Presentation To:

Commission of Inquiry Respecting The Muskrat Falls Project

July 2019

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1 MPA Background

Morrison Park Advisors

Company Overview

- Independent, partner-owned investment bank based in Toronto
- 14 professionals
- Deep expertise in utility and power industry transactions and corporate finance
- Clients include private companies, public companies < $CAD 100 million in market capitalization, Not-for-profit organizations, Governments and Agencies

Pelino Colaiacovo, Managing Director

- With Morrison Park since 2005
- Numerous engagements to buy, sell, and raise capital for power industry clients
- Appearances before regulators in Manitoba (NFAT) and Nova Scotia (Maritime Link), advice to governments and agencies in Ontario, Alberta, Saskatchewan, BC
- Prior to Morrison Park, Chief of Staff to the Ontario Minister of Energy, during a period of significant industry restructuring
- BA, LLb

2 Scope of Work

MPA Scope of Work

I. Review the role and importance of critical financial assumptions in the 2012 decision-making process, including domestic load, fuel prices and energy export prices

II. Comment on the use of the “cumulative present worth” (CPW) metric, in the context of alternatives and the conclusions that may have been drawn from those alternatives

III. Comment on the decision to dismiss all alternatives other than the chosen plan and the “isolated island plan”, and in particular the possibility of importing electricity from Quebec

IV. Comment on the potential relevance, in financial terms, of the Muskrat Falls Project on the future of the Churchill Falls Generating Station, in particular after the expiry in 2041 of the existing arrangements

Fairness Opinion Structure

MPA is a financial advisory firm, and as such the most typical method for us to evaluate a project proposal is through the “Fairness Opinion” structure:

- From the perspective of a particular stakeholder, is the proposed project at least as financially favourable as the available alternatives?

- Given the costs, benefits, risks and opportunities arising from the project, is each stakeholder, and in particular the client stakeholder, bearing costs and risks in exchange for a share of benefits and opportunities that is proportional to other stakeholders?

The first test is primary. In simple transactions, no further analysis may be required than the pricing of alternatives. However, where project options are complex, and where there is a high degree of uncertainty of future outcomes, the proportionality test can provide valuable insight.

Financial Models and Future Projections

Financial models are in essence just complex mathematical algorithms: assumptions are fed in, and outputs result. The quality and sophistication of the assumptions fundamentally drives the outputs.

- The Muskrat Falls Project covers a period of 50 years of operation plus initial construction, which requires that assumptions be made about a variety of inputs for that time horizon.

- Forward trading markets typically max out at 5 to 10 years (e.g., natural gas, petroleum). “Long-term” forecasts are often for 10 to 20 year periods. A “forecast” for a 50-year time horizon is nearly meaningless.

- Technology change can fundamentally alter the economic landscape over 50 years, in completely unpredictable ways.

A modeling exercise, like the one undertaken for the Muskrat Falls Project, should be approached with humility. It is a tool useful for decision-making, and nothing more. It is NOT a prediction.

3 Financial Analysis of Project Alternatives

Typical Analytical Framework

1. Define the primary need which the Project is meant to satisfy

2. Identify the universe of potential options to satisfy the need
   a) Eliminate all options that are obviously impractical, illegal in the jurisdiction, or otherwise inappropriate

3. Identify the costs, benefits, risks and opportunities arising from each remaining option
   a) Thorough analysis will highlight everything that needs to be taken into account in financial models, or other methods of analysis

4. Prepare financial models for all practical options
   a) Eliminate all options that are obviously inferior
   b) Where a financial model cannot take into account all costs, benefits, risks and opportunities, consider other methods of analysis to separately address the issues

Typical Analytical Framework (cont)

5. Perform sensitivities on all variables to determine critical drivers of outcomes

6. Prepare scenarios for the future using all critical variables
   a) Test each financial model against each scenario
   b) Alternatively, use a Monte Carlo model where testing every scenario is impractical

7. Analyze the outcomes across all scenarios
   a) For each option, consider the range of favourable and unfavourable scenarios, and the likelihood of each
   b) Examine whether “project failure” occurs in any scenario, the likelihood of occurrence, and the consequences for stakeholders
   c) Consider what mitigation is possible in unfavourable scenarios for each option

8. Make a judgement about the superior alternative

Typical Audiences for Analysis

Investors: choosing to pursue a project, or not; investing the equity capital and expecting returns over time

Customers/Regulators: will be responsible for paying the bills of the project over time, and may not have recourse to any form of mitigation

Government: often concerned with ancillary benefits of projects, such as tax revenue, fees/charges/licenses, environmental impacts, local jobs, etc.

Debt Providers: will often rely on project models to assess the degree of risk that must be factored into interest rates

Typical Metrics Considered

Investors:

- IRR – average return on investment over time; discounted
- NPV – absolute magnitude of profit expectation; discounted
- Simple Payback – number of years until initial investment repaid; undiscounted (a risk measurement)

Customers/Regulators:

- Costs (see next)

Government:

- Metrics depend on which ancillary impact is considered

Debt Providers:

- Same as investors

Typical Metrics Considered (cont)

Cost Measurements for Customers/Regulators

Discounting	Unit	Annual	Life of Plan
Nominal	$	Annual Costs	Total Cost
	$/MWh	Annual Unit Cost	Average Unit Cost
Inflation-adjusted	$	Real Dollar Annual Costs	Total Real Cost
	$/MWh	Real Dollar Annual Unit Cost	Average Real Unit Cost
Discounted	$	Discounted Annual Costs	CPW
	$/MWh	Discounted Annual Unit Cost	LUEC

Typically expressed as graphs or curves, showing varying impact over time

Typically expressed as numbers, showing total impact over a specific period

Typical Metrics Considered (cont)

The Problem of Discount Rates for Investors

- Simple formula – weighted average cost of capital (WACC)
- Theory – time value of money + opportunity cost + risk

Discount Rates for Customers

- Customers are a heterogeneous group, facing many different costs of capital, from very low to very, very high
- On average, customer cost of capital is higher than for utilities

Discount Rates for Government/Society

- For ultra long-term public policy issues, a "Social Discount Rate" is appropriate, which is generally quite low

Social Discount Rate < Utility WACC < Customer Cost of Capital

Applying This Process

This analytical framework can be used to judge the decision-making process behind the Muskrat Falls Plan

- Were all the steps followed?
- Was sufficient data provided to cover all options?
- Was the analysis deep enough to make the conclusions credible?

Future project opportunities should be judged the same way

- Possible development of Gull Island
- Possible construction of a transmission line to carry power from Churchill Falls to export markets, after 2041

4 Financial Analysis of MFP in 2010 and 2012

Define the Primary Need

Holyrood Station

- Replacing the electricity generation capacity and energy of the aging Holyrood oil-fired station was always described as the fundamental starting point for the Muskrat Falls Plan
- Given the facility's age, action was definitely required

Other Needs/Wants

- It is apparent, however, that replacing Holyrood was not the only driving element
- Economic development, exploiting available natural resources, improving the environmental performance of the Newfoundland electricity system and many other factors played a role in the decision
- A $7 billion project *cannot* be justified solely on the basis of replacing a single, 500 MW electricity generation facility

Universe of Potential Options

Options Considered

- Nuclear
- Natural Gas
- Coal
- Oil
- Wind
- Biomass
- Solar PV
- Wave and Tidal
- Island Hydroelectric
- Labrador Hydroelectric
- Imports
- Isolated supply until 2041, then Churchill Falls supply

Options Not Considered

- Energy Storage
- Geothermal
- Solar Thermal
- Large scale Conservation and Demand Management
- Import from Quebec until 2041, then Churchill Falls supply

Identify Costs, Benefits, Risks & Opportunities

Not Explicitly Completed

- Available documents do not show that this kind of holistic analysis was completed (or at least publicly described) in either the 2010 or 2012 process
- 2010 process was explicitly limited to the question of ratepayer costs, so all consideration was required to be viewed exclusively through that lens
- Decision announcement in 2012 explicitly referenced many issues other than customer cost, but analysis was internal to the government, not held publicly
- Substantial discussion of various costs, benefits, risks and opportunities throughout the documentation, but never a thorough overview and comparison
- Many elements were simply never addressed, such as the impact (or lack thereof) of the different options on the future of Churchill Falls, post 2041

Prepare Financial Models for Available Options

Interconnected Island and Isolated Island Models

- Options were distilled down to two, comprehensive 57-year plans

Interconnected Island Plan:

- Muskrat Falls Plan, as negotiated
- Other investments required beginning 20+ years in the future

Isolated Island Plan:

- The most cost efficient assemblage of oil, island hydroelectric and wind assets as calculated by the Strategist program
- By definition, this is the least cost alternative to the Interconnected Island Plan, *based on the assumptions made to this point*

Prepare Financial Models (cont)

Interconnected Island Plan was actually three models

- PPA model, used to calculate the 50-year contract price for power sold to Newfoundland (Muskrat Falls GS + Labrador Transmission Assets)
- Transmission Tariff Model (Labrador Island Link)
- CPW model to value the Interconnected Plan as a whole

Isolated Island Plan:

- CPW model

Neither was a comprehensive "System Plan" model:

- Newfoundland has many existing resources that would continue to produce power in either case
- Both options were "incremental" only; Strategist determined the "increment" required (*based on assumptions*)

Prepare Financial Models (cont)

No models of ancillary or strategic impacts

- In 2010 process, focus was only on customer cost, so taxes, economic development, etc., were out of scope
- In 2012 process, internal government documents did address these issues, but there did not appear to be any formal or logical way to incorporate these different considerations into an overall view (e.g., a “score” of some kind)
- No evidence of modeling addressing the issue of Churchill Falls post 2041, either for taxpayers or ratepayers

Perform Sensitivities on Models

Limited Testing of Sensitivities

- Many variables were simply not acknowledged or described
- 2010 process included more testing than 2012 (notably including testing of customer load sensitivities)

Variable	Can be modeled?	CPW Modeling?		High Case Tends to Favour…
		2010	2012	
Technology Progress	X			Isolated
Market Dynamics	X			X
Cost Overruns	√	√ combinations	√	Isolated
Schedule Delays	√			Isolated
Domestic Load	√	√ combinations		Interconnected
Fuel Prices	√	√ combinations	√	Interconnected
Export Prices	√			Interconnected
Inflation Rate	√			Interconnected
Interest Rate	√	√	√	Depends on timing
Equity Rate	√			Isolated

Scenario Testing

Scenario Testing was not formally completed

- In 2010 process, some ad hoc testing of combinations of variables at the insistence of the regulator and intervenors
- No evidence of scenario testing in 2012
- Analysis based only on Reference Scenario and small number of sensitivities

Critical Failure of the Process

- Multi-billion dollar expenditure with 50+ years of implications for ratepayers demands the fullest investigation and analysis
- Identified variables alone should have resulted in hundreds of scenarios (if not thousands)
- The range of outcomes would have shed light on the possible implications of each choice, and likely given rise to further analysis of, for example, mitigation options in certain scenarios

Make a Judgement

Regulator conclusion in 2010

- Too much uncertainty to conclude that one plan is actually lower cost than the other
- To be blunt: this appears to be an abdication of the responsibility to come to a conclusion, *mitigated* by the poverty of the analysis provided by Nalcor at the time

Government Conclusion in 2012

"Muskrat Falls will meet our province's future energy needs, stabilize rates for residents and businesses, while generating significant economic, employment, and social benefits for the people of our province, the Atlantic region and the rest of the country."

Honourable Jermome Kennedy, Minister of Natural Resources

- The available evidence, at least on its face, does not appear to be sufficient to justify this conclusion

5 The Quebec Option

A Deal With Hydro Quebec?

Import Hydro Quebec power until 2041, then Churchill Falls supply

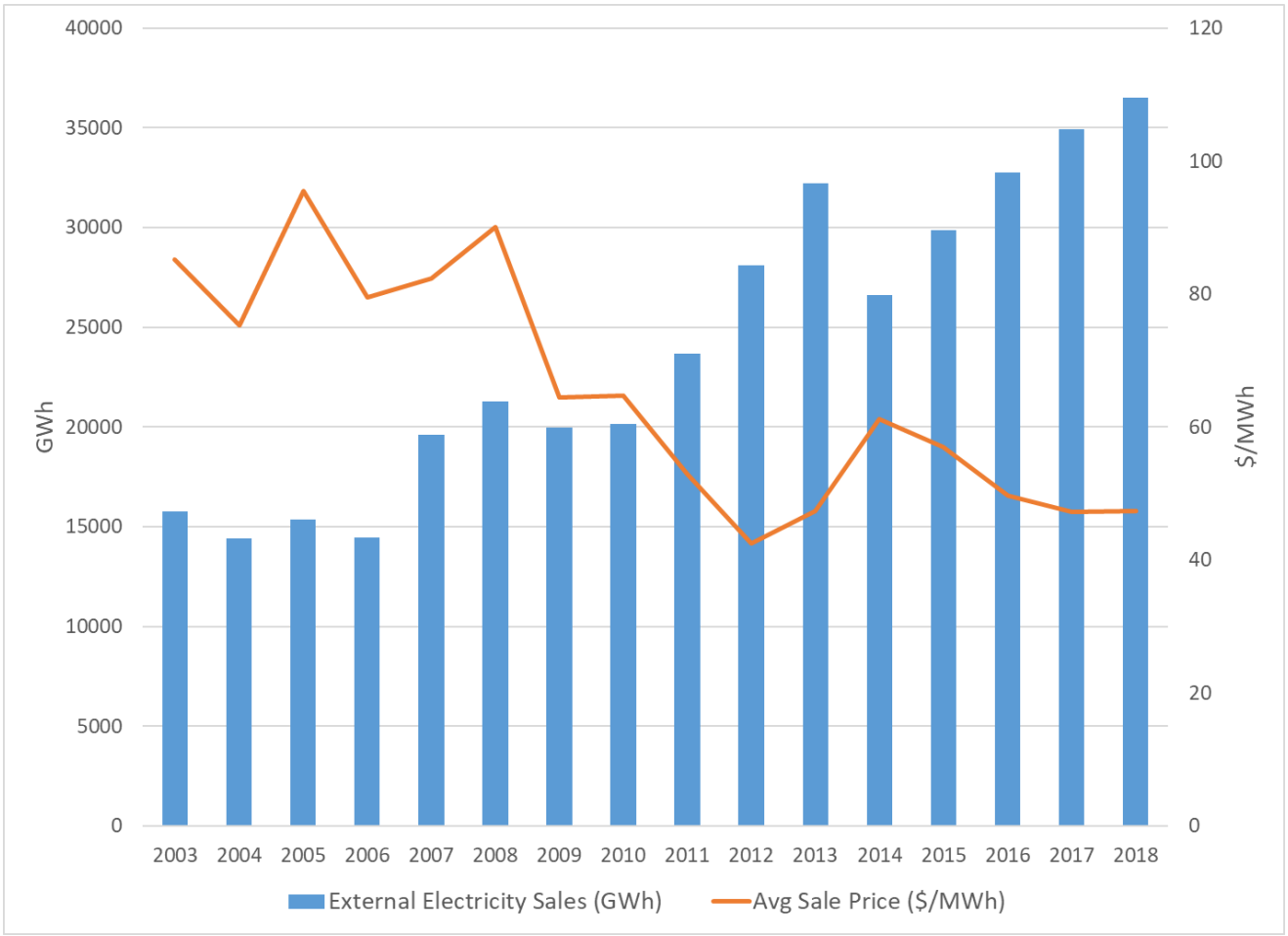
- Would have meant construction of Labrador-Island Link, but not Muskrat Falls GS or Maritime Link
- No route to US export markets, except through Quebec
- Firm power contract with Hydro Quebec for approximately 25 years

The option was not seriously addressed

- Addressed briefly in response to intervenor question in the 2010 process
- Price of Quebec power was equated to supply from New York/New England, which was deemed too high
- No value given to the fact that Hydro Quebec *could* supply firm resources, unlike the US options

Did Quebec Have Power Available?

Range of MF contracted energy delivered to Newfoundland



Source: Hydro Quebec Form 18k for the years 2007 to 2018

Price Assumption

Hydro Quebec would have charged a competitive export price

- Firm power contracts are more expensive than excess supply on the spot market
- Hydro Quebec was actively marketing its surplus resources in New York/New England, so that was the benchmark price
- In 2010, and even in 2012, expectations about future electricity prices were still affected by the history of high prices before 2008
  - It was still not clear to what degree the price decline was a result of the Great Recession, vs. the structural change in the natural gas market (renewables were not yet a price factor, but are becoming so now)

What Would Hydro Quebec Have Demanded?

In 2010, Nalcor launched a case in Quebec Superior Court

- Challenge to existing arrangements at Churchill Falls
- Not the first attempt to re-open the contract
- Given the massive Hydro Quebec profits at stake, even low likelihood challenges are a concern

The Muskrat Falls Plan has significant implications for Churchill

- Hydro Quebec would have wanted to pre-empt possible changes to Churchill arrangements in exchange for firm power to Newfoundland

It is inconceivable that any discussion with Hydro Quebec would have been a "normal" commercial negotiation

6 Churchill Falls, Post 2041

Churchill Falls

The issue *not* discussed

- Churchill Falls was not highlighted as a reason to pursue the Muskrat Falls Project
- No analysis of the potential impact of the MFP on the future value of the Churchill Falls GS to Newfoundland and Labrador, or to ratepayers
- The difficult history of Churchill Falls, and the resulting relationship with Quebec, hovers over the MFP, but is never made explicit

Generals "fight the last war"

- Difficult to separate commercial calculation from emotional needs
- Repeated legal actions related to Churchill were an ever-present backdrop for MFP planning

Churchill Falls Contract Expires in 2041

The GS will be 70 years old, but will have a long life remaining

- Facilities elsewhere in Canada are already 100 years old
- Components and equipment can be replaced as required for continued operation
- Ownership is 65.8% Nalcor, 34.2% Hydro Quebec
- Current operating cost of the facility is under $3/MWh
  - Amongst the cheapest, most efficient facilities in North America
- 5428 MW, 30 – 35 TWh/year; third largest hydroelectric facility in North America, by rated capacity
- Enormous storage capacity is a second major value driver: can provide support to offset weaknesses of solar and wind renewables

Options For The Future

Practical

- New sale contract with Hydro Quebec
- Agreement with Hydro Quebec for transmission access to export markets
- New subsea transmission route to export markets

Unthinkable

- Build local industry to consume output
- Mothball the facility

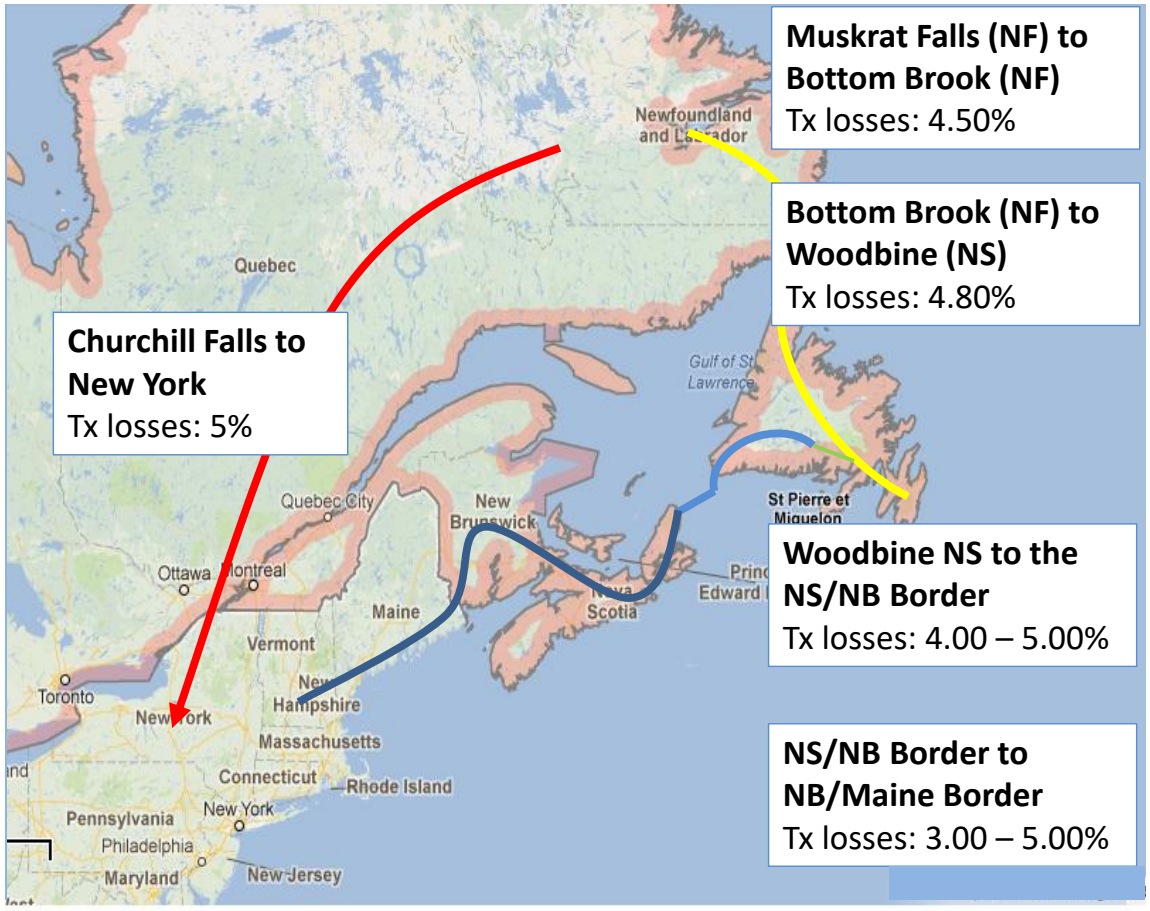
Really only two options

- Negotiate with Hydro Quebec
- Build a new subsea transmission line to the United States

Context for Churchill Falls

Muskrat Falls Plan demonstrates that there is a viable alternative to exporting Labrador power through Quebec

A dedicated Tx line would be more efficient than the MFP arrangement



Illustrative Example

	Sale Contract at Quebec border	Quebec Transmission Access to Export Markets	Subsea Route to Export Markets
Churchill Falls Output	35 TWh	35 TWh	35 TWh
Churchill Falls Costs	$2.75/MWh - $95 million	$2.75/MWh - $95 million	$2.75/MWh - $95 million
Transmission Losses to Sale		5%	15%
Annual Transmission Tariff[1]		$400 million	$700 million
Realized Price per MWh at point of sale	$14 - $31 / MWh	$40 - $60 MWh	$40 - $60 MWh
CFLCo Operating Profit	$395 - $990 million	$835 - $1,500 million	$395 - $990 million
Operating Profit per MWh produced	$11 - $28 / MWh	$24 - $43 / MWh	$11 - $28 / MWh
Effective Price at Churchill	$14 - $31 / MWh	$27 - $46 / MWh	$14 - $31 / MWh
Effective Discount to Export Market Price	$26 - $29 / MWh	$13 - $14 / MWh	$26 - $29 / MWh
Nalcor Share (65.8%) of Profit	$260 - $651 million	$549 - $987 million	$260 - $651 million
Hydro Quebec Share (34.2%)	$135 - $339 million	$286 - $513 million	$135 - $339 million
Assumed Nalcor Tx Equity Investment	$0	$0	$4+ billion
Assumed Quebec Tx Equity Investment	$2+ billion	$2+ billion	$0
Nalcor assumed Tx Profit	$0	$0	$325 million
Hydro Quebec assumed Tx Profit	$200 million	$200 million	$0
Hydro Quebec arbitrage to export market price	$440 - $510 million	$0	$0
Nalcor Total Profit	$260 - $651 million	$549 - $987 million	$585 - $976 million
Hydro Quebec Total Profit	$775 - $1049 million	$486 - $713 million	$135 - $339 million

The Impact of MFP on Churchill Falls

Subsea transmission route is an effective BATNA to Quebec contract

- Best Alternative to Negotiated Agreement
- Without a BATNA, a party has no negotiating leverage
- Having actually built the LTA/LIL/ML route, everyone now knows it is achievable
- If it had not been built, would it be credible at the time of a Churchill Falls negotiation?

Newfoundland ratepayers *could* have access to Churchill Falls power at the pre-transmission station price

- Nalcor will likely have access to power at this price
- It could be sold to Newfoundland ratepayers at cost, or with any level of markup deemed appropriate at the time

7 The Challenge of Retrospective Judgements

Today's Perspective On Judgements In The Past

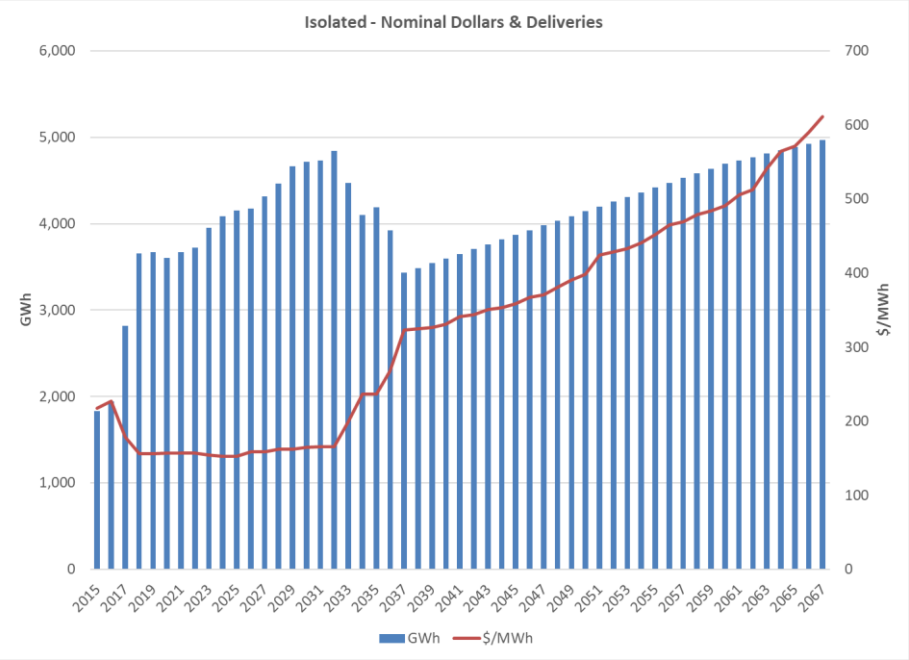
The process in 2010 and 2012 was incomplete

- Strategist runs for many required scenarios were not prepared
- No analysis of worst case scenarios and possible mitigation options
- No clarity on the likelihood (to the extent possible) of any scenario

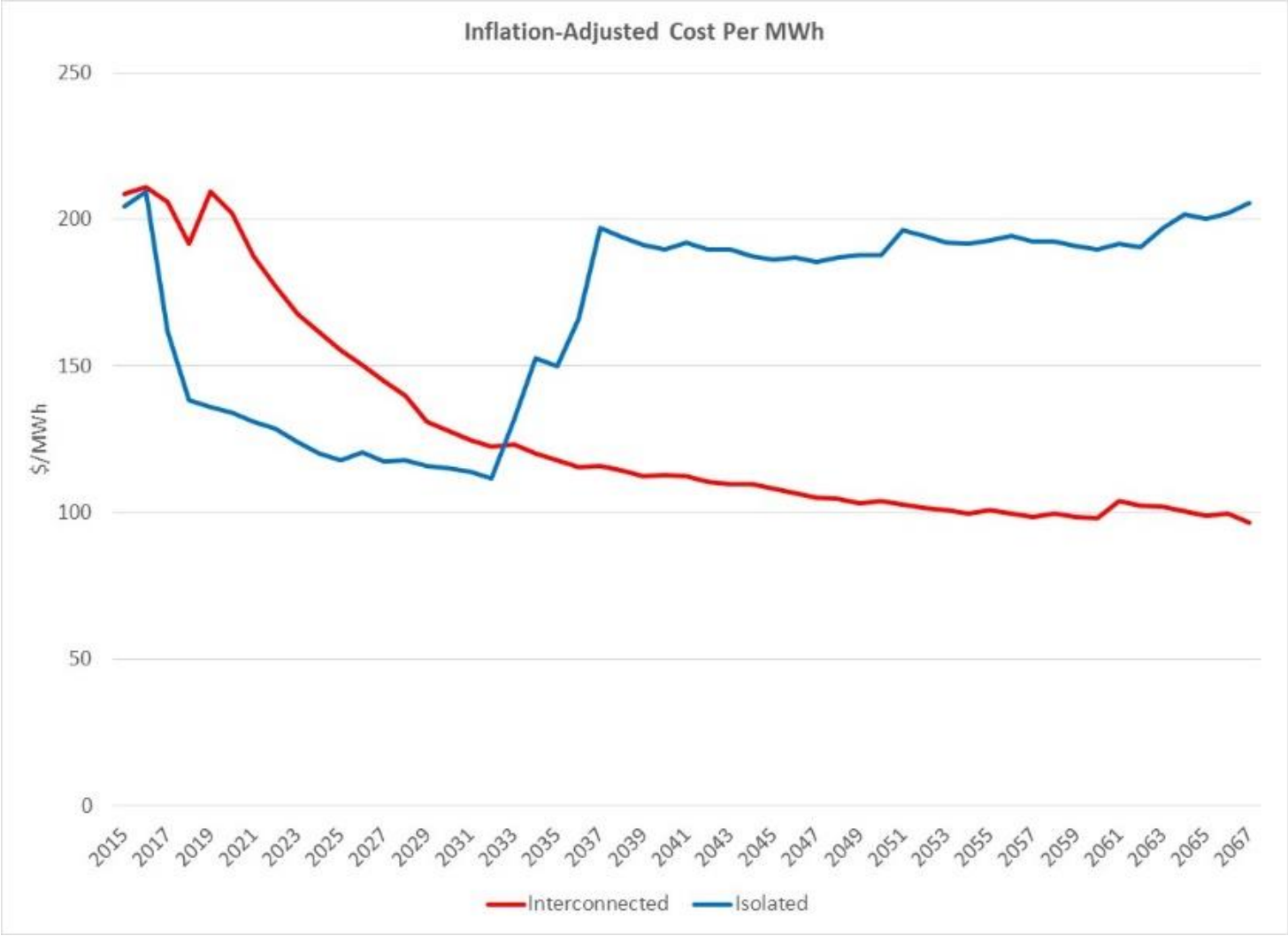
After 7 years of events, it is impossible to *not* be biased

- Delays and cost overruns are a reality now, but only a possibility at the time
- "*Low fuel prices - low load - low export prices*" scenario now seems obvious, but that was not the case in 2012

Reference Scenario – Nominal Dollars



Reference Scenario – Inflation-adjusted



Reference Scenario – Discounted Total Costs

	Interconnected	Isolated	% Difference
Nominal Total $	$46.0 B	$73.2 B	59
Inflation Adjusted $	$24.3 B	$36.7 B	51
5% Discount Rate	$11.2 B	$15.6 B	39
7% Discount Rate	$7.5 B	$9.9 B	32
10% Discount Rate	$4.6 B	$5.8 B	26
LUEC at 7%	$210/MWh	$221/MWh	5

All figures in 2012 $ except nominal

Reference Scenario – Isolated Island Turning Point

	2032		2037		% Increase
	Nominal $	**% of Total**	**Nominal $**	**% of Total**	
Fixed Charges	$270,211	34	$343,749	31	*27*
Operating Costs	69,896	9	72,532	7	*4*
Fuel	420,459	52	659,918	59	*57*
No. 2 Fuel	*10,248*	*45,714 bb*	*659,918*	*2,669,302 bb*	
No. 6 Fuel	*410,211*	*2,866,920 bb*	*0*	*0*	
Power Purchases	42,359	5	32,859	3	*-12*
Total	802,924		1,109,057		*38*
Energy (GWh)	4,841		3432		*-29*
Energy Cost ($/MWh)	166		323		*95*

All figures in 2012 $ except nominal

Reference Scenario – Interconnected Is Superior

Advantage is robust across all metrics

- Fuel costs in the post-Holyrood future are decisive
- Advantage is large enough that deterioration of one or two assumptions can be absorbed, and Interconnected would still be superior

No need to test scenarios where Isolated Plan is more expensive

- Higher fuel prices and higher load both make the Isolated Plan worse

Plan Contrasts

Interconnected Plan	Isolated Plan
Single dominant asset	Many smaller assets
Fixed power contract over time	Power produced at need
Finance rates only relevant at outset	Finance rates affect asset costs over time
Technology change affects market, not assets	Technology change can improve plan performance over time
Fuel costs largely irrelevant	Fuel costs a major determinant
Low load a critical problem	High load increases costs
MFP Cost/Schedule Overrun Problem	

Limitations of Scenario Testing Today

Strategist runs are required to thoroughly test scenarios

- Some variables, such as fuel prices, export prices and construction cost overruns, affect only revenues and costs, but not physical requirements or operating schedules
- Changes to load assumptions, or technology performance, or construction schedules, do affect the need for new assets over time, and the operating characteristics of the electricity system: cannot be adequately modeled through financial analysis only

Available data can be manipulated to provide directional insight only

- Financial approximations based on “workarounds” can only be suggestive

Isolated Plan Variants

	Reference	Low Fuel Cost	Low Fuel - 1% Island Load	Low Fuel & Flat Island Load to 2020
Nominal Total $	$73.2 B	56.6 B	55.7 B	41.6 B
Inflation Adjusted $	36.7 B	28.6 B	28.1 B	21.2 B
5% Discount Rate	15.6 B	12.3 B	12.1 B	9.4 B
7% Discount Rate	9.9 B	7.9 B	7.7 B	6.0 B
10% Discount Rate	5.8 B	4.6 B	4.5 B	3.6 B
LUEC at 7%	$221/MWh	$176/MWh	$178/MWh	$231/MWh
Total Production	217 TWh	217 TWh	211 TWh	123 TWh

All figures in 2012 $ except nominal

- Low Fuel alone not enough to overcome the Interconnected Plan advantage
- Low Fuel and Low Load together make a much more dramatic difference

Interconnected Plan Variants

	Reference	Low Fuel Cost	Low Fuel - 1% Island Load	Low Fuel & Flat Island Load to 2020
Nominal Total $	$46.0 B	45.6 B	45.0 B	36.1 B
Inflation Adjusted $	24.3 B	24.0 B	23.7 B	19.0 B
5% Discount Rate	11.2 B	11.0 B	10.8 B	8.7 B
7% Discount Rate	7.5 B	7.3 B	7.2 B	5.8 B
10% Discount Rate	4.6 B	4.5 B	4.4 B	3.5 B
LUEC at 7%	$210/MWh	$205/MWh	$209/MWh	$339MWh
Total Production	205 TWh	205 TWh	199 TWh	111 TWh

All figures in 2012 $ except nominal

- Note assumption that “excess” energy has been exported; course of export prices becomes relevant to calculations
- Interconnected is still competitive with Isolated in Low Fuel – Low Load scenario, but export prices could tip the balance

Interconnected Plan Variants With Cost Overruns

	Reference	Reference + 25% MFP Cost	Low Fuel Cost + 25% MFP	Low Fuel - 1% Island Load + 25% MFP	Low Fuel & Flat Island Load to 2020 +25% MFP
Nominal Total $	$46.0 B	53.6 B	53.3 B	52.7 B	43.8 B
Inflation Adjusted $	24.3 B	28.3 B	28.0 B	27.7 B	23.1 B
5% Discount Rate	11.2 B	13.1 B	12.8 B	12.7 B	10.6 B
7% Discount Rate	7.5 B	8.7 B	8.5 B	8.4 B	7.0 B
10% Discount Rate	4.6 B	5.4 B	5.2 B	5.1 B	4.2 B
LUEC at 7%	$210/MWh	$244/MWh	$239/MWh	$244/MWh	$409MWh
Total Production	205 TWh	205 TWh	205 TWh	199 TWh	111 TWh

All figures in 2012 $ except nominal

- 25% overrun in Muskrat Falls construction cost is not sufficient to tip the scales on its own, but when in combination with Low Fuel and Low Load it tips the balance towards the Isolated Island Plan

Plan Comparisons

	Low Fuel Cost	Low Fuel Cost + 25% MFP	Low Fuel Cost & Flat Island Load to 2020	Low Fuel & Flat Island Load to 2020 +25% MFP
	Isolated	Interconnect	Isolated	Interconnect
Nominal Total $	56.6 B	53.3 B	41.6 B	43.8 B
Inflation Adjusted $	28.6 B	28.0 B	21.2 B	23.1 B
5% Discount Rate	12.3 B	12.8 B	9.4 B	10.6 B
7% Discount Rate	7.9 B	8.5 B	6.0 B	7.0 B
10% Discount Rate	4.6 B	5.2 B	3.6 B	4.2 B
LUEC at 7%	$176/MWh	$239/MWh	$231/MWh	$409MWh
Total Production	217 TWh	205 TWh	123 TWh	111 TWh

All figures in 2012 $ except nominal

- Note that no schedule overrun could be tested or assumed
- 25% cost overrun is much less than actually occurred
- Even 25% cost overrun coupled with Low Fuel is enough, but Low Load is particularly damaging

Scenarios and Probabilities

Interconnected Plan is superior in many scenarios

- Reference
- All scenarios with High Fuel or High Load, also higher financing costs in the future
- Even scenarios with only one of Low Fuel or Low Load or Construction Cost Overrun of 25%

Isolated Plan is superior in fewer scenarios

- Low Fuel plus Low Load
- Any two of Low Fuel, Low Load, Construction Cost Overrun

How to assign probabilities?

- From the perspective of 2012, with oil at $90/bbl, what seemed likely?
- Which proponent would volunteer a 25% cost overrun scenario?

Proportionality – The Second Test of Fairness

Newfoundland Ratepayers appear disproportionately burdened

- Bear the full risk of cost overruns for a fixed "take or pay" contract
- Not entitled to any share of export revenues
- Not entitled to any future benefits related to Churchill Falls

Newfoundland Government/Taxpayer disproportionately advantaged

- Guaranteed return on full equity commitment
- Additional value from exports
- Additional value from ancillary benefits (local jobs, First Nations benefits, environmental benefits, etc.)
- Strategic advantage for Churchill Falls post 2041

Taxpayers and Ratepayers?

- Considerable overlap, but not identical
- Sharing of benefits would be dramatically different

8 Generational Transfers

Cohorts Treated Very Differently

2020 to 2041

- Full cost of Muskrat Falls GS energy
- "Self-help" to export unneeded energy
- Tariff for LIL very high because of COS economics

2041 to 2070

- MFP costs continue, but LIL tariffs steadily reduced while burden of MF energy increases with price inflation and scheduled volume
- Churchill Falls will have been renegotiated: delivering value to Newfoundland for the first time – will the value accrue to taxpayers, ratepayers, or shared?

Post 2070

- MFP contract completed: Muskrat Falls GS now a low cost provider, though some transmission reinvestment may be required

Address the Generational Inequity?

Transferring value between generations is difficult, but not impossible

- Debt instruments are designed for exactly this purpose, but always at a cost
- Uncertainty of quantum of future benefits is problematic

Economic and social incentive to act

- Prohibitively high energy prices have broader economic development impact (the “multiplier effect”), so generational transfer should partially pay for itself through growth that would otherwise be foregone
- Electricity is a necessity, and high cost acts as a regressive tax

9 Conclusions

Conclusions

Supporting analysis for MFP was deeply flawed

- Lack of load sensitivities, lack of scenario testing, lack of analysis of failure implications
- No public recognition of strategic importance to Churchill Falls

A full analysis may have resulted in a reasonable defense of the MFP

- Many scenarios favoured the Interconnected Plan
- From the perspective of 2012, probabilities may have appeared favourable
- Churchill Falls post 2041 is a critical consideration

Disproportionate allocation of costs, benefits, risks and opportunities

- Given the minimal analysis of project risks overall, the lack of attention to the allocation of those risks is not surprising
- A fairness opinion in 2012 would likely have failed, because of this concern, unless there was some rebalancing

Conclusions (cont)

The MFP has created a significant, long-term generational inequity among ratepayers

- Two generations of ratepayers will pay the cost of facilities that will have more than 100 years of benefit
- They will have also contributed to the future value of Churchill Falls, which as of today accrues to taxpayers

It is possible to at least partially address this inequity, if there is political will to do so

- Requires a judgement that at least some of the Churchill Falls benefit should accrue to ratepayers, and that the outcome is worth the cost of the instrument

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