board of Trade
February 10, 2012

OPENING

I would like to especially welcome my colleagues in the House, Member for Humber East and Deputy Greaves.

Thank you. It is my pleasure to be here today in Corner Brook to address the very important issue of Muskrat Falls. ~~I will give a brief summary of my speech and then review the issues in greater detail.~~ Earlier today I met with the unions representing workers at CBPPL which ~~I will also address~~ and I will talk about this a little later in my speech.

The Muskrat Falls project was announced in November 2010. Since the announcement there has been much discussion and debate and at times the project has been very vocal. A lot of the criticisms are unfounded and simply attempt to confuse the issue. I suggest that the decision of whether or not to proceed with the development of Muskrat Falls can be boiled down to two simple questions:

1. Do we need the power?
2. If so, what is the lowest cost option?

Nalcor's position that we need power has been confirmed by the recent report of Manitoba Hydro International. MHI is an independent consultant hired by the PUB, independent of government, and Nalcor. And the MHI report did not take into account the potential $10-$15B in mining developments in Labrador, all which need power.

So, if we need the power – what are the options:

1. develop Muskrat Falls with a Labrador-Island link;
2. refurbish Holyrood in combination with small hydro and wind;
3. develop Gull Island;
4. do nothing.

I will also talk about other possible options in my speech. While we would all like to develop Gull Island, it is not an option at present and without transmission access across

Quebec it cannot happen. Four decades of NL politicians have attempted to resolve this issue, without success.

To do nothing is not an option, because we need the power. What are we left with – Muskrat Falls or refurbishing Holyrood?

The MHI Report concludes that Muskrat Falls is $2.2B cheaper than the Holyrood option. The cost of oil for Holyrood is expensive. At peak, Holyrood burns 18,000 barrels of oil per day. Experts tell us that the price of oil will continue to rise.

The Muskrat Falls project has significant economic and environmental benefits. At its peak, Muskrat Falls will employ 2,700 people. Closing Holyrood is the equivalent of taking 300,000 cars off the road. Also, we have reached a historic deal with the Innu Nation and all of the people of Labrador will benefit greatly from this deal.

Contrary to the position put forward by the critics, Muskrat Falls will stabilize and eventually reduce power rates. When Muskrat Falls comes online the average Island user's rates will go up $15 a month, and then stabilize for the next five years.

Muskrat Falls provides us with an opportunity to provide a secure a bright future for our children and we want to do it right. As a government we will be guided by one simple question – is Muskrat Falls in the best interests of the people of NL?

Need For Power

- The Island generating system has a total generating capacity of 1,958MW, with NL Hydro providing 1,518MW of power. Corner Brook Pulp and paper Limited produces 122MW of power.
- Holyrood has capacity to produce 466MW of power, or 31% of power needs for the Island
- There are critics that have argued that with mill closures in Stephenville and Grand Falls and population decline that power is not needed
- 220,000 ratepayers in province
- 17,000 new ratepayers since 2005
- Latest census shows a population increase in province of xxx%
- Significant growth in residential homes / 86% of new homes using electric heat
- Economic growth leading to commercial and industrial growth which means Holyrood will have to be used more
- By 2015 we will start to experience blackouts (capacity deficit)
- By 2020 we will simply not have enough energy (energy deficit)
- MHI report confirmed Nalcor's position that we need the power– said Nalcor under-estimates need for power
- MHI looks at what happens if CBPP closed but does not take into account any new industrial load
- I do not know where MHI comes up with the notion that CBPP is closing. The suggestion is first found in an article written by David Vardy, one of the most vocal critics of the Muskrat Falls Project.
- The confidential document which was leaked to the media notes that Kruger wants to find solutions to ensure the long-term sustainability of the mill. I met with Joseph Kruger earlier and he indicated that he is committed to this mill.

- And as I explained to the union representatives today our government has that same goal. If the unions and Kruger agree on a sustainability plan which ensures the long-term viability of the mill then we will be there to help. Our goal, ladies and gentlemen, is not to use the 124MW of power for any other purpose other than to run the mill in Corner Brook.
- MHI does not consider what is happening in Labrador - $10-15B in potential mining projects, which will need power. I have met with IOC, Tata Steel and Alderon Resources. Although they are not in a position to sign firm contracts (so much depends on China) we have assured them that the 40% of extra energy will be available if needed.
- Muskrat Falls project includes building 250km transmission line from MF to Churchill Falls at a cost of $350M

Least Cost Option

- The one issue that critics of the project continuously skate around is the need for power. The bottom line is that we need the power and need to do something.

- Again, our critics say that we haven't considered all of the options but when we explain what we have found they refuse to accept it. I recognize now that there are a group of people, whether out of political ~~xxx~~, ~~intellectual eletism~~, or ~~xxx~~ belief, will never except that Muskrat Falls is a good project. So, I say to them, tell us what we are going to do to satisfy the need for power.

- Muskrat Falls is $2.2B cheaper

- Muskrat Falls (CPW $6.6B (2017-2067))
  - $2.9B for generating station
  - $2.1B for LIL

- Holyrood / small hydro / wind - $8.8B ($2.2B difference in CPW)
- Best of other options is the Isolated Island alternative
- Cost of oil continues to rise – meetings with PIRA / other analysts
  - Not enough supply to meet demand (90mmbls/day)
  - Continued growth in China
  - Activities in Middle East
  - Global middle class population growing by 80M people each year
- Even if $40 barrel – MF still cheaper than isolated Island by $120M

- MHI's sensitivity analysis for CPW to be even close but Isolated island option costs remain static and no inclusion of carbon pricing
  - capital cost - 50% overrun
  - load demand - CBBP would have to close and 10% overrun
  - fuel prices - oil would have to go to $40 barrel

- Holyrood may not last until 2041 – MF may be the only option
- Inherent risks and uncertainties – but risks and uncertainties will exist no matter what way we proceed – will exist in any major project

- Why we use experts and why Nalcor uses the gated process – try to identify and reduce uncertainties
- If we need the power, we need to do something

Alternative Sources of Energy

- **Natural Gas – two scenarios**
  1. Build 350 – 600 km pipeline from Grand Banks and other capital cost - minimum $1.0 - $2.0B.
     - Practical issue of who owns the natural gas – province cannot force oil companies to develop/also jurisdictional issues
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Recall power from Upper Churchill - two issues:

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Electricity Rates – critics who have said repeatedly that power rates will double have deliberately misled the people of NL

- **2000 - $135**
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- **2017 - $232** $14
- **2030 - $246**

Without MF rates will go up $57 between 2017-2030 More than triple MF

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- Experts advice us that price of oil will continue to rise
- MF eliminates our dependence on oil and price volatility that goes with it
- ~~$6B that will be spent in the province as opposed to paying big oil companies~~
- MF will stabilize then reduce electricity rates
- $232/mth rising to $246 in 2030, will generate enough revenue to pay all costs of MF project, including capital costs, financing costs, operating expenses and also provide a return on equity for NL Hydro
- do we pay ~~for~~ $6.0b on oil ~~for this~~ which goes to big companies or we pay build an asset that we own that has value to our people

Cost Overruns

- More than $1.0B built into the $5B figure (15% contingency and escalation costs)
- MHI's comments on Nalcor's assessment of generating station – the better the initial plans the less likelihood of unknowns and surprises
- Even if 50% overrun (which will not happen) MHI states MF is the least cost option
- MHI's sensitivity analysis demonstrates that Muskrat Falls is the cheapest option
- Cost overruns may be offset by a reduction in borrowing costs. 1/4 to 1/2% of $5B is a lot of money

Debt – MF generating station and LIL are assets which produce revenue

- We are investing in the future
- Different type of debt – borrow $10,000 and have a nice vacation vs. having house with a mortgage, or renting an apartment in your home
- Taking on debt to build an asset that has value and will produce revenue for at least 50 years
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- $1.4B in total income to labour and businesses in NL
- $737M in taxes during construction to Government of Canada and NL
- $450M income to businesses and labour in Labrador
- Benefits agreement provides Aboriginals and other residents of Labrador with access to jobs

Environmental benefits – at peak Holyrood burns 18,000 barrels of oil a day

- Closing Holyrood approximately equivalent to taking 300,000 cars off the road
- Reduction of GHG's by more than 1 million tones annually
- Establishes NL as a climate change leader
- MHI finds that even with $600M for upgrade of Holyrood will not reduce GHG emissions
- MHI noted that Holyrood may not last until 2041

Emera Agreement – NL only requires 40% of MF in early years

- What do we do with excess energy
- Emera will invest $1.2B to build the Maritime Link and gets 170MW of energy – works out to $95MWh escalating 2% per year for 35 years - good price in today's markets
- Emera will also invest $600M in LIL – total investment of $1.8B
- After 35 years NL will own the Maritime Link and the 170MW will be returned
- Deal provides NL with access to markets in Maritimes and US and allows us to escape the geographical stranglehold of Quebec
- If we do not do deal with Emera does not change the fact that NL needs power
- Will export 40% until Labrador mining projects come on stream
- Link allows us to develop more of our wind resources and even small hydro
- Critics argue that there are a lack of export markets – met with US experts in New York
- Export markets exist but one of the effects of shale gas is that you may not get the price you would have gotten years ago
- But this is water that will run down the river
- Sell in the spot markets ($40-$100) until power is needed in Labrador

PUB Review

- Report has to be delivered by March 31 – need to debate in House of Assembly (100 hours of debate / will sit day and night)
- Announced in June 2011 – almost 10 months since announcement and one 3-month extension granted

HOA / One Extension

- PUB were not asked to do a full review, but answer the reference question of whether the isolated option or Muskrat Falls is the least-cost option

PUB asked to do

- Nalcor has provided over 15,000 pages of documents and responded to more than 400 RFI's – PUB has had since June/11 to review documents/reports
- Development of Lower Churchill discussed since the 1970's
- Vic Young's report in 1980 – develop Muskrat Falls at a cost of $3.2B (618MW)
- Tobin/Grimes discussions in late 1990's, early 2000's

Discussion since the 70's

- ~~Muskrat Falls project announced in November 2010~~
- ~~much debate / letter writing/ calls to talk shows / critics have been very vocal~~
- Opposition made it an election issue
- MHI report received on February 1,2012- consultant hired by PUB ~~with~~ no connection to government or Nalcor / very important piece of work that answers reference question – MF is the least cost option

MHI

- Government will take PUB report into account in making decision on sanction
- PUB report only one part of the decision to sanction
- Need to make a decision as a government
- To lose a construction year could add $300-400M to the cost of the project

Decision on Sanction

- How many reports do we need ?
- To date we have report of EA panel, Navigiant report and MHI report
- Dr. Wade Locke is supportive of the project as is would-be Liberal leader Dean MacDonald
- Loan guarantee and deal with Emera have to be finalized
- PUB report will be received on March 31
- Debate in the HOA during the Spring session
- Final Decision Gate 3 numbers from Nalcor

then we will be in a position to make a decision

CLOSING

I began today by asking 2 simple questions and the answers are obvious. One, we need the power and two, Muskrat Falls is the cheapest way to get it.

Sometimes the easiest thing for politicians to do is do nothing. But that is not how Premier Dunderdale and our government operates. We have a vision for the future of this province where we will use our oil revenue to create a renewable resource economy.

Our Energy Plan looks to 2041, and the return of the Upper Churchill. And it is the Upper Churchill deal which hangs like a spectre over Muskrat Falls. While we must learn from the mistakes of the past, as politicians we cannot be paralyzed by fear of making a decision. For those who are elected as leaders must lead. And that is what we will do.

Development of the Lower Churchill has been debated for over 40 years. As a province and as a people, we have never been stronger, or better financially positioned to move forward with the development of Muskrat Falls.

In deciding whether or not to sanction Muskrat Falls we will be guided by one basic principle – doing what is best for the people of Newfoundland and Labrador. And, based on what I know today, I have no problem in concluding that Muskrat Falls is in the best interests of the people of the province.

Speaking Notes
St. John's Northwest Rotary
February 14, 2012

OPENING

Thank you. It is my pleasure to be here today to address the very important issue of Muskrat Falls.

The Muskrat Falls project was announced in November 2010. Since the announcement, there has been much discussion and debate and opponents of the project have been very vocal. ~~A lot of their criticism is unfounded and simply confuses the issues.~~

I suggest that the decision of whether or not to proceed with the development of Muskrat Falls can be boiled down to two simple questions:

1. Do we need the power?
2. If so, what is the lowest cost option?

Nalcor's position that we need power has been confirmed by the recent report of Manitoba Hydro International. MHI is an independent consultant hired by the PUB, independent of government, and Nalcor. And the MHI report did not take into account the potential $10-$15B in mining developments in Labrador, all of which need power.

So, if we need the power – what are the options?

1. develop Muskrat Falls with a Labrador-Island link;
2. refurbish Holyrood in combination with small hydro and wind;
3. develop Gull Island;
4. do nothing.

I will also talk about the possible option of natural gas a little later in my speech. While we would all like to develop Gull Island, it is not an option at present as without

transmission access across Quebec it cannot happen. Four decades of NL politicians have attempted to resolve this issue, without success.

To do nothing is not an option, because we need the power. What are we left with – Muskrat Falls or refurbishing Holyrood?

The MHI Report concludes that Muskrat Falls is $2.2B cheaper than the Holyrood option.

Muskrat Falls provides us with an opportunity to provide a secure a bright future for our children and we want to do it right. As a government we will be guided by one simple question – is Muskrat Falls in the best interests of the people of NL?

Need For Power

- The Island generating system has a total generating capacity of 1,958MW, with NL Hydro providing 1,518MW of power.
- Holyrood has capacity to produce 466MW of power, or 31% of power needs for the Island
- Critics have argued that with mill closures in Stephenville and Grand Falls and population decline that power is not needed
- 230,000 ratepayers in province
- 17,000 new ratepayers since 2005
- Latest census shows a population increase in province of 1.8% and housing starts are at an all-time high – 86% of new homes using electric heat
- Economic growth is leading to commercial and industrial growth which means Holyrood will have to be used more, from 15 – 25% at present, to its full rated capacity
- By 2015 we will start to experience blackouts (capacity deficit)
- By 2020 we will simply not have enough energy (energy deficit)
- MHI report confirmed Nalcor's position that we need the power– said Nalcor under-estimates need for power
- In assessing the need for power, MHI does not consider what is happening in Labrador - $10-15B - potential mining projects all of which will need power. I have met with IOC, Tata Steel and Alderon Resources. Although they are not in a position to sign firm contracts at present from Muskrat Falls (so much depends on China) we have assured them that the 40% of extra energy will be available if needed.
- The current capital cost of the Muskrat Falls project includes building 250km transmission line from MF to Churchill Falls at a cost of $350M

Least Cost Option

- The one issue that critics of the project continuously skate around is the need for power. The bottom line is that we need the power and need to do something.

- Again, our critics say that we haven't considered all of the options but when we explain what we have found they refuse to accept it. I recognize now that there are a group of people, whether out of political motivation or honest belief, that will never accept that Muskrat Falls is a good project. So, I say to them, tell us what we are going to do to satisfy the need for power.

- Muskrat Falls is $2.2B cheaper than the Islolated Island Option

- Muskrat Falls (CPW $6.6B (2017-2067))
  - $2.9B for generating station
  - $2.1B for LIL

- Holyrood / small hydro / wind - $8.8B ($2.2B difference in CPW)

- Best of "other" options is the Isolated Island alternative – use of small hydro and wind

- Holyrood is so expensive because the cost of oil continues to rise – meetings with PIRA / other analysts in New York over the last 2 months
  - Not enough supply to meet demand (90mmbls/day)
  - Continued growth in China
  - Activities in Middle East
  - Global middle class population growing by 80M people each year

- MHI's sensitivity analysis says even if $40 barrel – MF still cheaper than isolated Island by $120M

- MHI's sensitivity analysis for CPW to be even close but Isolated island option costs remain static and no inclusion of carbon pricing
  - capital cost - 50% overrun
  - load demand - CBBP would have to close and 10% overrun
  - fuel prices - oil would have to go to $40 barrel

- Holyrood may not last until 2041 – MF may be the only option

- Inherent risks and uncertainties – but risks and uncertainties will exist no matter what way we proceed – will exist in any major project
- Example of Hibernia – no one gave it a chance to succeed - another make work project – to date, province has made billions and Hibernia has produced more than 1.0 billion barrels of oil
- Why we use experts and why Nalcor uses the gated process – try to identify and reduce uncertainties
- If we need the power, we need to do something. It is that simple

Natural Gas

A number of people like Cabot Martin argue that we have not examined the use of Natural Gas to run Holyrood. Cabot Martin maintains that (1) we can build a pipeline from the Grand Banks or (2) import natural gas from the United States.

I became Minister of Natural Resources on November 1, 2011. Since then I have traveled to New York twice where I met with PIRA, a leading oil-forecasting company and Wood MacKenzie, a worldwide energy advisor. During the meetings we discussed extensively the effects of shale gas on present and future pricing of natural gas, the impact on North American energy markets and the worldwide market for natural gas.

I have met with industry representatives who have explored and continue to explore developing our offshore natural gas. I am told that there are no plans to develop natural gas in the short term as it is not practical or feasible. Now, ladies and gentleman, oil companies are in the business of making money – today. Do you honestly think that they would not be developing natural gas today if it could be done?

In his most recent commentary, Cabot Martin writes "the following discussion focuses on natural gas, it does not seek to "prove" that the natural gas option is "feasible". But when he is told something is not feasible he does not accept it.

So, let's examine Cabot Martin's suggestions:

- **Natural Gas – two scenarios**
  1. Build 350 – 600 km pipeline from Grand Banks and other capital cost - minimum $1.0 - $2.0B.
     - Practical issue of who owns the natural gas – province cannot force oil companies to develop/Atlantic Accord provides for joint management of the NL offshore and requires federal and provincial concurrence on

development decisions. Further, the Atlantic Accord does not provide government with any legislative authority to order an existing project to deliver gas to the province for the generation of energy.

- Low price of natural gas at present a deterrent to development
- natural gas currently selling for less than $3.00 mbtu
- Price needed to make development viable more than $10.00 - $12.00 mbtu– experts tell us that the price in the next decade will stay around $6.00
- natural gas is part of our Energy Plan but not a pressing present need to develop and we cannot force the oil companies to develop

2. Import Natural Gas – lower capital cost than Muskrat Falls but operating cost high

- Cost of building LNG terminal - $1-$2B
- Henry Hub price ($3.00) versus delivered price
- Not the same - add liquefaction, transport and re-gasification
- Would have to be at least $2.2B cheaper than MF
- Dr. Wade Locke's review – natural gas would have to cost less than $5.75Mbtu delivered to be cheaper than Muskrat Falls
- Cabot Martin says LNG could be delivered to Holyrood for about $8.75 to $9.00 per 1000 cubic feet. So if Dr. Locke is incorrect then Mr. Martin agrees that natural gas will be far more expensive then Muskrat Falls.
- Spot prices being paid in Europe and Asia ($13 - $16) – we cannot compete – Cabot Martin speculates that this gap between Asian markets and Henry Hub will decrease but we have not heard that form the experts
- U.S. now exporting natural gas
- Small amount needed in Holyrood which makes us a very small player and vulnerable to a volatile market in the future because we cannot compete with China and Europe. Why would a company sell gas to NL when they can obtain higher prices in the European and Asian markets?

- Still dependent on volatile fuel prices and does nothing to address need for power. Even if natural gas was an option it does nothing to provide power for the mining developments of Labrador whereas Muskrat Falls meets the Island needs and provides power for mining developments. So tell us, Cabot Martin how are we to satisfy Labrador with Natural Gas, or should we use Natural Gas for Holyrood and develop Muskrat Falls for Labrador?

We have met with independent experts, market analysts and industry representatives. We have heard from Dr Wade Locke – none of what we have heard supports Cabot Martin's contention

- **Wind** – Nalcor's position supported by MHI
    - Wind is an important component in NL's future as outlined in our Energy Plan but cannot rely solely on wind
    - Have to integrate into NL system
    - Cannot operate on wind only – best wind in North America but only generates electricity 40% of the time
    - MHI found that Nalcor's plan to incorporate 80MW into the system by 2025 reasonable and appropriate
    - Maritime Link allows for development of more wind to use as export

- **Small Hydro** – 77 mw of power (Round Pond – 18 mw, Portland Creek – 23 mw, Island Pond – 30 mw) - MHI's conclusion than Nalcor's estimates of cost reasonable but price would be more than what Nalcor has forecast

- Again I say to the critics, what are these other options they have been talking about and that we have not examined?

Electricity Rates

In the article I referred to earlier, the comment was made that Nalcor is "low balling" the real cost of Muskrat power. This is another attempt to confuse and obfuscate. What people are interested in is what Muskrat Falls will do for their electricity rates. What seniors, single mothers and families are interested in is what it will cost them

Electricity Rates – critics who have said repeatedly that power rates will double have deliberately misled the people of NL

Based on what we know today and subject to DG3 numbers:

- **2000 - $135**
- **2011 - $179**
- **2016 - $217** $15
- **2017 - $232** $14
- **2030 - $246**

Our numbers are out there –prove us wrong: Without MF rates will go up $57 between 2017-2030

- Island electricity rates are currently the 4th lowest in Canada – Labrador has the lowest electricity rates in Canada
- Electricity rates will go up between 2011-2017 because of the price of oil
- As more power is needed Holyrood is being used more and therefore more oil used. At its peak Holyrood burns 18,000 barrels of oil per day
- Estimated that cost of fuel between 2017-2067 is $6.0B
- Experts advice us that price of oil will continue to rise
- MF eliminates our dependence on oil and price volatility that goes with it
- MF will stabilize then reduce electricity rates
- $232/monthly rising to $246 in 2030, will generate enough revenue to pay all costs of the project including capital costs, financing costs, operating expenses, and still ensure a return on equity for the province
- So we can spend $6.0 billion on oil which goes to big companies or we can build an asset in the province which has value for our people

Cost Overruns

- More than $1.0B built into the $5B figure (15% contingency and escalation costs)
- MHI's comments on Nalcor's assessment of generating station – the better the initial plans the less likelihood of unknowns and surprises
- Even if 50% overrun (which will not happen) MHI states MF is the least cost option
- MHI's sensitivity analysis demonstrates that Muskrat Falls is the cheapest option
- Cost overruns may be offset by a reduction in borrowing costs -. 1/4 to 1/2% of $5B is a lot of money
- Critics are concerned about overruns but each year that we delay the project add another $300-400M to the overall cost

Debt – MF generating station and LIL are assets which produce revenue

- We are investing in the future
- Different type of debt – borrow $10,000 and have a nice vacation vs. having house with a mortgage, or renting an apartment in your home
- Taking on debt to build an asset that has value and will produce revenue for at least 50 years
- Will pay for itself while stabilizing then reducing electricity rates
- Federal loan guarantee will save province approximately $500M
- Good time to borrow money because interest rates are low which means project will cost less
- Federal government support and ability to borrow money for project indicate confidence in the economic feasibility of the project

Economic Benefits

- Peak employment in NL in 2013 will be 2,700 people
- $1.4B in total income to labour and businesses in NL
- $737M in taxes during construction to Government of Canada and NL
- $450M income to businesses and labour in Labrador
- Benefits agreement provides Aboriginals and other residents of Labrador with access to jobs

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PUB Review

- Report has to be delivered by March 31 – need to debate in House of Assembly
- Announced in June 2011 – almost 10 months since announcement and one 3-month extension granted
- ~~PUB were not asked to do a full review, but answer the reference question of whether the isolated option or Muskrat Falls is the least-cost option~~
- Development of Lower Churchill discussed since the 1970's
- Vic Young's report in 1980
- ~~Tobin/Grimes discussions in late 1990's, early 2000's~~
- ~~Opposition made it an election issue.~~
- I want to briefly discuss the Vic Young project recommendation in 1980. It is interesting to note that David Vardy in his August 2011 article thanks Vic Young, among others, for his "helpful comments". It would be interesting to know if Vic Young brought it to Mr. Vardy's attention that in 1980 Mr. Young recommended proceeding with Muskrat Falls. At the time the Muskrat Falls project, including transmission, would have cost $3.2B for 618MW or power, yet here we are 30 years later still trying to develop Muskrat Falls.

Decision on Sanction

- How many reports do we need?
- To date we have report of EA panel, Navigiant report and MHI report
- The late Jack Layton, leader of the federal NDP supported the project while Loraine Michael does not. The provincial Liberals do not support the project but would-be Liberal leader Dean MacDonald does.
- Loan guarantee and deal with Emera have to be finalized
- PUB report will be received on March 31
- Debate in the HOA during the Spring session
- Final Decision Gate 3 numbers from Nalcor then we will be in a position to make our decision

CLOSING

I began today by asking 2 simple questions and the answers are obvious. One, we need the power and two, Muskrat Falls is the cheapest way to get it.

Sometimes the easiest thing for politicians to do is do nothing. Why would we want to do a bad deal? So we could simply say forget the Muskrat Falls project and leave it for a future government to deal with the issue. But that is not how Premier Dunderdale and our government operates. We have a vision for the future of this province where we will use our oil revenues to create a renewable resource economy.

Our Energy Plan looks to 2041, and the return of the Upper Churchill. And it is the Upper Churchill deal which hangs like a spectre over Muskrat Falls. While we must learn from the mistakes of the past, as politicians we cannot be paralyzed by fear of making a decision. For those who are elected as leaders must lead. And that is what we will do.

As stated earlier, the development of the Lower Churchill has been debated for over 40 years. As a province and as a people, we have never been stronger, or better financially positioned to move forward with the development of Muskrat Falls. As Ed Martin, the President and CEO of Nalcor said yesterday at the PUB "the stars are lining up".

In deciding whether or not to sanction Muskrat Falls we will be guided by one basic principle – doing what is best for the people of Newfoundland and Labrador. And, based on what I know today, I have no problem in concluding that Muskrat Falls is in the best interests of the people of the province.

Speaking Notes
Clarenville Area Chamber of Commerce
February 29, 2012

OPENING

Thank you. It is my pleasure to be here today to address the very important issue of Muskrat Falls.

The Muskrat Falls project was announced in November 2010. Since the announcement, there has been much discussion and debate and opponents of the project have been very vocal. A lot of their criticism is unfounded and simply confuses the issues.

I suggest that the decision of whether or not to proceed with the development of Muskrat Falls can be boiled down to two simple questions:

1. Do we need the power?
2. If so, what is the lowest cost option?

Nalcor's position that we need power has been confirmed by the recent report of Manitoba Hydro International. MHI is an independent consultant hired by the PUB, independent of government, and Nalcor. And the MHI report did not take into account the potential $10-$15B in mining developments in Labrador, all of which need power.

So, if we need the power – what are the options?

1. develop Muskrat Falls with a Labrador-Island link;
2. refurbish Holyrood in combination with small hydro and wind;
3. develop Gull Island;
4. do nothing.

I will also talk about the possible option of natural gas a little later in my speech. While we would all like to develop Gull Island, it is not an option at present as without

transmission access across Quebec it cannot happen. Four decades of NL politicians have attempted to resolve this issue, without success.

To do nothing is not an option, because we need the power. What are we left with – Muskrat Falls or refurbishing Holyrood?

The MHI Report concludes that Muskrat Falls is $2.2B cheaper than the Holyrood option.

Muskrat Falls provides us with an opportunity to provide a secure a bright future for our children and we want to do it right. As a government we will be guided by one simple question – is Muskrat Falls in the best interests of the people of NL?

Need For Power

- The Island generating system has a total generating capacity of 1,958MW, with NL Hydro providing 1,518MW of power.
- Holyrood has capacity to produce 466MW of power, or 31% of power needs for the Island
- Critics have argued that with mill closures in Stephenville and Grand Falls and population decline that power is not needed
- 230,000 ratepayers in province
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- In assessing the need for power, MHI does not consider what is happening in Labrador - $10-15B - potential mining projects all of which will need power. I have met with IOC, Tata Steel, Alderon Resources and Labrador Iron Sands. Although they are not in a position to sign firm contracts at present for power from Muskrat Falls (so much depends on China) we have assured them that the 40% of extra energy will be available if needed.

Least Cost Option

- The one issue that critics of the project continuously skate around is the need for power. The bottom line is that we need the power and need to do something.

- Again, our critics say that we haven't considered all of the options but when we explain what we have found they refuse to accept it. I recognize now that there are a group of people, whether out of political motivation or honest belief that will never accept that Muskrat Falls is a good project. It is easy to identify the political posturing. For example, the late Jack Layton, leader of the federal NDP supported the project while Loraine Michael does not. Former provincial NDP leader and current MP Jack Harris supports the project. The provincial Liberals do not support the project but would-be Liberal leader Dean MacDonald does.
- So, I say to them, tell us what we are going to do to satisfy the need for power.
- Muskrat Falls is $2.2B cheaper than the Islolated Island Option

- Muskrat Falls (CPW $6.6B (2017-2067))
  - $2.9B for generating station
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- Holyrood / small hydro / wind - $8.8B ($2.2B difference in CPW)

- Best of "other" options is the Isolated Island alternative – use of small hydro and wind

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  - capital cost - 50% overrun
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- fuel prices - oil would have to go to $40 barrel

- Holyrood may not last until 2041 – MF may be the only option
- Inherent risks and uncertainties – but risks and uncertainties will exist no matter what way we proceed – will exist in any major project
- Example of Hibernia – no one gave it a chance to succeed - another make work project – to date, province has made billions and Hibernia has produced more than 1.0 billion barrels of oil
- Why we use experts and why Nalcor uses the gated process – try to identify and reduce uncertainties
- If we need the power, we need to do something. It is that simple

Natural Gas

Some people argue that we have not examined the use of Natural Gas to run Holyrood. They maintain that (1) we can build a pipeline from the Grand Banks or (2) import natural gas from the United States.

I became Minister of Natural Resources on November 1, 2011. Since then I have traveled to New York twice where I met with PIRA, a leading oil-forecasting company and Wood MacKenzie, a worldwide energy advisor. During the meetings we discussed extensively the effects of shale gas on present and future pricing of natural gas, the impact on North American energy markets and the worldwide market for natural gas.

I have met with industry representatives who have explored and continue to explore developing our offshore natural gas. I am told that there are no plans to develop natural gas in the short term as it is not practical or feasible. Now, ladies and gentleman, oil companies are in the business of making money – today. Do you honestly think that they would not be developing natural gas today if it could be done?

Also, since we have given production licenses to these oil companies we cannot order them to develop the natural gas and build a pipeline to Holyrood.

Natural gas is part of our Energy Plan but not a pressing present need to develop and we cannot force the oil companies to develop.

1. Import Natural Gas – lower capital cost than Muskrat Falls but operating cost high

    - Dr. Wade Locke's review – natural gas would have to cost less than $5.75Mbtu delivered to be cheaper than Muskrat Falls
    - U.S. now exporting natural gas

Kennedy, Jerome

From: Power, Glenda
Sent: Tuesday, February 21, 2012 10:20 AM
To: Taylor, Brian W.; Kennedy, Jerome
Subject: Fw: Fwd: Lower Churchill Project

Sent Via BlackBerry

From: Marilyn Boone <Marilyn.Boone@CBC.CA>
To: Power, Glenda
Sent: Tue Feb 21 10:16:06 2012
Subject: Fwd: Lower Churchill Project

Marilyn Boone
Producer
Here and Now, St. John's
576-5117
682-1980

>>> HereandNowNL 2/21/2012 9:21 AM >>>

>>> Brian Peckford <brianpeckford@gmail.com> 2/21/2012 2:01 AM >>>

Open letter to Premier Kathy Dunderdale

Dear Premier:

Like other Newfoundlanders, I have been following the announcement of your administration's intention to develop the Lower Churchill River. Of course, as you know, I was heavily involved in this enterprise when I was Minister of Mines and Energy and as Premier. Many meetings over many years were held with Quebec Government representatives and Quebec Hydro officials. A deal was never consummated; actual engineering work was done by Techmont Engineering on the technical feasibility of laying an underwater cable across the Strait of Belle Isle and many discussions about the Anglo Saxon route which is now a part of your present proposal. Legislation was passed creating the Lower Churchill Development Corporation, a Federal Provincial body, which unfortunately was mysteriously allowed to expire. This Federal Provincial Corporation could have been of great assistance over the past few years.

That is a little history; important, I think, for context, if nothing else.

Times have changed. In the sixties and seventies and even eighties hydro was king. This is not necessarily so today.

Some have expressed concern over the announced project. I, too, have my concerns.

Let me be clear. It may be the best project ever. But the project has to be tested objectively, especially given the size and complexity of the project, and the severe financial implications on the Province if the contingency identified is insufficient.

I submit that appropriate impartial assessment to this point has been lacking. Here are my reasons:

Number one:

It is unfortunate that the project was referred to the PUB. Frankly, the Board and its staff do not have the expertise to evaluate this project. The Board, as we all know, is really a regulatory body dealing with rates for electricity, motor vehicle issues and petroleum pricing as outlined in its mandate; it is not structured to assess a multi billion dollar project, examining it against other modes of generation and transmission. I admit it is a gray area and the Electrical Power Control Act, technically, provides the legislative power to so refer. But, I submit, it never was the intent of any legislation dealing with the PUB to make it the chief reference body on a project of this nature and scope. It involves much more than rates! In any case, with all due respect to the Board Commissioners and staff, the expertise does not reside at the Board to do the job. I think we can all agree on that. It is really unfair to the Board to thrust this project in their lap.

Number two:

The reference question precludes a number of options; it simply asks for the lower Churchill project to be tested against one other alternative: oil, a little wind and with some gas turbines for peak power. Unfortunately, the question had already provided the answer.

A far more comprehensive question needs to be answered involving other options, especially as it relates to natural gas. This will take some independent, expert study and analysis. It is true that natural gas is referenced in the NALCO submission and the Navigant Report, but in the former case it gets a scant eight pages referencing a 10 year old study (which is not completely relevant) and in the latter, a mere three pages. The only independent study, the Manitoba Hydro International report, was precluded from examining any other options. This is blatantly insufficient!

Number three:

This is NALCOR 's baby and I suspect, given the culture of its predecessor, or should I say its subsidiary, there pervades a bias for hydro power. Given the history, this is natural; the projects of Bay D'Espoir, Upper Churchill, Upper Salmon, Hind's Lake, and Cat Arm are all successful hydro projects in which Newfoundland Hydro was involved . And, of course, there are the paper mills' hydro developments.

Holyrood, in contrast, was and is the poor cousin, an unfortunate necessary appendage as the Province grew. This is not a criticism. It is simply the way things developed. Newfoundland Hydro did a great job in bringing those projects on stream, no doubt about it. But as a result, unbiased advice here is questionable.

Number four:

There is deep concern in some quarters of the real likelihood of major cost overruns and the impact this could have on the financial integrity of the Province. Almost all major projects these days seem to have significant cost control problems due to labor issues and material supply. I suspect this project will be no different given the competition for skills resulting from the high level of construction activity present and projected in the Province.

Premier, as a consequence of the above, there is an unease abroad; everyone wants to believe this is the best way to proceed, but some are unsure that the level of certainty necessary for a project of this size to proceed has been established.

I recommend to you, therefore, that the Province establish a panel of experts to review all the work that has been done and to specifically address the natural gas options and test their viability and cost against the Lower Churchill Project as presently defined.

2/21/2012

A lot has changed in this area as a result of the shale gas phenomenon of recent years. The whole North American energy equation has been turned on its head.

What is the preferred project now to meet the Province's electrical needs for the next three decades? Hence, a key question, among others, is:

Should the expiry of the Upper Churchill contract in thirty years be a factor in developing energy policy now? This is really not a long time in this context.

Thirty years from now Newfoundland and Labrador will have substantial very low cost hydro power, more than 5000 MW, triple what we will need, making this among the cheapest power on the planet. The present project talks about only twenty per cent (20%) of this.

Is the Province so focused on the Lower Churchill now that it is failing to see the long term benefits (finally) of the Upper Churchill Contract expiration, and hence the possibility of a pristine Lower Churchill basin? I don't know, but I think it needs to be fully and independently explored. Should the question be framed as to how we can best get to 2041 to take advantage of this already developed cheap hydro?

This panel should be highly qualified people of international stature in energy policy including production, electrical generation / transmission and energy finance. They would be given all necessary support that they may need to conduct their work. A final report in six months seems reasonable. Of course, this would be a totally transparent exercise.

I do realize that under the present conditions that have been established the project is quite a distance ' down the road.' What I am recommending is to change these conditions and allow for a full, independent, transparent, expert analysis to be undertaken.

I believe some greater certainty is required and that the present proposal be subject to a broader set of questions undertaken by an objective, independent, transparent process.

People talk of legacy. Let's be doubly sure that only water runs down to the Lower part of the Churchill River and not the legacy of the Upper.

Brian Peckford

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March 30/12 meeting in Premier's office - Nolan, Robert, Brian, Charles Jim, Ed, Gilbert, Dan

1. Environment Assessment - ✓
2. hub
3. EIMEMA
4. Federal loan Guarantee

→ Ed goes through deck
→ 1-2% model for new built in Edmonton
→ built model turbines

- $6.7B w/o contingency
- $7.3B includes 9% contingency

Effect of Federal Loan Guarantee

CLW - difference btw MF : Ridgewood is $2.2B

↑

IG3 - $6.9 (MF) vs. $8.8 (Ridgewood) =

(2)

Issues re: Rob Report – only relying on the negative
/ undermine [contract]
/ ~~oth~~ outline examples of being biased.

↓

Yvonne Jones / would support MF if all power would go to Labrador
/ ok to use offshore oil revenues for all of the province but Labrador revenues should only be used for Labrador
/ or buy power from Quebec (only price, who builds / pays for transmission lines, dealing w/ Hydro Quebec' [illegible])
/ MF the answer to Labrador mining projects

Energy agreements / all details except for 3 items
/ [illegible] update to [illegible]
(1) tariffs – long as we go various [illegible] for the whole thing (firm)
(2) HQ clause / right to acquire the energy
/ more detail around acquisition price (need formula)
(3) supplemental energy / want to buy more power
/ long tariffs to NE – not $50
/ NE can buy it / not $60.
/ "you will need to use and not the [illegible] now"
/ want to [illegible] NE (prerogative → HOA

NLH agreements /

Federal loan guarantee – don't want to give loan guarantee only for NL
– if Emera deal doesn't go through or NS doesn't approve
– need loan guarantee before sanction + individual guarantee don't work.

March 29/12 Meeting w/ ED ①

① Flesby works - ED needs for idea re. position

② In progress position activities
- Emera
- federal loan guarantee

③ Cost - 6.2B - 2010 (DG2) - 15% contingency
6.2B - 2012 (DG2)
6.8B - 2012 (current)
→ some escalation / all contingency gone

④ → 8-9% contingency needed

C/W

DG2 - 6.652

Isolated Island - 8.81

] ~2.2B

loan guarantee - 2% - 630 m
3% - 900 m

DG3 - ~6.964

Isolated Island - 9.4B

New C/W - ~2.1B

Issues w/ Emera

① sell more power
② tariffs
③ free w/ power after 35 years
④ Quebec clause

RATE MITIGATION /

EARLY WORKS / earliest in the field " May 1
/ road construction (2-4 mths)
/ $20 M / 9/8 ?